

# Implementation Of Eco Print Activities In Stimulating Children's Fine Motor Development Based On Local Wisdom

Hatmawati<sup>1</sup>, Sri Hidayati<sup>2</sup>, Aghnaita<sup>3</sup>, Devi Oktavia<sup>4</sup>

{wathatma910@gmail.com<sup>1</sup>, srihidayati@iain-palangkaraya.ac.id<sup>2</sup>, aghnaita94@gmail.com<sup>3</sup>, devioakta302@gmail.com<sup>4</sup>}

<sup>1,2,3,4</sup>Palangka Raya State Institute of Islamic Religion

**Abstract.** The purpose of this study is to describe: eco-print activities and the development of fine motor skills for children aged 5-6 years through eco-print activities. This research uses a qualitative type of research. Primary data sources are 1 class B teacher and 4 children aged 5-6 years. The secondary data sources are school principals and document data in the form of Prota, Prosem, Teaching Modules, Assessments, and photos of eco-print activities. Furthermore, data collection techniques are observation, interviews, and documentation. The results of the study show: 1) Eco print activities at PAUD Islam Armuna Palangka Raya using the pounding technique are carried out based on Prota, Prosem, and Teaching Modules. The eco-print steps are printing leaves, arranging leaves, and hitting. 2) Develop fine motor skills for children aged 5-6 years through eco-print activities including the ability to imitate shapes, explore various media, stick leaves properly, and express themselves.

**Keywords:** Early Childhood, Eco Print, Fine Motoric.

## 1 Introduction

Early childhood is a critical period for children because it is during this period that a child's brain develops very rapidly and can still change according to the direction and guidance of parents and the environment. The physical aspect is part of the growth that must be stimulated from an early age. Physical activity is any body movement carried out by a child which also affects the child's motor skills, both gross and fine motor. The development of fine motor skills is a movement that is carried out by certain body parts and only involves some small muscles, such as the fingers, shoulders, and wrists [1], [2]. Umar bin Al-Khattab radiallahu'anhu said:

أَنَّ عُمَرَ بْنَ الْخَطَّابِ كَتَبَ إِلَى أَهْلِ الشَّامِ أَنْ عَلِّمُوا أَوْلَادَكُمْ السِّبَاحَةَ وَالرَّمْيَ وَالْفُرُوسِيَّةَ

Meaning: Umar bin Khattab wrote to the people of Sham to "teach your children to swim, shoot archery and ride a horse" (HR. Bukhari and Muslim).

Therefore this motor development is very important to be stimulated, motor is the basis of development that must be completed before the child passes the next stage. Then if this motor stage has not been completed, the child will have difficulty passing through the other stages. Fine motor skills are also part of a child's developmental tasks that can be influenced by the experiences and learning that children go through. On the other hand, there is a process of

modification and adaptation to the various information obtained[3]. Children's fine motor development needs to be stimulated through various activities both at home and at school. At school teachers can carry out various activities, one of the activities that can be carried out to stimulate the development of a child's fine motor skills is eco-print activities. Eco print is part of the activity of making batik or tracing on white cloth using natural materials by utilizing various plants that can bring out natural colors.

Similar explanations have also been made by several previous studies. The article was written by Susanti, Siti Misra, Henny, and Marwah with the title "Innovation of Local Wisdom-Based Early Childhood Learning through Eco Print Activities during the Covid-19 pandemic" which revealed that eco-print activities were a wisdom-based learning innovation for early childhood local. The learning innovation in question is to train children's motor skills through eco print activities by sticking and playing with colors by utilizing the leaves in the surrounding environment and this activity is a fun activity [4].

Relevant research by Fatmala, Yeyen, and Hartati, Sri with the title "Effect of Making Ecoprint Batik on the Development of Children's Art Creativity in Kindergarten" reveals that eco-print activities can stimulate the development of children's creativity, where this activity children are freed to use various forms of leaves and flowers to produce creative works of artistic value. So eco print activities can not only stimulate children's fine motoric development but other developments such as cognitive, social, and artistic development [5].

