

Project-Based Learning in Cultivating a Love of Batik through Hand-drawn Batik Training with Natural Dyes for Children

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ABSTRACT

Batik has become a cultural heritage that has been recognized internationally by UNESCO. Indonesian batik has been known worldwide, even the president of the Republic of Indonesia has set October 2 as the national batik day. This should be a matter of pride for the people of Indonesia, especially Yogyakarta, which has a batik culture. The pride of the batik culture that has been recognized by the world must be owned by the Indonesian people as a whole. Not only to adults but also to children. Unfortunately, in this globalization and modern era, children, especially in the Semaki and Kotagede sub-districts, are more interested in modern culture than batik. The development of technology has given a considerable influence on children in the current era of globalization. Children are more interested in playing gadgets than making batik. The complicated process of making batik becomes less attractive to the younger generation. This community service program is carried out in the form of collaborative learning with the theme Project based learning in fostering a love of batik from an early age through written batik training with natural dyes for children. The purpose of this PPM is to provide knowledge and understanding to students and children about how to make batik with natural dyes. By knowing and understanding how to make batik, it is hoped that children in the Semaki and Purbayan sub-districts will be interested in batik culture and will develop a sense of love and pride in the batik culture that has become a legacy of their ancestors. The method of this service activity consists of socialization, debriefing, natural dye testing, written batik training, natural dye training, evaluation, and reporting. This activity will be held from 21 to 26 December 2021 in Semaki and Purbayan villages. This activity has succeeded in increasing the knowledge and understanding of participants, both students and children. Students' understanding of batik skills increased from 27% to 100% while students' natural coloring skills increased from 12% to 100%. The understanding of the children also experienced a significant increase. The children's batik skills increased from 25% and 7.5% to 100% being able to make batik. While natural coloring skills increased from 4% and 0% to 100%.

Keywords: Project Based Learning, Batik tulis, Pewarnaan alami, Pelatihan untuk anak-anak.

INTRODUCTION

Batik is technically a process of applying wax or wax to the fabric to describe the desired motif (Parmono, 2016). Batik has become a cultural heritage that has been recognized internationally by UNESCO. Indonesian batik has been known worldwide, even the president of the Republic of Indonesia has set October 2 as the national batik day. This should be a matter of pride for the people of Indonesia, especially Yogyakarta, which has a batik culture. Natural dyed written batik is batik whose coloring uses natural materials that are easy to find in the Yogyakarta area and are environmentally friendly. The process of making written batik has done by hand, namely handicrafts that it becomes distinctive and unique. The advantages of natural dyes in batik produce batik products that have unique colors, besides that they do not pollute the environment because they can be degraded (Pujilestari, 2015). The use of synthetic dyes containing chemicals harms the environment such as water and soil pollution by waste from the coloring process which is toxic and carcinogenic (Chafidz & Lestari, 2021).

The pride of the batik culture that has been recognized by the world must be owned by the Indonesian people as a whole. Not only to adults but also children. Knowledge and understanding of batik can be local content that can be used as learning in schools. The love for

batik must be instilled in children from an early age as heirs of the nation. Apart from being a cultural heritage, batik also used as a medium/means of da'wah such as batik sarongs and calligraphy batik (Saebani, et al., 2020).

Unfortunately, in this globalization and modern era, children, especially in the Semaki and Kotagede sub-districts, are more interested in modern culture than batik. The development of technology has given a considerable influence on children in the current era of globalization. Children are more interested in playing phone than making batik. The complicated process of making batik becomes less attractive to the younger generation (Eskak, 2013). To foster a love of batik from an early age, it is necessary to introduce activities and how to make batik to children.

