



The Application of Bead-Stringing Play in Stimulating Fine Motor Skills of Children Aged 4-5 Years at TK Al-Kautsar Bontang

Syarifah Zafira Zain^{1✉}, Fitri Anjarwati², Wilda Isna Kartika³

^{1,2,3}Pendidikan Guru Pendidikan Pendidikan Anak Usia Dini, Universitas Mulawarman, Samarinda, Indonesia.

ARTICLE INFO

Article history:

Received November 05, 2025

Revised November 15, 2025

Accepted December 25, 2025

Available online December 31, 2025

Keywords:

Bead-Stringing Play, Fine Motor Skills, Early Childhood.



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Copyright © 2025 by Author.
Published by Universitas Al Hikmah Indonesia.

ABSTRACT

This study aims to describe the implementation of bead-stringing play activities as a solution to stimulate the fine motor skills of children aged 4–5 years at TK Al-Kautsar Bontang and to identify the teacher's role in providing stimulation that enables children to gradually develop their fine motor abilities according to their individual capacities. The research employed a descriptive qualitative method with 10 Class A children and 1 teacher as the subjects. Data were collected through observation, interviews, and documentation. The bead-stringing activities were carried out through five stages: introduction to the activity, texture introduction, free bead-stringing, structured ABAB patterns, and structured AABB patterns. The results of the study show that providing different stimuli at each process effectively encouraged the development of eye–hand coordination, finger control, accuracy, concentration, and children's independence. The activities, conducted regularly two to three times a week with teacher assistance, proved effective in stimulating the fine motor skills of children aged 4–5 years. Bead-stringing can be used by teachers as a gradual strategy to stimulate children's fine motor development, especially for children who still need practice with focus and hand flexibility. The teacher plays an important role by providing demonstrations, guidance, and variations of materials, making the activity more engaging and enjoyable. The teacher's sensitivity in observing each child's abilities also enables the gradual adjustment of stimuli.

INTRODUCTION

Education to young children is aimed at comprehending the growth and capabilities that are present in children. The development of this condition is to provide children with the opportunity to develop based on the developmental stages (Azizah et al., 2024). At this level, educators should not only impart knowledge to them, but also come up with learning activities that arouse all facets of child growth. The role of educating young children is to instill in them the different abilities at a tender age, in order to ensure that they are prepared to encounter life and respond to the immediate environment (Maghfiroh & Suryana, 2021). One of these aspects is the fine motor skills, as they are associated with the ability of the children to carry out their daily routine, not to mention the fact that they are also critical towards the later preparation to be ready to learn at the elementary school level (Sari & Agustriana, 2023). Fine motor skills are those skills that demand concentration, coordination of hands and eyes, precision, and velocity. Thus, the right stimulation should be given to allow the improvement of these abilities (Wahyuningrum & Watini, 2022).

The fine motor development is shown as an indication of improvement in movement abilities of children. The intricate and more elaborate interaction is reflected in every simple movement (Reihan Darmawan et al., 2025). Fine motor skills are involved in the coordination of small muscles e.g. fingers and hands which are mostly precise and coordinated between hands and eyes. Such ability consists of handling small items or using machines, e.g. sewing, typing, etc (Yuliana et al., 2020). The fine motor skills of preschool children are very important. In case of issues with the fine motor skills, they may influence the development of other aspects (Sary et al., 2023). At 4-5 years old, children possess a number of fine motor skills: drawing, pencils, scissors, and writing (Sukmawati et al., 2021).

Environment, physical condition, encouragement, and stimulation offered by adults are the aspects that influence fine motor growth (Yanti & Fridalni, 2020). Also, genetic factors (innate), environmental factors that can either facilitate or delay the development of organ functions and mental functions, also belong to the factors that influence fine motor skills in children (Munthe & Aprilia, 2022). Growing up in a highly stimulated environment, children will develop these skills quicker than the children who receive less practical experience (Husaen, 2024).

Bead-stringing activities are one of the types of stimulation, which are of frequent use in the early childhood education institutions. Bead-stringing is a craft of functional or decorative items by thread insertion and joining beads or pieces of material with holes (Gay et al., 2020). An example of natural materials that can be used in this activity includes seeds, shells, small stones, and artificial ones (plastic beads) that differ in color and shape (Hera & Latief, 2020). These abilities do not exist solely in academic tasks like writing and drawing, but also in playing tasks, working with scissors, folding paper, stacking blocks, and constructing toys (Halisah & Muthohar, 2024). Bead-stringing not only teaches the eye-hand coordination, but it also helps in the training of the concentration, training patience and the knowledge of patterns and sequences in children (Daniati, et al., 2025). The practice is productive to train the fine motor skills since a child must move his/her fingers and in a coordinated way when forming sequences (Husaini et al., 2024)

Nevertheless, the majority of the past studies highlight solely the effectiveness of bead-stringing in general, without the need to discuss more specifically and directly how the introduction of such activities is conducted in practice, and how teachers address it, variations in materials, and the reaction of children during the process (Nuraya et al., 2022).