Journal is written by Penuva Almi and Indra Yeni with the title "Utilization of Simple Batik to Develop Children's Fine Motoric Skills in Kindergarten". The results of the study show that: The results of the study found that the use of simple batik can develop fine motor skills for early childhood in Kindergarten [6]. Journal is written by Harsila Taniaral, Anizar Ahmad, and Siti Naila Fauzia with the title "Development of Children's Fine Motorists Through Collage Activities Using Colored Sand Natural Material Media in Kindergarten Mon Kuta Banda Aceh". Based on the research results obtained, information was obtained that: Based on research data through collage activities using colored sand as a natural material, children can coordinate eyes and hands, manipulate movements, and control smooth muscles well [7].

The difference between this research and previous research is that previous researchers discussed the ability of children's artistic creativity, the use of batik, discussed collage activities using colored sand as a natural material. While this research discusses eco-print activities in stimulating the fine motor development of children based on local wisdom in Central Kalimantan. The application of eco-print activities in schools, one of which was carried out at the Islamic Armuna Palangka Raya PAUD. The eco print activity that was carried out at the Islamic Armuna Palangka Raya PAUD used plants in Central Kalimantan, namely the kalakai, sangkakak, and jerangau plants. This is carried out as a teacher's effort to introduce local plants to children and to maintain their sustainability. In addition, it aims to develop children's fine motor skills, children fine motor skills in group B aged 5-6 years have not developed optimally based on children's daily assessments. The eco-print activities carried out are expected to be able to train children's fine motor skills because in this activity children are trained to hold blocks, move their fingers and train hand-eye coordination when hitting cloth. The purpose of this research is to describe eco-printing activities at PAUD Islam Armuna Palangka Raya based on local wisdom and developing of fine motor skills for children aged 5-6 years through eco-printing activities.

## **2 Method**

The method used in this research is research that produces descriptive data in the form of written or spoken words from people and conditions that occur in the field. This research was conducted to describe the Implementation of Eco Print Activities in Stimulating the Development of Local Wisdom-Based Children's Fine Motorists. The time of the research was carried out in February-March 2023. The location of this research was carried out at the Armuna Palangka Raya Islamic Kindergarten, Jln. RTA Milono Km 6.5, Jekan Raya District, Menteng Village. The primary data sources in this study were children aged 5-6 years in class B and class B teachers at PAUD Islam Armuna Palangka Raya. The secondary data sources in this research are; the principal of the Islamic PAUD Armna Palangka Raya school and document data in the form of; Prota Prosem, Teaching Modules, Assessments as well as photos and videos of eco print activities. Data collection techniques using observation techniques, interviews, and documentation. The technique for checking the validity of the data used in this study is the source triangulation technique and technical triangulation. Data analysis techniques start from data condensation, data presentation, and drawing conclusions or verification.

## **3 Results and Discussion**

### **3.1 Eco Print Activities at Islamic Armuna Palangka Raya PAUD Based on Local Wisdom**

Based on the results of observations made on February 3, 2023, in class B Islamic Armuna Palangka Raya PAUD. This research resulted in findings regarding eco-print activities in stimulating the development of fine motor skills in children based on local wisdom. Based on data obtained from teachers at PAUD Islam Armuna Palangka Raya, it is known that children's fine motor skills or control of children's small muscle movements can be stimulated by eco-print activities. eco print activities carried out using the pounding technique which in this technique will stimulate the child's fine motor skills in holding blocks and the child's hand speed in hitting the cloth. The eco print activities carried out are wooden blocks in schools.

This is in line with the results of an interview with Mrs. MI as a class B teacher who stated that: "...Islam Armuna PAUD conducts eco print activities using the pounding technique, intending to train children's fine motor skills, it is known that children still have difficulty holding writing instruments such as coloring or crayons" (MI 03 February 2023).