This community service program is carried out in the form of collaborative learning with the theme **Project-Based Learning in Cultivating a Love of Batik through Hand-drawn Batik Training with Natural Dyes for Children**. This activity is collaborative learning that involves lecturers, students, and children as the target of the activity. The purpose of this PPM is to provide knowledge and understanding to students and children about how to make batik with natural dyes. Batik activities can increase creativity and work to produce various motifs (Ratnawati & Kustryarini, 2021). By knowing and understanding how to make batik, it is hoped that the children in the Semaki and Purbayan sub-districts will be interested in batik culture and will develop a sense of love and pride in the batik culture which has become a legacy of their ancestors.

METHOD

The method of implementing this service is the project-based training and learning method. The target of this activity is elementary school age children from SD Muhammadiyah Suryowijayan, SD Muhammadiyah Danunegaran, and SD Negeri Tahunan. Apart from the school community, the target of this activity is elementary school-aged children in the rw 5, rw 6, and rw 7 areas of the Purbayan Village Kemantren Kotagede, Yogyakarta City. This activity involved 40 students from various study programs. This PPM activity is collaborative learning that involves students, resulting in the transfer of knowledge from lecturers to students and from students to children.

The steps or stages of this activity consist of 7 stages, namely socialization, briefing, natural dye testing, written batik training, natural dye training, evaluation, and reporting.

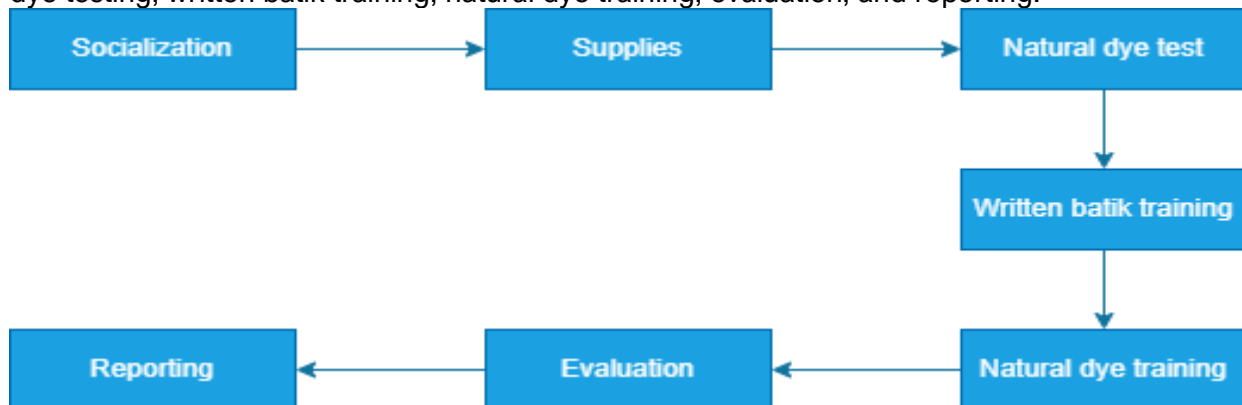


Figure 1. Stages of Service

The socialization stage is the stage of socializing activities to students and partners from those involved in this activity. This socialization activity aims to make students and partners involved understand the importance of the activity and the purpose of the activity. The second stage is debriefing. The briefing is done to equip students on how to make batik and how to color it with natural materials. The third stage is testing natural dyes. Students who have received a briefing on natural dyes will conduct an analysis of the case of natural dyed batik and try out various kinds of natural dyes that can be used for written batik.

The natural dye training stage is a stage to provide training to children in making natural dyes for written batik. Recommendations from the results of trials of natural dyes are used as a method of natural coloring in the process of making batik. The purpose of this activity is to

provide children with an understanding of the materials used to make natural dyes. Students will play an active role in providing natural coloring training to children.

The fifth stage of this community service activity is written batik training. Students who have received briefings related to written batik techniques will provide batik training for children. The purpose of this activity is to provide understanding and ability to children how the process of batik tuis with natural dyes is carried out.