Secondly, the earlier studies have not divulged much on how the teachers can counter the issue of attention that is easily distracted when the bead-stringing activities are conducted by the children. This is a phenomenon that can be frequently found in early childhood education learning practices and that may impede the success of the fine motor stimulation (Walida & Rusdiani, 2025). Such an activity is usually done without considering the contextual analysis of the bead-stringing learning and without analyzing the quality of the implementation process and considering the needs of individual children (Mas et al., 2024).

According to initial observation at TK Al-Kautsar Bontang, it was discovered that some children may not easily control the movement of fingers and concentration when stringing beads particularly when working with small or slippery-textured materials. Bead-stringing work has been done on regular basis but is to be continued under gradual and regular basis

based on the ability of each child. This condition reveals the existence of an discrepancy between what is accomplished in the everyday learning and the optimum objective of stimulation of fine motor skills which ought to be capable of manipulation and development depending on the requirements of the individual child.

Due to these reasons, this study is highly necessary to conduct. The study will focus on clarifying how the play of bead-stringing can be implemented to assist in enhancing the fine motor skills of children of 4 -5 years in TK Al-Kautsar Bontang. Also, the strategies used by teachers and the different media involved will be studied in this research that can influence fine motor development and focusing attention of children during learning activities. Hopefully, the findings of this study can give explicit recommendations to educators teaching early childhood on how to structure and implement bead-stringing tasks that are at the right level of development among children between 4 to five years. By this study, hopefully the teachers would learn the significance of frequency with which the activities are conducted, the number of different materials used and the right kind of assistance strategy that is chosen in order to maximize the effectiveness of the bead-stringing activities. By doing so, bead-stringing will be not only accomplished in a normal fashion, but will be a scheduled activity, which has a purpose and which can be the most effective way of stimulating fine motor growth among the children. The study will investigate in depth information, experiences, and reactions of children and teachers in bead-stringing work as a kind of fine motor stimulation, particularly in learning practices within TK Al-Kautsar Bontang. Based on the characteristics of problems that emphasize understanding of processes, experiences, and learning contexts, this research uses a qualitative approach with the title: "The Application of Bead-Stringing Play in Stimulating Fine Motor Skills of Children Aged 4-5 Years at TK Al-Kautsar Bontang."

METHOD

The study is based on a descriptive qualitative design, which is intended to know and explain more deeply the phenomena that appear by observing directly the subjects in a natural environment (Sudi et al., 2025). The approach was selected since it is appropriate in the exploration of experiences, processes, and meanings that arise in implementing bead-stringing activities, which serve to arouse fine motor abilities among children aged between 4 and 5 years. This study was conducted in TK Al-Kautsar Bontang, East Kalimantan, in July 2025 with the focus on monitoring the levels of learning in class A, where bead-stringing exercises were conducted.

The subjects of the research were 10 class A children (4-5 year old) and 1 class teacher as a primary informant. One of the limitations of this study is the number of participants since the findings of the research only reflect the learning environment at TK Al-Kautsar Bontang and should not be generalized. There are three major techniques that are employed as research instruments. First, observation on fine motor development through the use of indicator sheets that is, namely:

1. Observation, whereby it is observed through indicator sheets relating to the fine motor development of children. The observation indicators sought in this study are: (1) Eye-hand coordination, this involves the child being able to insert thread into holes in a

precise manner, (2) Accuracy and patience, this is where children do sequences correctly without rushing and staying concentrated to the end, (3) Ability to arrange patterns, this is in terms of shape, sizes, and color that the child can do sequences in a correct manner in sequence or randomly and (4) Ability to pattern-match; this is where the child shows his ability to complete sequences correctly and stay focused till the end, (5) Consistency of finger movements, such as using fingers correctly in picking up and arranging materials, (6) Attention to detail, such as tidying up sequences or choosing beads according to patterns, (7) Creativity and expression such as showing initiative in choosing colors, shapes and producing work.

2. Semi-structured interviews with the teachers of the class A to further elaborate on the implementation of bead-stringing activities, which include: (a) frequency and length of the activities, (b) variation of materials and tools, as well as, (c) approaches of helping children, particularly those with short attention spans.
3. The kind of documentation, which is in the form of activity photos and work results of children as the visual supporting information, and in the form of appropriate informal notes made by teachers.

