

COMMUNITY EMPOWERMENT THROUGH ECO-PRINT BATIK MAKING TRAINING IN BLITAR DISTRICT

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Abstract: Blitar District has a wealth of potential natural and human resources. We see an opportunity to cultivate nature's potentials in the district to be used as a means of improving the community's welfare. One of the possible uses of natural materials there is for creating eco-print batik products. The goal of this research is to implement eco-print batik to improve the welfare of the community. This community empowerment project involves 68 students that are divided into seven groups and are prepared in a Service-Learning method. Here, the researchers act as facilitators between students and the community and become evaluators of the process and the results being worked on. There are some stages that the students go through in implementing this program outside the classroom, namely: learning the eco-print technique, practicing, providing training for the community, and innovating stages. The trainings of eco-print batik for the community are divided into two phases: basic and advanced trainings. Through this method of learning, students learn how to educate themselves and the community. The results of these trainings are eco-print batiks produced from the collaboration between students and the district community, eco-print batiks produced by the community, and the students' innovative products. Hopefully, through this experience, the community in Blitar can be more independent and can develop their skills for their welfare.

Keywords: Community empowerment, eco-print batik, Service-Learning, Blitar

Introduction

Indonesia is known as a country that exports handicrafts which rely more on hand skills and handmade processes. Art and craft products in each region are certainly different from other regions. Each region has its own unique local handicraft which is more exceptional than other regions, because of different existing natural resources available in each region.

Blitar District has a wealth of potential natural and human resources. It has an area of 1,588.79 km² with land use for rice fields, yards, plantations, forests, fish ponds and others (Kab. Blitar, 2012). Sadly, these potentials are not brought out by the locals that mostly work as migrant workers, sugarcane farmers or labors, and the women that work at home. Based on our observation through previous social community program, we see that there are four villages in Blitar district that have potential natural and human resources, which are Selorejo, Kademangan, Genuk, and Tunggorono. With geographical locations that are distant from urban areas, makes it difficult for the communities there to access many things, such as schools, jobs, and other commodities to make ends meet.

Researchers see opportunities to improve these communities' welfare by cultivating the potential of nature and empowering human resources in Blitar District. One of the possible uses of natural materials there is for creating eco-print batik products. Eco-print products are one form of products that pay attention to the environment especially because they are made from natural surroundings. According to Farlex (2012) natural dye (natural coloring) is one of the many potential ways to develop eco-fashion. Natural dye technique is a coloring technique that uses the basic ingredients of natural dyes, the absorbed color will blend with the fibers in the fabric so that it can withstand friction and washing. Over time, natural dye techniques are increasingly developed with a variety of new findings, one of which is the eco-print technique. The eco-print coloring technique pioneered by India Flint is defined as the process of transferring colors and shapes to cloth through direct contact (Flint, 2008). Flint applies this technique by attaching plants that have color pigments to the fabric which are then boiled in a large cauldron. The plants used are plants that have a high sensitivity to heat because it is an important factor in extracting color pigments.

This research is in line with the concept of sustainable products using eco-print techniques to produce environmentally friendly products. Sustainability design is a design that emphasizes customer satisfaction in order to survive long term in the market, prioritizing ecological as well as social factors when designing and manufacturing products. Sustainable design is environmentally friendly and continues to improve in accordance with social, economic and environmental developments in order to enhance the quality of life (Ortiz, et al, 2009).

The goal of this research is to implement eco-print batik to improve the welfare of the community. Here, the researchers act as facilitators between students and the community and become evaluators of the process and the results being worked on. This paper will review the training process and the interactions carried out by students and the community. With this knowledge transfer, we expect the community to be able to be independent, to be able to explore and utilize the potentials in their area and be more prosperous. This research can also be a reference and contribution to related sectors, especially the regional government, towards sustainability for the improvement of the community's economy.

Method

This research was conducted in Blitar District which covers four villages namely Selorejo, Kademangan, Genuk, and Tungggoro. This research is a descriptive study that examines the process of eco-print batik training carried out by students, describes the interaction of students and communities, then evaluates the program.