The sixth stage is evaluation. This stage is carried out to determine the level of success of the entire series of activities. In addition, evaluation activities are also carried out to determine the follow-up of this community service activity. To measure the level of success of the debriefing to students, a pre-test and post-test were conducted to determine the level of understanding of students before and after the debriefing. The list of questionnaire questions for students is presented in table 1 below.

Table 1. Questionnaire for Evaluation of Student Debriefing

No	Question	Answer (Choice)
1	A cloth is called a batik cloth if	a. Has royal motifs b. Made using a printing machine c. The process of making motifs using night d. Using natural dyes
2	Batik motifs in general	a. Pakem, can't be changed b. The main motive remains, but ornaments can be modified c. The main motive and the ornament motif must be the same d. Free from the characteristics of each region
3	Making batik using	a. stamp tool b. Canting c. Paintbrush d. Pen
4	The process of gluing wax with a canting on a cloth is called....	a. Nyungging b. Nglowong c. Ngiseni d. Nembok
5	The process of covering the part of the background of the pattern that does not need to be colored is called	a. Nyungging b. Nglowong c. Ngiseni d. Nembok
6	Sources of natural plant dyes are obtained from...	a. Leaf b. Bark c. Root d. Everything is correct
7	What is not a characteristic of vessel dyes is....	a. To increase the intensity of the dye, the fabric can be dyed directly without drying it first b. To increase the intensity of the dyestuff, the fabric must be dried first c. Does not require mordant d. Requires a chemical reaction process in its manufacture

No	Question	Answer (Choice)
8	In order for natural dyes to stick well to the fabric, before the dyeing process the fabric needs to go through a process....	a. Pra Mordanting b. Meta mordanting c. Fixation d. Nglorod
9	In order for natural dyes to be locked properly on the fabric, after the dyeing process the fabric needs to go through a process....	a. Pra Mordanting b. Meta mordanting c. Fixation d. Nglorod
10	Of the following mordant materials, which provide a darkening effect (black) as a result of coloring natural dyes, are ...	a. Alum b. Tunjung c. Chalk d. Chlorine

In addition to pretest and posttest for students, evaluation was also carried out for children as targets for community service activities. Questionnaires for students are presented in table 2 below.

Table 2. Questionnaire for Children

No	Question	Answer (Choice)
1	Batik is the original culture of...	a. Indonesia b. United States of America c. Dutch d. Korea
2	The tool used for writing batik is....	a. Stamp tool b. Canting c. Paintbrush d. Pen
3	The tools for drawing batik designs are...	a. Pencil b. Candle c. Rope d. Stove
4	The material used for batik is....	a. Water b. Oil c. Malam d. Paint
5	Natural ingredients from plants for batik are...	a. Leaf b. stem c. Root d. Everything is correct
6	Made of bamboo, copper-headed, and perforated is a...	a. Pencil b. Pen c. Canting d. Eraser
7	Tegeran wood produces color...	a. Green b. Blue c. Yellow d. Red
8	High wood produces color	a. Yellow b. Chocolate c. Green d. Red

No	Question	Answer (Choice)
9	The shape of the batik craft is...	a. Dress b. Trousers c. Bag d. Everything is correct
10	The way to love Indonesian batik is to...	a. Learn to make batik b. Buying batik c. Wearing batik cloth d. Everything is correct

The reporting stage is the final stage of this series of service activities. This activity is carried out to compile outputs in the form of articles in national journals and to compile reports on the results of community service activities.

RESULTS AND DISCUSSION

Community service activities with a project-based learning model in fostering a love of batik from an early age through written batik training for children are divided into three stages of training. The first stage of activity is debriefing and ToT for students. This activity was held on December 21 and 22, 2021. In this activity, students were given an understanding of how to make batik and natural coloring. This activity was attended by 40 students from various study programs, namely the informatics engineering study program, chemical engineering study program, PGSD study program. On the first day, December 21, students were given the material on how to make batik. This is a creative activity in written batik. On the second day, December 22, 2021, students were given a briefing on how to naturally color written batik. Photos of student ToT activities in written batik and natural dyes training can be seen in Figure 2 below.