Tabel 1. Assessment Instrument for Children's Fine Motor Skills in Bead-Stringing Activities

Aspects Observed	Indicators
Eye and hand coordination	1. Children are accurate when threading holes.
Concentration and accuracy	2. Children do not hurry in completing sequences and stay on until the end
Ability to recognize patterns and colors	3. Patterns can be arranged by children both sequentially and randomly in terms of shape, size and color.
Independence in performing activities	4. Bead-stringing activities do not need much assistance by the child.
Control of finger movements	5. Children are able to pick and put materials in the correct position with the fingers.
Ability to arrange and tidy up work results	6. Children clean up lines or pick beads by design.
Creativity and work results	7. Children produce a work.

The study process was conducted in July 2025. At that time scholars noted bead-stringing actions performed 2-3 times a week. The learning activities are organized in stages which include: (1) Apperception, during which the teachers motivate children and present them with the quality of the bead-stringing materials, (2) Example, during which the teachers demonstrate how to bead-string correctly, (3) Practice, during which children do bead-stringing activities by themselves with the help of the teacher, (4) Reflection, in which children briefly discuss the results of their work and their experiences.

The interactive model of Miles and Huberman employed in the analysis of data presented in Wahyuningrum & Watini (2022) comprises three stages, including data reduction, data presentation, and conclusion. The analysis was conducted with the help of the thematic coding based on the available categories, including eye-hand coordination, ability to organize patterns, patience/focus of children, and the variations of materials that teachers used. Data collection experiences a process of reducing at the start to the finish. This is done by choosing and filtering the significant information based on the research goals. The gathered information will be narrowed down to help locate the gist of the most important field discoveries. This is done in the phases of assigning codes (coding) to meaningful words, phrases, or statements in order to determine the meaning and patterns, and are further classified into themes that are relevant to the topic of research. The formed themes are once again reviewed to confirm their suitability and consistency, and categorised into structured categories to make it easier to draw the conclusions (Ratnanintyas et al., 2023). Researchers also performed source triangulation in order to ensure the validity of data whereby they compared data obtained during observations, interviews, and documentation. More than that, short member checks with the class teachers were conducted as well to ascertain information accuracy (Sugiyono, 2020). Considering the research ethics, researchers got official permission of the school and parents of children prior to the research being conducted. To preserve the confidentiality of the identities, initials were used to mask children identities and the documentation of the activities was conducted with the complete consent of the school.

RESULT

It is a study conducted in July 2025, on 10 children in the class A and one class teacher. One of the prevailing items in class A is bead-stringing play with a variety of material and pattern manipulation to arouse the fine motor abilities, in particular, hand and eye coordination, capability to organize patterns, endurance, and attention of children during the play. The research works bearing the title *The Application of Bead-Stringing Play in Stimulating Fine Motor Skill of Children Aged 4-5 Years at TK Al-Kautsar Bontang* took place during 2 weeks. Bead-stringing activities are presented in a number of stages.

Activity introduction stage, the teacher explains to children a concept of bead-stringing in the short version. The children are provided with explanations concerning the aim of the activity, as well as examples of stringing outcomes. Then the teacher makes bead and nylon thread to be used as the principal bead-stringing materials. The lesson starts with the teacher showing how to put beads into the nylon thread. At this tender age, children also exhibit problems particularly when they wish to guide the end of the thread to the bead hole. Children who have better fine motor skills trained faster pick up by the example of the teacher whereas those children who are still having difficulties require frequent guidance by the teacher.



Figure 1. Children knotting beads with beads.



Figure 2. Children would bead on plastic materials.

The indicators of this stage of activity introduction are that children start to realize the fundamental principle of inserting beads into the thread, eye and hand coordination, which is being trained in directing the thread end to the bead hole, children learn to control the position of their hands and fingers, and first autonomy is achieved with the children who already possess the fine motor skills. The study is consistent with a study by Hera & Latief (2020). The study had discovered that the optimal fine motor skills that bead-stringing activity enhances in children are those with respect to hand and eye movement coordination.

Introduction stage of texture, bead-stringing activities involve an expansion of the children with respect to increasing their knowledge through the use of plastic materials like the use of straw pieces as a type of texture introduction to the children. Activities are fulfilled when teachers prepare a colorful plastic straw material and thread then teachers show how to put thread in the straws gradually and in turns. At texture introduction stage, difficulties occur due to the slowness and slipperiness of the straws, the inability of children to easily insert thread in straw holes, particularly the children with low level of motor coordination. The teachers assist by following these children one by one who are having difficulties in stringing the beads.