In addition, eco-print activities are carried out based on the Annual Program (PROTA), Semester Program (PROSEM), and Teaching Modules. This is in line with observations on February 8 2023 that eco-print activities are only carried out once a year in semester II. In addition, this activity is carried out not every day in the learning process but only carried out on the theme "Plants" and interspersed with other activities. The eco-print activity was carried out on the theme "Cool Culture of the City of Palangka Raya" with the sub-theme "Typical Plants of Palangka Raya".

The form of local wisdom that teachers can introduce to children is in eco print activities where the main ingredients in carrying out this activity are plants. The plants used are plants in Central Kalimantan, such as kalakai, jerangau, and sangkakak plants. Apart from being able to stimulate children's fine motor skills, this activity can also introduce the typical plants of Palangka Raya

to remain sustainable and be able to be passed down from generation to generation to the next generation. In addition, the development of themes and sub-themes of learning contextually by local conditions and wisdom is also an effort to introduce Indonesian identity or what is termed the concept of "Identity". The implementation of eco-print activities with the theme "Cool Culture of the City of Palangka Raya" with the sub-theme "Typical Plants of Palangka Raya" is an example of implementing Regional Identity to introduce children to local culture in Central Kalimantan. Therefore, the application of learning like this is more meaningful by the cultural and societal conditions in each region [8].

Then in carrying out eco print activities in the field, the pounding technique steps used are as follows; 1) Print by stretching the plastic for the backing cloth and overlapping the dry cloth. 2) The leaves are stacked on top of the cloth and closed and then beaten with a hammer. 3) and, after the leaves are beaten until they are evenly distributed, then the cloth is opened, cleaned of the remaining leaves are attached to the cloth, then the motif has been printed on the cloth. Whereas in mordanting, immersion using lime water with the aim that the leaf motifs can be printed perfectly and fixation, which is the last step in eco print activities. So the two steps above are not carried out because it requires a long time in the process of soaking and drying the cloth.

This is reinforced by the results of an interview with Ms. MI as a class B teacher who stated that:

"The implementation of eco print activities is based on Prota, Prosem, and Teaching Modules and is only carried out in the second semester, eco print activities are the activities that children like the most among other activities. Because in this activity the children feel they are playing and are free to do pounding" (MI February 3).

Then according to Mrs. MI, the class B teacher, namely: "because the main ingredients in eco print activities are plants that are easy to get and are around the school environment. In addition, the materials used are safe for children (MI 09 February 2023).

This is in line with the results of an interview with Mrs. MI, a class B teacher, who stated that:

"Examples of typical Palangkaraya plants are such as kalakai, swangkak and jerangau plants. Children know the names of leaves and can do eco-print activities. The main ingredients in eco-print activities are plants, the colors produced are natural and easy to find in the school environment. In addition, children know about local wisdom" (MI 15 February 2023).

Based on the results of these interviews, it can be concluded that the use of pounding techniques in this eco-print activity can also prepare children for their ability to hold a pencil. Then when the child hits the cloth it will also train the child's hand muscles in holding the block. Besides the teacher has carried out the steps in the eco print activity. The teacher also prepares lesson plans on plant themes or based on Prota, Prosem, and Teaching Modules. Based on the teaching module, it is known that this eco-print activity uses the kalakai, sangkakak, and jerangau plants which are plants that need to be introduced to children regarding local wisdom in Palangka Raya.

### **3.2 Fine Motoric Development for Children Aged 5-6 Years Through Eco Print Activities at Islamic PAUD Armuna Palangka Raya**

Fine motor development, namely the child's skills in controlling the child's hand muscles and motion will make it easier for the child to move and coordinate the child's eyes. Fine motor development includes drawing shapes according to his ideas, imitating shapes, exploring various media, sticking, and expressing himself [2]. The following describes the results of fine motor research in children aged 5-6 years.