This community empowerment project involves 68 Visual Communication Design 4 (VCD 4) students that are divided into seven groups. Each group is accompanied by one tutor. One group consists of nine to ten students that serve around 20-40 people in each village. Because there are a lot of students, we use class and studio learning. In class-learning, a lecturer teaches in one big classroom. This learning model is more towards one-way learning. Meanwhile, in studio-learning, a group of students consisting of eight to ten students learn together as a team assisted by one tutor. Studio learning is more interactive because there is more discussion. The advantages of studio learning are students can get information or feedback immediately about their design from their tutor and vice versa, in addition, students get more complete attention from their tutor (Natadjaja & Yuwono, 2019).

The Child Development Center (PPA) in collaboration with a child development services agency, Compassion, become the agency partners for the program. They usually handle activities to improve children's development from disadvantaged families around GKIN Selorejo, GBIS Kademangan, GBIS Genuk, GKJW Tungggoro and other areas around Blitar District.

In achieving the objectives of this study, we use the Service-Learning method, where students interact directly with the community. This Service-Learning method is one of the learning methods that encourage students not to only learn theory in class, but to also practice their knowledge in society. Service-Learning is a course-based experiential learning strategy that engages students in meaningful and relevant service with a community partner while employing ongoing reflection to draw connections between the service and course content. When done well, Service-Learning has the potential to enhance academic learning, promote civic responsiveness, and strengthen communities (The University of Tennessee Knoxville, 2019). Service-Learning aims to enhance academic learning by challenging students to apply classroom theory to real-life situations in order to solve community problems. Because Service-Learning addresses actual community needs, it has the added potential to engage students in ways that other experiential methods may not (University of Southern Indiana, 2019). Moreover, the exchanges that happen in Service-Learning also have positive multicultural relations that impact students' attitudes (Natadjaja, 2019). As reflected in the Venn, three criteria serve as the litmus test for whether a course may be considered Service-Learning: (1) Relevant and meaningful service with the Community; there must be service provided in the community that is both relevant and meaningful to all stakeholder parties, (2) Enhanced academic learning; the addition of relevant and meaningful service with the community must not only serve the community but also enhance student academic learning in the course, (3) Purposeful civic learning; the addition of relevant and meaningful service with the community must not only serve the community and enhance student academic learning in the course but also directly and intentionally prepare students for active civic participation in a diverse democratic society (Michigan Journal of Community Service Learning, 2001).

The stages carried out in the Service-Learning process involve students to (1) prepare theory in class (2) learn eco-print techniques with the eco-print batik expert (3) practice in the laboratory in order to understand the making process of eco-print batik (4) provide training to the community (5) do some experiments in finding innovative

motives (6) make reflections. We see additional benefits of the Service-Learning program for educators, which are the possibility to examine the results and improve the quality of learning by examining the reflection reports. Here, students' reflections become the media for this research entering point to find out not only the implementation process but also the impact and the exchanges that happen along the process (Arifin, et al., 2009, Natadjaja, 2013).

Result

There are some stages that the students have to go through in implementing this program, considering that they are also new to eco-print batik making, namely: learning the eco-print technique, practicing, providing training for the community, and innovating stages. These four stages require students to do some experiments in a group outside class. There are two other stages where students work individually, which are learning the theory in class and making a reflection.

The trainings of eco-print batik for the community are divided into two phases: basic and advanced trainings. The basic training phase is to teach the community how to make eco-print batik with one kind of leaves that grow in the area. Blitar has produced a lot of teak leaves, so in this basic training, they mostly use teak leaves to produce motifs. For advanced training, students must combine two or more leaves to produce a motif.

All of the stages in the experiment activities are always mentored by tutors. Tutoring is an important part of the university's teaching-learning process. Tutoring improves student success rates and enables students to achieve their learning objectives as well as professional goals. It is regarded as a basic strategy for any model of student learning, student guidance, individualization, and monitoring. University lecturers regard it as professional competence and use it as a teaching strategy especially in this case to organize a huge number of students in one class. Tutors help lecturers improve the quality and competency of learning, and play a major role in university teaching-learning, furthermore, it is a strategy for improving the process (Morillas & Garrido, 2014). In the Service-Learning program, the role of the lecturer and tutor are to become educators as well as facilitators between students and their clients. (Natadjaja & Yuwono, 2019).