The obtained results of observation indicate that bead-stringing activities with the use of plastic straws can be used to stimulate the process of the development of the fine motor skills of children. When the children are assisted by the teachers, they start demonstrating progress in their eye and hand coordination and start being more concentrated in putting thread into straws. Children with problems with thread insertion in straws are assisted by teachers one-by-one. The signs gained with the help of such introduction of the texture are that children start to be able to be more accurate and more patient in the process of thread insertion into the straws, children start to perceive the texture of the material that is slippery and smooth, focus and concentration among the children increases as they are interested in colors and shapes of materials, and the eye and hand coordination also develops with the help of the teachers. The study is similar to the one carried out by Hasbin et al. (2021). That study demonstrates that the used plastic bottles may be utilized as bead-stringing media. The purpose of this activity is to train hand-eye coordination, raise the accuracy and concentration in small movements of children. Moreover, this study shows that plastic products can be used to train the concentration, creativity, and exploration ability of the children during the process of beads stringing.

Free stringing stage, children are presented with bead-stringing activities by the teacher when they are allowed to freely string without patterns. Children are free to select such materials like beads and blocks, colors and sequences based on their desires so that children can be able to think and plan sequences and control movements of fingers independently. In this meeting, the majority of the children improved greatly in terms of improving their finger speed and accuracy, children started demonstrating increasing stability in terms of focus in the long run. High level of eye and hand coordination and creativity to shapes and colors. Two previously easily distracted children AR and NA started to be able to complete some of the bead-stringing activities that were still under teacher supervision.



Figure 3. Children Strung Beads by Themselves at Their Own Desire.



Figure 4. Children With ABAB Pattern of Beads.

The outcomes of the pattern-free stringing in the independent wishes of children make the result high focus of the children, the children are creative in the use of colors and shapes as they desire and shows that the activities of bead-stringing could stimulate eye and hand coordination and develop the creativity of children through exploration of shapes and materials. Through such an activity, there have been two children AR and NA who suffered lack of focus to them because of distraction that have now started to be able to partially complete bead-stringing activities. The signs of progress on this activity include demonstrations that children demonstrate an extended concentration and steadiness in the tasks, children are able to exercise creativity when it comes to coloring and patterns in the material, children start to create their own strings and combinations, two children AR and NA who were in the past distracted started to be able to accomplish the majority of the tasks. As part of the studies that state that activities in art centers may also offer children a chance to experiment with different tools and materials, so that the fine motor skills and creativity of children can be developed Sari et al. (2025). These findings are also consistent with the study by Karyadi et al. (2019) who have found out that bead-stringing activities enhance fine motor skills and concentration in children. Children are taught to be patient and careful and pay more attention in stranding beads as per their desires. The research results reveal that there is a development in fine motor skills with elevated concentration and supple flexibility of fingers.

ABAB pattern stage, the simple concept of ABAB pattern is introduced to the teachers (red-yellow, red-yellow). The teachers illustrate before the children and show that one has to repeat the pattern in order until the thread is complete. At this an increased ability of children is observed, the abilities of most children are quite capable of imitating patterns, though errors are still observed in the repetition of colors. Children who are yet to overcome difficulties receive individual guidance by teachers, who also praise and motivate them in

order to make them more confident. It is with this activity that children are starting to make sense of regularity in patterns and learn to be more attentive and keen in putting colour sequences in their place properly.

Findings indicate that children are better in changing the positions of hands and gripping a thread without sliding it. The attention of children has started to grow and some of the children have been observed to fill the ABAB pattern stringing to the end. The indicators acquired in the process of this activity include that children learn the concept of sequence of colors and shapes repetitively (ABAB), improve the capacity of organizing the patterns constantly, children become more competent with regards to altering the positions of their hands and keeping the thread steady, focus and accuracy of children improves and some children can master the full patterns stringing on their own. The study is consistent with the works of a research by (Gay et al., 2020) which indicated that bead-stringing activities do not only enhance the flexibility of the fingers and eye-hand coordination, but also motivate children to identify patterns and color sequences in stringing. Ropiah discovered that children develop a better ability of pairing repetitive sequences related to particular color and shape, and this makes them conceptualize the idea of reproduction.

Bead-stringing work phase AABB pattern, Stringing using red and yellow beads, the stage is aimed at the AABB pattern (yellow-yellow, red-red). This trend simplifies the process of thinking of children since they will be dealing with a two-color repetition. Teachers do not start giving direct examples in the middle of activities before the children are allowed to work independently. Then children are requested to watch all the patterns shown by the teachers, and repeat them with the right combination of colors. The activity also gives children concentration skills, accuracy and eye and hand coordination in terms of coming up with patterns in sequence and frequently.