#### **3.2.1 Imitating Forms Through Eco Print Activities on the Pounding Technique**

The ability to imitate shapes is by imitating existing shapes which will then be created into new works. Eco-print activities for children can imitate shapes, starting with placing and arranging leaves under the cloth. For example, in the eco print activity, to produce something new, that is by arranging jerangau leaves into grass images and adding flowers. Based on the results of observations made on February 15 2023 in class B of Islamic PAUD Armuna Palangka Raya it is known that through eco print activities children can imitate shapes, which starts by placing and arranging leaves under the cloth. Then, the child will hit the cloth using a block until all the leaves absorb and stick to the cloth. After that, clean the remaining leaves attached to the cloth and the leaf motif will appear on the cloth according to the original shape of the leaves [9].

The shape of the work that each child produces is different. When the child performs the pounding technique with regular strokes, it will produce the same shape as the original leaf printed, but conversely, if the child punches too fast, it will produce imperfect leaf prints and damages the fabric fibers. Then train the child's eye coordination and the child focus on adjusting the speed of the hand in hitting the cloth.

This is in line with the results of an interview with Mrs. MI as a class B teacher who stated that: "Through the pounding technique children can produce leaf or flower motifs according to the plants used (MI 09 February 2023).

Then according to Mrs. MI as the class B teacher stated:

"All children are balanced in hitting and imitating shapes, but not all children can produce the same shape as the original leaf, this is because there are still some leaves that are not beaten, so the resulting shape on the cloth will not be perfect" (MI 23 February 2023 ). The above is in line with the results of interviews with class B children, namely: "Happy....., yesterday we hit the leaves with a wooden block" (Class B children 07 March 2023).

Therefore, it can be seen that grade B child at PAUD Islam Armuna Palangka Raya on the indicator of ability to imitate shapes, children can imitate leaf shapes or motifs. However, not all children produce the same shape or motif according to the original shape of the leaf. Then the child's eye and hand coordination in pounding activities can be carried out well by children such as holding, gripping, and hitting.

#### **3.2.2 Exploration of Various Media Through Eco Print Activities on Pounding Techniques**

Exploratory activities are exploring activities or doing something that the child has not known before. Based on the results of observations made on February 3, 2023, in class B of PAUD Islam Armuna Palangka Raya, it is known that exploration activities can be carried out by children in eco print activities. For example, on the theme of typical plants in Palangka Raya, such as kalakai, sangkakak, jerangau and Dayak onions. So, before children carry out eco-print activities, children will explore the environment around them, and get to know the names of plants, shapes, colors, and their benefits, such as the kalakai plant, which thrives a lot. As for swangkak, jerangau, and Dayak onions, they are only introduced through pictures or books. Then the next day the new children carried out eco-print activities using the pounding technique. From this technique, children can find out that the motifs that appear on the cloth will vary according to the shape, color, and type of leaf used [10].

The results of the interview with Ms. MI as the class B teacher stated that:

“Children explore the environment to get to know the shapes and colors of plants directly. For example, on the theme of typical plants in Palangka Raya, children only know that the kalakai plant can be cooked with gangan kalakai or (kalakai chips) but the child does not yet know that the kalakai plant can also be used for eco-printing activities” (MI 06 February 2023).

Then according to Ms. MI, the class B teacher, namely: "... after the child tries to do eco print on other plants, the child can find out that not only the kalakai plant can be used for eco print activities, but the swangkak and jerangau plants can also be used for eco print activities. Then the children also experimented with using flowers in the school environment for eco-printing activities." (MI 15 February 2023).

Based on this, it can be seen that grade B children at PAUD Islam Armuna Palangka Raya on indicators of exploration ability, children can recognize plant names, shapes, colors, smells, and benefits of the kalakai, sangkakak, and jerangau plants.

