Utilization of House Plants for Tanned Leather Ecoprint Coloring in Sumbersekar Village

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ABSTRACT

Sumber Sekar Village is one of the villages that has a lot of flower plants, therefore it is called Sumber Sekar. The leaves and flowers in Sumber Sekar Village have not been used optimally. The various types of leaves and flowers contain pigments that can still be used as ecoprint coloring on tanned skin. The ecoprinting leather products produced can be used in the production of garments, shoes and jackets, especially for fashion. The purpose of this community service is to increase the knowledge and skills of the people in Sumbersekar Village in using leaves and flowers as ecoprinting coloring on leather. This service was carried out in July 2020 with 20 participants. Service methods used in education, training and mentoring. Education is given to increase knowledge of ecoprinting on leather. Training was given to improve skills in making the ecoprinting method of coloring on leather. Meanwhile, assistance for those who are interested in business. Community service evaluation is carried out by comparing the increase in the percentage of knowledge and skills before and after the training. Community Service Results In general, the training went well. The knowledge level of the participants increased by 59% and the skills of the participants increased by 57%. The conclusion is that the training program that has been carried out is able to improve the knowledge and skills of participants in the use of leaves and flowers around the house to be used as natural coloring using the ecoprint method on leather.

1. Introduction

As a village located between Batu City—Malang Regency, Sumber Sekar Village has a strategic position in tourism development because its location is on the main route of tourist access to Batu City. This strategic position is not accompanied by sustainable development efforts from the Malang Regency government. Sumber Sekar Village has not been able to compete with tourist villages. Therefore, it is necessary to look for products that can be developed to attract tourism.

One that can be developed is the use of flower plants around the Sumbersekar Village community's house. The people of Sumber Sekar Village generally plant flower plants in the environment whose purpose is to beautify the environment. But actually this flower plant can also be utilized with a much higher economic value, namely by taking pigment for natural coloring. One of the natural coloring with ecoprinting method.

In addition, the people of Sumber Sekar village also have a lot of skin from goat slaughter. Goat skin can be used as leather that can be colored naturally using the ecoprinting method. This empowerment is specifically for goat breeders who have a strategic role in increasing the income of farmers and the surrounding community.
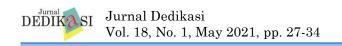
Some of the problems experienced by the community based on the observations we made, namely: 1) The abundance of Potential Plants around the house that can be used as natural coloring materials using the Ecoprint method. Sumbersekar Village, is one of the villages with potential flower plants, teak trees and so on that have not been utilized properly. Thus, it is necessary to have new innovations to increase their selling power through the creative economy and in the end it will be able to improve the community's economy; 2) Lack of empowerment of the Dasa Wisma group (most of whom are housewives) who can produce a product that utilizes the potential of the village so that it becomes an alternative source of income for the people of Sumbersekar Village. 3) The people of Sumber Sekar Village do not use goat skin as a product with high selling value. The application of science and technology for coloring the ecoprinting method on goat skin has the potential to be developed on the grounds that the source of raw material for goat skin is abundant in addition to plants and flowers. Ecoprinting leather products can be used as raw materials for making bags, jackets, wallets, shoes, etc.

According to Flint (2008), the ecoprint technique is defined as a process to transfer color and shape to fabric or leather media through direct contact. Flint (2008) further said that applying the ecoprinting technique by attaching plants (leaves and flowers) that have skin color pigments which are then boiled in a large cauldron. The plants used are also plants that have high sensitivity to heat, because it is an important factor in extracting color pigments.

Seeing the potential to develop natural coloring on leather with the ecoprinting method for the people of Sumbersekar Dau village, it is necessary to be given training and skills so that these products can become the village's flagship.

2. Methods

This community service program is carried out in Sumber Sekar Village, Dau District, Malang Regency, East Java. The implementation time is September 2020. The target audience for this service program consists of 20 members of the women's group, Dasa Wisma, Sumbersekar Village, Krajan Hamlet. The methods used in service activities are lectures, demonstrations and direct practice. Lecture material given to the community about the meaning of ecoprinting leather, various uses of plants and flowers that can be used for ecoprinting coloring, as well as factors that affect the success of ecoprinting

coloring methods, cost analysis of ecoprinting leather. Meanwhile, the demonstration was carried out in conjunction with hands-on practice regarding the ecoprinting method of coloring the leather. The indicator of success in this service activity is in the form of producing ecoprinting tanned leather products that can be used for the manufacture of wallets, shoes and bags as well as in garment production. In addition, another indicator is an increase in skills and knowledge for the community about skin coloring with the ecoprinting method.