Figure 5. Children Beading in AABB Fashion

The outcome of the research demonstrates that there is more independence and concentration. Majority of the children can grasp the patterns within a short time and repeat until the end without numerous corrections by the teachers. Movement of the fingers seems to be more organized and more balanced. AR and NA, two children, which had earlier problems with focusing, demonstrate slow improvement, they are capable of doing half to a quarter of the tasks provided. Focus, patience, perseverance Teachers report improvements in the process of activities. The bead-stringing activities provided by the teachers demonstrate that bead-stringing activities not only train fingers, but also learn children to identify patterns, work with concentration and patience. The indicators made possible by this

activity are that children can do two color repetitions simultaneously, children can be more independent as they can do things without much correction, eye-hand and finger coordination are more stable, children become more patient and focused, and two children AR and NA who were poor at focusing previously demonstrate improvement in their concentration and ability to accomplish tasks. Consequently, these findings can be explained following research made by (Sila et al., 2021) that bead-stringing is a useful activity in enhancing fine motor skills in children aged between 4-5 years. In that study it is also found that children learn how to control the movements of the fingers when they organize small pieces of stuff like beads or straws into certain configurations and can retain concentration as well as know how to repeat a sequence and pattern. When their examples and interesting media are used, the teachers make children realize the aim of the activities and they are motivated during the whole process of bead-stringing.

Table 2. Observation Results of Fine Motor Development in children when using beads and strings.

Aspects Observed	Indicator	Observation Results
Eye and hand coordination	1. Children are accurate when threading holes.	Progressive improvement between introduction stage and AABB pattern, 8 children out of 10 children are capable of threading into bead holes accurately and well-steadily, and 2 children require intermittent help but have been able to do it at the last stage.
Concentration and accuracy	2. Children do not hurry in completing sequences and stay on until the end	Easy distractibility occurred at the beginning of the experiment, and focus improved at ABAB and AABB pattern stages. 2 children who had problems with focusing improved.
Ability to recognize patterns and colors	3. Patterns can be arranged by children both sequentially and randomly in terms of shape, size and color.	At free stringing stage, children are creative at their own will, at ABAB and AABB patterns children are in a position to comprehend the concept of repetition and color sequence.
Independence in performing activities	4. Bead-stringing activities do not need much assistance by the child.	Children at the first stage still require guidance whereas the children at the last stage can be independent in completing activities with minimal corrections. 8 children are independent and 2 children still at times require teacher help.
Control of finger movements	5. Children are able to pick and put materials in the correct position with the fingers.	Greater stability in fingers, thread and beads make the children fingers more flexible. Increased finger stability was

Aspects Observed	Indicator	Observation Results
		observed among 10 children in classroom after being assisted by teachers in stringing beads.
Ability to arrange and tidy up work results	6. Children clean up lines or pick beads by design.	Children can clean up the results of the stringing by color and size, the results of the work look neater.
Creativity and work results	7. Children produce a work.	At the free stage of stringing, creativity peaks until the stage of AABB pattern, children are able to be different in colors, shapes and patterns as per ideas. 10 children come up with stringing works.

According to the outcomes of observation, based on the results of the 10 kids who practiced bead-stringing, the results are positive in terms of the achievement of such fine motor indicators. The development of fine motor skills in children is clear after the stringing of beads in 5 stages. Every stage gives eye hand coordination improvement, movement control and thinking ability of children. Based on the indicator achievement findings, it appears playing bead-stringing is a powerful tool to develop fine motor skills of the children, who are aged between 4-5 years. According to the interview findings with the teachers of class A in TK Al-Kautsar Bontang, it is also discovered that bead-stringing playing is quite useful in children in training fine motor skills of children. Eye and hand co-ordination to ensuring that the concentration of children remains steady.

Mrs. WS, as a class teacher, said that, because bead-stringing is so good in my opinion, compared with many other activities that could train fine motor skills, bead-stringing could train children eye and hand coordination, and could also teach patience and the process of inserting small objects, and so the fine motor aspect is highly observed.

The findings of interviewing class A teachers and observations conducted in the course of the activities led to several significant results. To begin with, the timeframe of bead-stringing exercises performed by children 2-3 times per week can be regarded as effective to keep children interested. Second, varied materials (e.g. plastic straws, beads, blocks and natural materials, etc.) can become used, thus it seems that it is possible to make children more interested and creative. Third, teachers use one-on-one assistance methods, particularly of children who do not pay attention, by sitting nearer, involving them in conversation and repeating an example of patterns orally and visually. Class A teachers interviewed also give instances that out of this bead-stringing activity, the fine motor skills of children are more focused than earlier and that children are aware of the patterns in this bead-stringing activity.