Figure 2. Student ToT Debriefing Activities

The purpose of this activity is to provide students with an understanding of written batik and natural coloring. By gaining this understanding, students can become agents of knowledge transfer to target partners, namely children.

The training activities in the second stage are written batik training and natural coloring by students for elementary school-age children on 23 and 24 December 2021. This activity was carried out at the Joglo Balai Agung Cendana. This training activity for children involved 20 students as presenters, while lecturers were the facilitators for the activities. This training was attended by 40 students from several elementary schools, namely 20 Annual State Elementary School students, 10 Muhammadiyah Suryowijayan Elementary School students, and 10 Muhammadiyah and State Elementary School students. On the first day, December 23, the children received training with written batik material, then continued on the second day, on December 24, the children received training with natural coloring materials. This activity went well, all participants were very enthusiastic about participating in the training. Photos of this training activity can be seen in Figure 3 below.



Figure 3. Natural Batik and Natural Dyeing Training for Children at Balai Agung Cendana

The third stage of the training activity is training on written batik and natural dyes for elementary school-aged children in the Purbayan sub-district area on December 25 and 26, 2021. The location of the training is at Balai RW 05 Purbayan. This activity involved 20 students as presenters and lecturers as assistants. This activity was attended by 40 elementary school-age children from RW.5, RW. 6, and RW.7 Purbayan sub-district of the Kotagede ministry of Yogyakarta city. On the first day, December 25, 2021, the children participated in training with materials on hand-drawn batik and how to make batik. Furthermore, on the second day, December 26, the children participated in natural dyeing training on batik cloth. This activity went well and the trainees were very enthusiastic about participating in the training activities. Photos of this training activity can be seen in Figure 4 below.



Figure 4. Training on Hand-drawn Batik and Natural Dyes in Purbayan Village

Community service activities with project-based learning in fostering a love of batik from an early age through written batik training with natural dyes for children have been going well. To find out the impact and achievement of the targets of this activity, an evaluation was carried out using a pre test and post-test model. This evaluation was conducted to determine whether there was an increase in the knowledge and understanding of the training participants.

The results of the evaluation of the debriefing and ToT training for students there was a significant increase in students' understanding of batik and natural coloring skills. Students' batik skills increased from 27% to 100% able to make batik, while students' natural coloring skills increased from 12% to 100%. The results of the evaluation of the written batik and natural coloring training carried out at Balai Agung Cendana RW.7, Semaki sub-district, and at the RW hall. 5 Purbayan sub-district, the understanding of the children also experienced a significant increase. The children's batik skills increased from 25% and 7.5% to 100% being able to make batik. While natural coloring skills increased from 4% and 0% to 100%. The graph of the increase in understanding of the training participants, both students and children are presented in Figure 5, while the graph of the skill level of the participants after the training is shown in Figure 6.