The method of evaluating service activities uses the pretest and posttest methods during the training. The use of the pretest and posttest methods aims to test the effectiveness of the training model by looking at the knowledge, skills and attitudes of participants before and after the training. The data collected were analyzed using nonparametric statistical analysis, namely the Wilcoxon Match Pairs Test (Siegel, 1997 and Sugiyono, 2001).

This test is to find out the difference between before and after being given training. The test is carried out by transforming qualitative data in the form of a Likert scale into quantitative data. The results of this test are to prove the effectiveness of the ecoprint making skills training on leather. The criteria for assessing participants' understanding are 20-40 (poor), 40-60 (good enough), 60-80 (good), 80-100 (very good).

3. Results and Discussion

3.1. Retention of material

This service activity was carried out for the first time, namely the delivery of material about the meaning of eco print coloring, what factors affect the success of eco print coloring, what treatments are applied to leaves and flowers and leather before ecoprinting, what types of leaves and flowers are used. can be used as a color transfer in ecoprints on leather and also as an explanation of tanned leather.

The material understanding data of the participants is summarized in table 1.

Table 1. Data on Material Comprehension Before and After Training

Material Test Type	Average value			Kruskal Wallis test	
	Before training	After training	Deviation	Asynp.sig	Kesimpulan
What is ecoprint?	39	75	36	0.011	there is a real difference (P < 0,05)
Factors influencing ecoprint	30	75	45	0.022	there is a real difference (P < 0,05)
Variety of leaves for ecoprint	35	85	50	0.014	there is a real difference (P < 0,05)
Variety of flowers for ecoprint	30	70	40	0.010	there is a real difference (P < 0,05)
Mordanting in ecoprint	25	70	45	0.016	there is a real difference (P < 0,05)
Leather type for ecoprint	25	75	50	0.021	there is a real difference (P < 0,05)
Average	30,6	75	44,3		

Table 1 shows that the understanding of the material from the participants before being given counseling gave a value of around 20-40 which means it is not good, meaning that so far they have not understood that many leaves and flowers around their house can be used as natural coloring with the ecoprint method. Not many people know about the types of leaves and flowers that can be made for their ecoprint. According to Bloom (1979) understanding begins after someone carries out the process of finding out. After knowing, the next step is understanding. Furthermore, it is said that understanding is the ability to master understanding. Understanding looks at the transfer of material from one form to another, interpretation and estimation. To be able to understand what is being learned there needs to be an effective learning activity. A person will have a high level of understanding if he finds out for himself what he has learned, not just memorizing what is already there.

Table 1 shows that after being given counseling the understanding of what ecoprint is has increased on average between 70 to 85, which means that understanding is very good. This lecture on ecoprinting in leather was conducted in Sumbersekar Village which was attended by about 20 women from the homestead, the training conditions were very conducive, calm and not noisy, besides that the resource persons who provided the training were very communicative so understanding about ecoprinting was easy to understand. The image below shows the atmosphere during the lecture.

Figure 1. Provision of Ecoprinting Materials

3.2.   Understanding of ecoprinting method coloring skills

Understanding the skills in making ecoprinting on leather is done through several stages. The first stage is soaking the leather and cloth coverings into the mordant solution, followed by the skill of arranging leaves and flowers or twigs into the leather, choosing the leaves and flowers that can be used for ecorinting, then rolling the leather and finally steaming the leather. and after training can be seen in table 2.

Table 2. shows that the understanding of the skills of the participants before being trained gave a score of around 30 – 38 which means it is not good, meaning that so far the people of Sumbersekar Dau Village have not been skilled in doing ecoprints on tannic culture. Not many people understand the design in arranging flowers and leaves on their skin. Which types of leaves and flowers can be used for ecoprints are of low value. how long it is steamed and at what temperature they also don't know.