DISCUSSION

This study reveals that bead-stringing play activities of this type over a period of time and repetitively can activate fine motor skills with a group of 10 class A children and 1 class

teacher as the subjects (4-5 years). These results can be theoretically explained by the cognitive development theory formulated by Piaget (particularly on the stage of preoperational thinking), where children can learn by means of concrete experience and manipulative tasks. Bead-stringing activities directly stimulates eye-hand coordination and the ability to control finger movements which are essential components of the fine motor development. Active engagement with concrete media helps children to control the motions of fingers, comprehend patterns, and to be concentrated (Husaini et al., 2024).

Bead-stringing activities are effective in that they require repetitive movements, which require simultaneous coordination, accuracy, patience, and high concentration. The stability of finger movement and deepening the connection between motor control and visual perception of children associates thread insertion into beads, which results in a gradual, progressive fine motor development (Irmayanti et al., 2025; Rohmah, 2025).

Findings of this study are consistent with the findings of Kasiyati (2024) that indicates that bead-stringing can enhance eye-hand coordination and perseverance among young children by performing tasks of organizing mini objects in a more organized way. Moreover, other studies Irmayanti et al. (2025) also prove that bead-stringing positively affects the attention, patience, and creativity of children to complete the tasks based on fine motor skills. Nevertheless, this study also makes other contributions as it highlights that the success of the stimulation activity is not simply defined by the activity of bead-stringing, but also by the methods used by teachers, including the variation of materials used, the individual approach to the activity, and the stages of giving in accordance with child abilities.

Thus, this study does not only reinforce the earlier studies, but also offers some useful advice on how early childhood education teachers could make their learning activities more meaningful. In this study, it is revealed that bead-stringing may be a successful learning strategy in early childhood education to enhance fine motor skills, concentration, and the creativity of children by means of structured, diversified activities, and in the company of the teacher in the best interests of the early childhood growth (Kasiyati, 2024; Irmayanti et al., 2025; Rohmah, 2025).

CONCLUSION

The five bead-stringing phases used in this study were identified to be capable of triggering fine motor development of 4-5 year old in TK Al-Kautsar Bontang. These five stages include: introduction of activity, introduction of texture, free stringing, ABAB pattern and AABB pattern. Findings indicate that children develop greater capacity to insert thread into beads with accuracy, sequence color patterns, and use more stable finger movements. Up to 8 out of 10 children can independently perform bead-stringing activities at the AABB pattern stage and 2 children who had earlier on been easy to lose focus were now more persevering and concentrated but would still need light assistance.

The exercises performed regularly 2-3 times a week with the help of the teacher were effective in terms of eye-hand coordination, accuracy, concentration, and independence of children. Nevertheless, the number of subjects and the time of implementation is rather small in this research, which means that the results do not reflect the diversity of fine motor development among children yet. Thus, additional studies are suggested to engage more

participants, extended period of research, diversified stages and bead-stringing media variations in a way that more detailed results would be obtained.

It is recommended that teachers resort to bead-stringing activities as a progressive learning activity to train fine motor skills in children, particularly in enhancing flexibility in their focus abilities and the ability to flex their fingers. It is assumed that schools would offer different media of bead-stringing as a standard learning process, and future researchers will be able to enhance this research and study and assess the influence of the bead-stringing on other aspects of development, including cognitive and emotional regulation of children.

ACKNOWLEDGMENTS

The researchers would like to express their gratitude to the Principal, teachers, and children of group A at TK Al-Kautsar Bontang who have provided support, cooperation, and participation during the implementation of this research. Thanks are also extended to Mulawarman University and the supervising lecturers who have provided direction, guidance, and motivation during the preparation of this research.