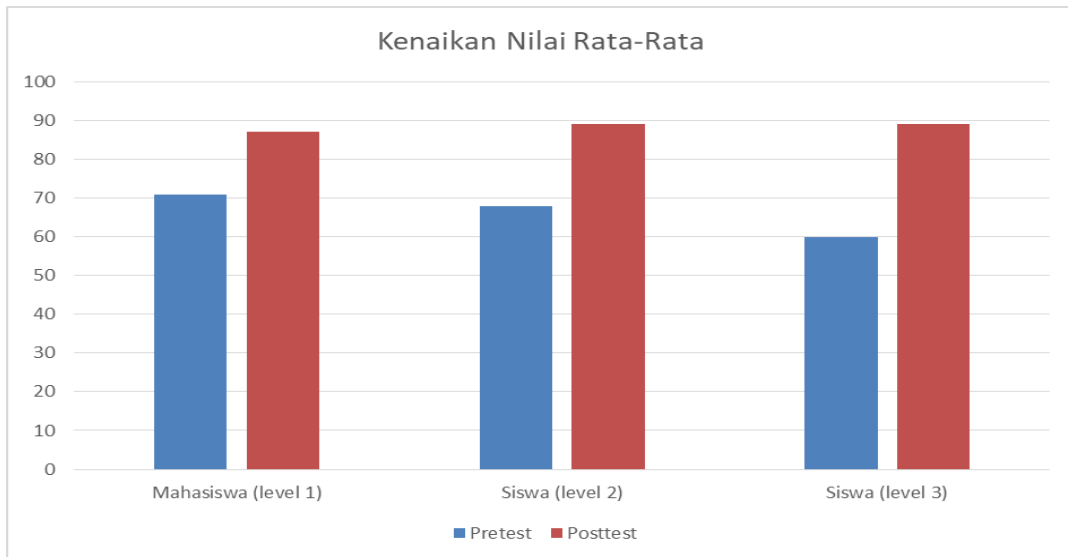


Figure 5. Graph of Increased Understanding of Training Participants

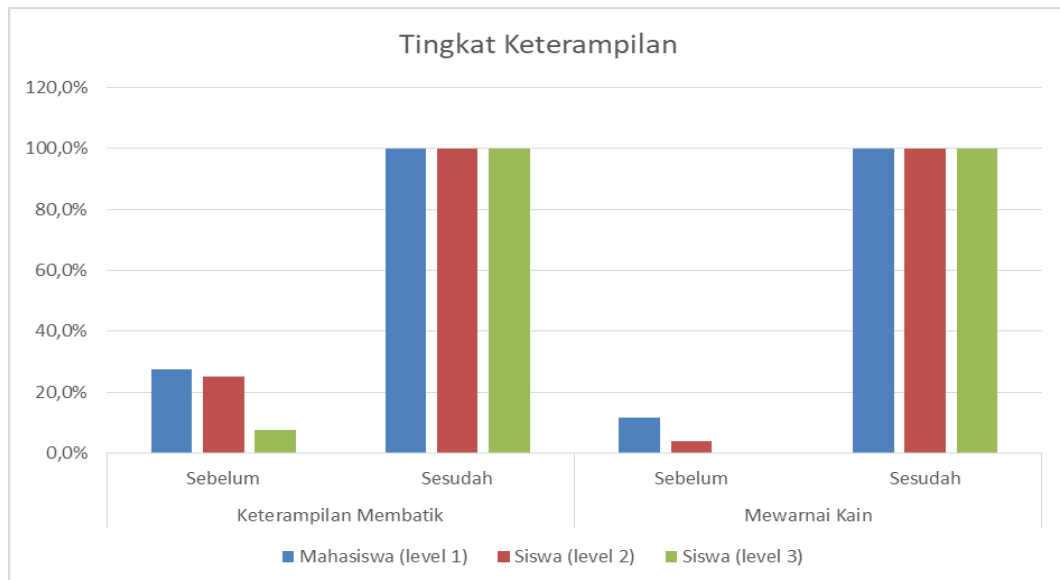


Figure 6. Graph of Participants' Skill Levels After Training

CONCLUSIONS AND RECOMMENDATIONS

Community service activities based on project-based learning in fostering a love of batik from an early age through written batik training with natural dyes for children at Joglo Balai Agung Cendana, Semaki sub-district, and at Balai RW. 7 Purbayan sub-districts have been successfully implemented. This activity received a very good response from the training participants, namely elementary school-age children in the Semaki and Purbayan areas. The participants took part in the activity with great enthusiasm and succeeded in making written batik with motifs according to their respective creativity. This activity has succeeded in increasing the knowledge and understanding of participants, both students and children. Students' understanding of batik skills increased from 27% to 100% while students' natural coloring skills increased from 12% to 100%. The understanding of the children also experienced a significant increase. The children's batik skills increased from 25% and 7.5% to 100% being able to make batik. While natural coloring skills increased from 4% and 0% to 100%.

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