### **3.3.3 Attaching Leaves Correctly Through Eco Print Activities on the Pounding Technique**

Sticking activity is the activity of placing something using a certain material. Sticking activities will train children's patience and concentration. Based on the results of observations made on February 9 2023 in class B Islamic PAUD Armuna Palangka Raya it is known that children will arrange and place leaves under the cloth which are then covered with clear plastic. The activity of compiling children's leaves requires accuracy or patience so that the arranged leaves are not upside down. As for the jerangau plant, some children arrange the cut leaves into the shape of grass. In addition, it requires muscle strength in the right hand to hold the block and adjust the speed up and down in hitting the cloth. Then the left hand holds the plastic so it doesn't move [11].

The results of the interview with Ms. MI as the class B teacher stated that:

"Through eco-printing activities, children will use their left hand to hold down the clear plastic so that the leaves that have been placed under the cloth do not move (MI 06 February 2023). Then according to Mrs. MI the class B teacher: "...not all children can arrange the leaves on the cloth correctly, there are still children who are upside down in

arranging the leaves on the cloth. Then, some children only focus on using their hands to hold the block" (MI 09 February 2023).

The above is in line with the results of interviews with class B children, namely: "Kalakai plants, flowers. Arrange the leaves bu. You can ma'am..... but there are those who find it difficult to make a picture of grass on the leaves" (Class B student March 7, 2023).

Therefore, it can be seen that on the indicator of ability to stick, children in grade B at PAUD Islam Armuna Palangka Raya can put and arrange leaves, but occasionally the child needs to be directed by the teacher. This is because there are still children who put the leaves or flowers upside down, such as the kalakai, sangkakak, and jerangau plants.

### **3.2.4 Express Yourself Through Movement in Eco Print Activities in Pounding Techniques**

Self-expression activity is a child's effort to convey his feelings both through facial expressions and words. Based on the results of observations made on February 9, 2023, in class B of PAUD Islam Armuna Palangka Raya, it is known that children are very enthusiastic when doing eco-print activities. This can be seen when the cloth is hit together and then it will produce the sound of hitting each other. This can be seen when the cloth is hit together and then it will produce the sound of hitting each other. The expressions that appear in each child are different, for example, some can't wait to start activities, and discuss each other with friends and some want to quickly see the results of their work [12].

This is in line with the results of an interview with Mrs. MI as a class B teacher who stated that: "The child will express himself when the child is in the process of hitting the cloth, namely laughing, happy and excited while hitting the cloth" (MI 15 February 2023).

Then Mrs. MI stated:

"Children are very enthusiastic about doing eco-print activities. This can be seen when children want to quickly carry out activities before the first instructions are given. Then another form of enthusiasm was shown by the children, namely the sound of hitting a wooden block, Tok tok tok.....tokkk which shouted to each other. Then the child dares to show his work.

Based on the results of the study, it can be seen that on the self-expression indicator, children are not only happy and excited about doing eco-print activities, but children also have a high curiosity about the pounding results they have done. The form of expression that children do in hitting cloth is like shouting to each other to produce sound from the blow. In addition, the form of expressing his feelings can be by showing his work in front of his friends and teacher. As for class B at PAUD Islam Armuna Palangka Raya, it is known that on indicators of self-expression, children are able to show their good feelings by laughing and being happy. However, it also shows a sense of enthusiasm in hitting the cloth which will then produce a rhythm of blows that resonate with each other.

## **4 Conclusions**

Local wisdom-based eco-print activities carried out at Armuna Islamic PAUD Palangka Raya are on the theme "Cool Culture of the City of Palangka Raya" with the sub-theme "Typical Plants of Palangka Raya" using the pounding technique. Then the implementation of this eco print activity refers to Prota, Prosem, and Teaching Modules. In carrying out eco-print activities in the field, the pounding technique steps used are; printing the leaves, arranging the leaves, and striking the cloth. Based on the results obtained, the fine motor skills of children aged 5-6 years at PAUD Islam Armuna Palangka Raya include; the ability to imitate shapes, explore, attach leaves, and express oneself.

## Acknowledgements

The author expresses his deepest gratitude to the Supervisor who has provided direction for writing this article. To the Head of the Early Childhood Islamic Education Study Program at IAIN Palangka Raya who provided support during the author's study period and the Manager of Islamic PAUD Armuna Palangka Raya who has given permission for the implementation of this research.