BIBLIOGRAPHY

- Apriliani, S., Nur Azizah, A., Zahra, A., & Ma'sum aprily, N. (2024). Dinamika Pendidikan Anak Usia Dini: Perubahan Kurikulum 2013 ke Kurikulum Merdeka. *Jurnal Bocil: Journal of Childhood Education, Development and Parenting*, 2(1), 1–12. <https://doi.org/10.28926/bocil.v2i1.1189>
- Daniati, Hidayat, A., & Sina, I. (2025). *Jurnal Anak*. Table 10, 4–6. <https://doi.org/10.46306/jas.v4i2>
- Gay, H., Taib, B., & Haryati. (2020). Penerapan Kegiatan Meronce Berbahan Alam Untuk Meningkatkan Motorik Halus Pada Anak Usia 5-6 Tahun. *Cahaya Paud*, 2(2), 3044. <https://doi.org/10.33387/cp.v2i1.1955>.
- Halisah, F. N., & Muthohar, S. (2024). Mengembangkan Kreativitas Anak Melalui Permainan Konstruktif. *Aulad: Journal on Early Childhood*, 7(3), 839–849. <https://doi.org/10.31004/aulad.v7i3.797>
- Hasbin, H., Taib, B., & Arfa, U. (2021). Analisis Kegiatan Meronce Menggunakan Tutup Botol Bekas Terhadap Keterampilan Motorik Halus Anak Usia Dini 5-6 Tahun. *Cahaya Paud*, 3(1), 77–89. <https://doi.org/10.33387/cp.v3i1.2168>
- Hera, A. J., & Latief, F. (2020). Peningkatan Kemampuan Motorik Halus Melalui Kegiatan Meronce Pada Anak Kelompok B Tk Islam Nurussalam Kabupaten Maros. *TEMATIK: Jurnal Pemikiran Dan Penelitian Pendidikan Anak Usia Dini*, 6(2), 99. <https://doi.org/10.26858/tematik.v6i2.16163>
- Husaen, R. R. (2024). Peran Stimulasi Dini terhadap Perkembangan Motorik Kasar dan Halus Anak Usia Dini. *Jurnal Ilmiah Wahana Pendidikan*, 10(7), 1128–1137.
- Irmayanti, A., Jamilah, S., & Khairuddin. (2025). Pengembangan Kegiatan Meronce Untuk Meningkatkan Kemampuan Motorik Halus Anak Usia Dini. 7(2), 468–482. <https://doi.org/10.52266/pelanggi.v7i2.5331>
- Karyadi, A. C., Widosetyo, A. E., & Widiastuti, B. R. (2024). Meningkatkan Keterampilan Motorik Halus Anak Usia 5-6 Tahun melalui Kegiatan Meronce. *Jurnal l Penelitian*

- Tindakan Kelas*, 1(3), 204–221. <https://doi.org/https://doi.org/10.61650/jptk.v1i13.610>
- Kasiyati, K. (2024). Program Pengembangan Kemampuan Kognitif Anak Usia Dini Melalui Kegiatan Meronce Menggunakan Bahan Alam. *Audiensi*, 2(2), 86–104. <https://doi.org/https://doi.org/10.24246/audiensi.vol2.no22023pp86-104>
- Maghfiroh, S., & Suryana, D. (2021). Pembelajaran di Pendidikan Anak Usia Dini. *Jurnal Pendidikan Tambusai*, 05(01), 1561.
- Mas, B., Malik, M. A., Malik, B., Saputri, A., Amaliah, E., Khaerati, E. N., & Pahe, I. W. (2024). Pelatihan Pembuatan Kerajinan Tangan Meronce sebagai Sarana Kreativitas Anak di Panti Asuhan Abadi Aisyiyah Parepare Abstrak Jurnal Pengabdian Nasional (JPN) Indonesia. *Jurnal Pengabdian Nasional (JPN) Indonesia*, 5(3), 687–697. <https://doi.org/https://doi.org/10.35870/jpni.v5i3.1046>
- Munthe, R., & Aprilia, R. (2022). Kegiatan Bermain Origami Dalam Mengembangkan Keterampilan Motorik Halus Anak Usia Dini. *Jurnal Inovasi Pengabdian Kepada Masyarakat*, 3(2), 168–178. <https://doi.org/http://dx.doi.org/10.30700/jm.v3i2.1430>
- Nuraya, N., Nurhasanah, N., Suarta, I. N., & Astawa, I. M. S. (2022). Pengembangan Kegiatan Meronce Untuk Meningkatkan Kemampuan Motorik Halus Anak Usia 4-5 Tahun di PAUD Mekar Sari Kota Mataram. *Jurnal Ilmiah Profesi Pendidikan*, 7(2630–2638). <https://doi.org/10.29303/jipp.v7i4b.1052>
- P, Y. S., Ramli, S. A., & Hajeni, H. (2020). Peningkatan Keterampilan Motorik Halus Anak Melalui Kegiatan Meronce Pada Kelompok B Taman Kanak-Kanak Pkk To'Lemo Kabupaten Luwu. *TEMATIK: Jurnal Pemikiran Dan Penelitian Pendidikan Anak Usia Dini*, 6(2), 76. <https://doi.org/10.26858/tematik.v6i2.15885>
- Qudsi Mutawakil Husaini, Arif Ahmad Fauzi, Dini Fauziah Agustini, & Nanda Rembulan. (2024). Mengembangkan Motorik Halus Anak Berkebutuhan Khusus Melalui Kegiatan Meronce Di Paud Inklusi Family Club Cianjur. *Jurnal Pendidikan Islam Dan Manajemen Ekonomi*, 2(1), 11–20. <https://doi.org/10.62495/jpime.v2i1.10>
- Ratnanintyas, E. M., Ramli, Syafruddin, Saputra, E., Suliwati, D., Nugroho, B. T. A., Karmuddin, Aminy, M. H., Saputra, N., Khadir, & Jahja, A. S. (2023). *Metodologi Penelitian Kualitatif* (N. Saputra (ed.)). Yayasan Penerbit Muhammad Zaini.
- Reihan Darmawan, M., Hidayat, D., Hoerniasih, N., Masyarakat, P., Keguruan dan Ilmu Pendidikan, F., Singaperbangsa Karawang, U., & Barat, J. (2025). Jurnal Comm-Edu Kompetensi Pedagogik Pendidik Dalam Mengembangkan Motorik Halus Anak Usia Dini Di Paud Plamboyan 3 Karawang. *Jurnal Comm-Edu*, 8(1), 2615–1480.
- Rohmah, W. (2025). Peningkatan Perkembangan Motorik Halus Anak Usia Dini Melalui Kegiatan Finger Painting di SPS Tsamrotul Jannah. *Jurnal Inovasi Pendidikan*, 11(2), 256–265.
- Sari, D. L., & Agustriana, N. (2024). *Menggenggam Masa Depan : Panduan Komprehensif Pengembangan Kemampuan Motorik Halus Anak Usia Dini*. CV. Penerbit Edupedia.
- Sari, R. P., Heriansyah, M., & Anjarwati, F. (2025). Penerapan Pembelajaran Sentra Di Tk Tunas Rimba 1 Samarinda. 12(12), 125–136. <https://doi.org/https://doi.org/10.20961/ecedj.v%vi%i.104646>
- Sary, Y. N. E., Ambarsari, N., & Suhartin, S. (2023). Pengaruh Permainan Lego terhadap Perkembangan Motorik Halus pada Anak Usia 3-6 Tahun. *Jurnal Obsesi : Jurnal*