However, after the demonstration and direct practice of making ecoprinting on tanned leather the value of understanding skills increased between 75 to 85.

The eco printing technique is the process of transferring colors and shapes to fabrics through direct contact. Flint (2008). Each plant produces different motifs and colors depending on the season, the intensity of rain, the air and the quality of the soil itself. The character of the selected plant species is also very influential on the final result of coloring, or making motifs on textile materials. Plants that are fresh, dry, or have just fallen will give different results (Rizky Maharani, 2016). The resulting motif will be very unique because it forms the structure of the plant itself. From the phenomena that occur in the industrial world, especially the use of natural materials as fashion products, researchers want to explore the use of natural materials as motifs using eco printing techniques.

Table 2. Skill Understanding Data Before and After Training

Material Test Type	Average value			Kruskal Wallis test	
	Before training	After training	Deviation	Asynp.sig	Conclusion
Mordant process	35	80	45	0.021	there is a real difference (P < 0,05)
Leaf and flower design on leather	38	85	42	0.032	there is a real difference (P < 0,05)
Choosing leaves and flowers	34	75	41	0.024	there is a real difference (P < 0,05)
Steamed tanned skin	30	85	55	0.020	there is a real difference (P < 0,05)
Average	34,25	81,25	45,75		

According to Pujilestari (2015), natural dyes are one of the many potential ways for the development of eco fashion. Natural dyes technique is a coloring technique using raw materials from nature, the absorbed color will blend with the fibers in the fabric so that it can withstand the washing process and friction.

Every plant has the potential to be used as a fabric dye. Of course the resulting color will be different from each plant. The results depend on the season, the intensity of the rain, the air (which is already polluted), the quality of the soil. The character of the plant chosen to be used as coloring material will also affect the final result. Leaves that are still fresh, already dry, even leaves that have just fallen will give different results. (Flint,2008)

The coloring process of the ecoprint method starts from the immersion process in alum mordant. The purpose of this process is so that during the ecoprint process the color pigments from leaves and flowers can be more easily attached to the skin surface. The steps are as follows: dissolve 70 grams of alum into 1 liter of clean water. Then soak the skin into alum solution with soaking time for 24 hours. Next, rinse the rest of the alum water immersion using clean water, the next stage is drying the skin to dry without being exposed to sunlight.

Figure 1 . Skin soaked in Mordant

Next arrangement of leaves and flowers on the skin. According to Larasati (2019). In making eco printing motifs, it is necessary to pay attention to the use of fresh leaves or plants, so that the color results from the eco printing motif can be evenly distributed. The arrangement was carried out according to the wishes of the participants, namely placing the leaves and flowers on the leather with the bottom position of the leaves attached to the skin. The leaves that have been arranged are given

a plastic layer so that the color on the leaves does not spread, roll the plastic and skin to be folded and tied with a rope so that the sample does not come off during steaming.

Figure 2. Leaf Arrangement in Ecoprinting Pembuatan

Next, steaming is carried out for 45 minutes using a stove and a pan, the temperature is attempted at 70 °C so that the skin does not shrink. The release of leaves is done when the leaves have been allowed to cool down.

3.3.   The success of the activity

The average knowledge of participants about coloring ecoprinting methods before training is 30.6 and after training is 75. There has been an average increase in participants' knowledge of 44.4. This shows that with the training model implemented, there has been an increase in knowledge of 59%. This increase in knowledge may be due to the absorption of participants in capturing knowledge about ecoprints which is easily understood by participants.

Likewise, the average skill of participants before being trained was 34.25 and after training became 81.25 and this means that there has been an increase in the skills of participants on average 47.0.

According to Kurnia, et al (2019) at the training stage, the involvement of participants and training instructors is vital. Therefore, the readiness of the instructor in providing materials for ecoprinting training and the instructor's ability to deliver the material are the main things for the success of this training.

4. Conclusion

The training program that has been carried out has been able to improve the knowledge and skills of the women of the Dasa Wisma group in Sumbersekar Dau Village in the use of leaves and flowers around the house to be used as natural coloring using the ecoprint method on leather.

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