## References

- [1] P. Sutapa, *Pengembangan dan Pemelajaran Motorik pada Usia Dini*. Yogyakarta: PT Kanisius, 2022.
- [2] O. D. Tanto and A. H. Sufyana, "Stimulasi Perkembangan Motorik Halus Anak Usia Dini dalam Seni Tradisional Tatah Sungging," *J. Obs. J. Pendidik. Anak Usia Dini*, vol. 4, no. 2, p. 575, 2020, doi: 10.31004/obsesi.v4i2.421.
- [3] Aghnaita, Irmawati, and M. Paus, "Peran Guru dalam Mengoptimalkan Tugas-Tugas Perkembangan pada Anak Usia Dini," *Early Child. J. Pendidik.*, vol. 4, no. 1, pp. 1–21, 2020, doi: 10.35568/earlychildhood.v4i1.816.
- [4] S. M. Susanti, Henny, and Marwah, "Inovasi Pembelajaran Anak Usia Dini Berbasis Kearifan Lokal melalui kegiatan Eco print di masa pandemic covid-19," *J. Obs. J. Pendidik. Anak Usia Dini*, vol. 5, no. 2, pp. 1987–1994, 2021, doi: 10.31004/obsesi.v5i2.594.
- [5] Y. Fatmala and S. Hartati, "Pengaruh Membuat Ecoprint terhadap Perkembangan Kreativitas Seni Anak di Taman Kanak-Kanak," *J. Pendidik. Tambusari*, vol. 4, no. 2, pp. 1143–1155, 2020.
- [6] P. Almi and I. Yeni, "Pemanfaatan Membuat Sederhana untuk Mengembangkan Kemampuan Motorik Halus Anak di Taman Kanak-kanak," *Edukatif J. Ilmu Pendidik.*, vol. 3, no. 1, pp. 102–108, 2021, doi: 10.31004/edukatif.v3i1.249.
- [7] H. Taniara, A. Ahmad, and S. N. Fauzia, "Pengembangan Motorik Halus Anak Melalui Kegiatan Kolase Menggunakan Media Bahan Alam Pasir Berwarna di TK Mon Kuta Banda Aceh," *Pendidik. Anak Usia Dini*, vol. 4, no. 3, pp. 88–100, 2019.
- [8] Aghnaita, Norhikmah, N. Aida, and Rabi'ah, "Rekonstruksi Pembelajaran Bagi Anak Usia Dini Melalui Konsep 'Jati Diri,'" *Obs. J. Pendidik. Anak Usia Dini*, vol. 6, no. 4, pp. 3253–3266, 2022, doi: 10.31004/obsesi.v6i4.2071.
- [9] W. P. Ningrum, E. Y. Haenilah, and S. Sasmiati, "Bermain Pembangunan Meningkatkan Kemampuan Meniru Bentuk," *J. Pendidik. Anak*, vol. 3, no. 2, pp. 1–7, 2017.
- [10] Heldanita, "Pengembangan Kreativitas Melalui Eksplorasi," *Golden Age J. Ilm.*



*Tumbuh Kembang Anak Usia Dini*, vol. 3, no. 1, pp. 53–64, 2019, doi: 10.14421/jga.2018.31-05.

- [11] A. Sriani, D. P. Koesmadi, and A. Wijayanti, “Peningkatan Kemampuan Motorik Halus Anak melalui Kegiatan Kolase Media Daun Ketepeng,” *Aulad J. Golden Age*, vol. 6, no. 02, pp. 426–437, 2022, doi: 10.31004/aulad.v1i1.2.
- [12] Martono, “Pembelajaran Seni Lukis Anak Untuk Mengembangkan Imajinasi Ekspresi dan Apresiasi,” *Pros. Semin. Nas. Pendidik. FKIP UNTIRTA*, vol. 1, no. 2, pp. 437–446, 2017.