- Pendidikan Anak Usia Dini*, 7(5), 6273–6280. <https://doi.org/10.31004/obsesi.v7i5.5350>
- Sila, N., Alhadad, B., & Agustan Arifin, A. (2021). Aktivitas Meronce Dengan Media Tangkai Ubi Kayu Terhadap Kemampuan Berhitung Permulaan Anak. *Jurnal Ilmiah Cahaya Paud*, 3(1), 90–101. <https://doi.org/10.33387/cp.v3i1.2183>
- Sudi, M., Hermawati, I., Apriyanto, Istiqomah, T., Anisah, H. U., Alfikri, Abrar, M., Asroni, A., & Fuadi, M. H. (2025). *Metode Penelitian Kualitatif: Pendekatan, Teknik, dan Aplikasi*. CV Pustaka Inspirasi Minang. https://www.researchgate.net/publication/392923425_METODE_PENELITIAN_KUALITATIF_PENDEKATAN_TEKNIK_DAN_APLIKASI/citations
- Sugiyono, P. D. (2020). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D* (M. Sutopo, Dr. Ir., S.Pd. (ed.); Cetakan ke). Alfabeta. <https://id.scribd.com/document/729101674/Metode-Penelitian-Kuantitatif-Kualitatif-Dan-r-d-Sugiyono-2020>
- Sukmawati, A., Rahman, T., Giyartini, R., Studi, P., Upi, P., & Tasikmalaya, K. (2021). Media Mozaik Untuk memfasilitasi Perkembangan Motorik Halus Anak Usia 4-5 tahun. *Jurnal PAUD Agapedia*, 5(2), 246–252.
- Wahyuningrum, M. D. S., & Watini, S. (2022). Inovasi Model ATIK dalam Meningkatkan Motorik Halus pada Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(5), 5384–5396. <https://doi.org/10.31004/obsesi.v6i5.3038>
- Walida, U. B., & Rusdiani, N. I. (2025). Penerapan Kegiatan Meronce Manik-Manik Untuk Menstimulasi Perkembangan Motorik Halus Anak Di Pocenter (Ponorogo Early Education Center). *Jurnal Indopedia(Inovasi Pembelajaran Dan Pendidikan)*, 3(1), 61–71.
- Yanti, E., & Fridalni, N. (2020). Pengaruh Kirigami Terhadap Kemampuan Motorik Halus Anak Kelompok B Di Tk Asiyiah Bustanul Athfal Iv Kota Jambi. *Jurnal Kesehatan Medika Sainika*, 11(2), 226–235. <https://doi.org/http://dx.doi.org/10.30633/jkms.v11i1.761>