Learning the eco-print technique

In the VCD learning process, most of the students' time is spent on learning and struggling with digital technology. We believe that eco-print batik training makes students inevitably do a lot more manual work. VCD students, in general, are not familiar with the technique of making eco-print batik. So before they are assigned to provide training to the community, students must learn them first.

We ask a VCD alumnus who had previously studied this eco-print technique and implemented it in a community, to give training to several student representatives and tutors. Later, each student representative, who is also the group leader, must transfer his or her knowledge to the group members. We choose an alumnus to give the training because she has previously been involved in the eco-print project in Blitar the previous year, and we also would like to stay in touch with our alumni. We hope to maintain a strong relationship between alumni, students, and lecturers.



Figure 1. Training with Visual Communication Design alumnus

Practicing

After the training, students try to make eco-print batik in the laboratory with materials that they have prepared, including fabrics that have been washed with detergent and soaked in mordant (a mixture of alum and soda ash), leaves, PVC pipes, plastic sheets, newspapers, and equipments that we provide such as tables, stoves, and pans.

There are at least three experiments that the students must do. The first experiment, students try to experiment with a variety of leaves, so that it can be examined whether the leaves produce pigments or not. The leaves that produce pigments will leave color attached to the cloth. In the second experiment, students have chosen and noted which leaves they are going to use and arrange them in the fabrics with certain patterns. The third experiment, students choose certain leaves which are believed to produce color pigments to be cataloged as training material.

The stages of making eco-print batik include:

Purchasing material (fabric, soda, alum, leaves, plastic sheets, PVC pipes)

Soaking the fabric in mordant for 24 hours

Soaking the leaves in a vinegar or *tunjung* solution and hot water for 15-20 minutes.

Placing the leaves onto the fabric

Beating the leaves so that the pigment comes out (optional)

Covering the fabric already placed with leaves with plastic sheets

Rolling up the fabric onto PVC pipes, tying it with a rope

Steaming the fabric in a steamer over medium heat for 2 hours

Unrolling the fabric

Removing the straps, plastic sheets, and leaves attached to the fabric

Aerating the fabric

Soaking the fabric with alum so that the color pigment of the leaves is permanently set to the fabric



Figure 2. Students experiment before giving training to the community

Providing training for the community

After going through several stages of training and experiments accompanied by tutors, students are ready to implement the eco-print batik making towards the community and to share their knowledge. In this training, students and communities jointly make eco-print batiks. Students drive out from the city of Surabaya to Blitar for about four hours. Tutors accompany the training process. In practice, the tutor functions to assist, supervise, and control the training process so that it runs smoothly. Tutors also ensure that students maintain respectful communication with the community and prevent any miscommunication.

The community training conducted includes Basic Training and Advanced Training. In Basic Training, students teach eco-print batik making to the community using one type of leaf from several types that grow in the area. The selected leaves are teak leaves, *lanang* leaves, or other leaves in the area. While in Advanced Training, students train the community by using several leaf variants that are combined and arranged with certain motifs. The stages of training include (1) introduction, (2) material distribution and explanation, (3) result evaluation, (4) material contribution.

After arriving at the location, the first thing they have to do is to get acquainted with the community administrators. Afterward, they look for leaves around the area guided by members of the community. Together they search the types of leaves that are going to be used for eco-print batik making. Batik eco-

print materials are collected from each region, so the community can utilize natural resources in their respective regions. In general, teak trees thrive in Blitar District and their leaves produce good pigments for use in eco-print batik.

In this training we divide the community participants into groups, one group consists of five to six persons and accompanied by one student. Before we begin the training, the students must introduce themselves to the community. One of the students guide the process of making eco-print batik for all the small groups. As the student leader, she must guide all groups and introduce herself as well as the group members. Students in the small groups must know their team members. The introduction process becomes an ice breaker between students and the community.

In the second stage, students distribute materials like fabrics that have been soaked in mordant a day before, leaves that they find in the area and have soaked in *tunjung* solution before training, newspaper as the placemat of the fabrics, and plastic sheets. Then after finishing placing leaves on the fabric, they give them PVC pipes and ropes. While distributing the materials, students also explain the use of the materials and about eco-print batik. The student leader explains the process for all groups, then the students in the small groups must continue the explanation step by step. Together they place leaves on the fabrics and then with plastic sheet coating, the fabrics are rolled using PVC pipes. Then the fabrics are tied with ropes and put into pans to be steamed for about two hours.

While waiting for the steaming process, students use the spare time to take a rest, walk in the teak jungle around the area, and talk to the community. After two hours, we see the result. They unroll the fabrics and remove the rope straps, plastic, and leaves attached to the fabrics. We see the surprise expressions among students and the community. There are groups who are happy because they are successful in fixing the motifs onto the fabric, but some are disappointed because the resulting colors are different than expected or even there are no colors shown. Not all eco-print batik making is successful. There are pigments from the leaves that result in bright colors, but there are also that are not as good as expected. According to students, there are two factors that make fail the process, namely: immersion of leaves that are not uniform in time, some are immersed in a short time and used immediately, so the pigment does not stick well to the fabric. Another factor is the different types of leaves, where pigments of old leaves do not stick well compared to young leaves.

In order to support the community in memorizing the process of eco-print batik making and developing their skill to make motifs, we contribute some materials to the community. With complete materials, we hope that the community will be motivated to do some exercises and experiments by themselves. Before we go back to Surabaya and say goodbye, we take a picture together.



Figure 3. Eco-print batik making training for the community

Innovating stage

After students provide training to the community, it is expected that they can further explore eco-print batik by producing more innovative motifs. Therefore, they carry out several trials in the laboratory on campus accompanied by their tutors. The trials they conduct include eco-print batik with various leaves, with one type of leaf in different layouts, and with modified leaves. One group even uses digital technology to capture color pigments and make stamps applied to certain software.

Their experimental results in the form of batik eco-print must be reported at the end of the semester along with concepts in the form of book reports, logbooks, and reflections in hardcopy and softcopy. From 14 small groups, we find that there are two groups whose eco-print batik motifs are eligible to be registered formally by the department for Intellectual Property Rights.

Discussion

Through this method of learning, students learn how to educate themselves and the community at the same time. The results of these trainings are eco-print batiks produced from the collaboration between students and the district community, eco-print batiks produced by the community, and the students' innovative products.

The collaboration between students and the district community

At the end of the semester, we evaluate the Service-Learning activity by reviewing the students' reflections. From these reflection reports, we know what happens in the training process and what is the students' responses towards this program. In the interaction process, most of the students feel worried at the beginning because they have never had any connection with people in the villages that have a different background. But this Service-Learning gives more value to students that eventually affects their attitudes. They are grateful that they are involved in the learning process and have gained experience in dealing with the community. Here are some of the students' reflection reports.

Before leaving for Blitar, I honestly have a lot of negative thoughts, what if we fail, like: the color of the leaf cannot be printed, or we have difficulty to teach to the women there and various other things. But we run the activities well, the women there are very friendly and enthusiastic. And the best part is that they successfully print the leaves, especially those using teak leaves that grow around Blitar District and certainly around the area of Kademangan (Lavinia, 2019).

After my group and I do the manufacturing process for several times, I enjoy and understand how to make it and it is quite fun, too. I also feel that this is the real Visual Communication Design (VCD) which makes new things and involve the community (Pandu, 2019).

In conclusion, I am grateful to get this VCD 4 course because first I do not know that this course really helps the Blitar communities to make the eco-print batik to improve their welfare (Harisjaya, 2019).

After about a month, we go to the communities to do some interviews and to evaluate the impact of the training. In general, the community is happy with this training process, however, few of them say that they are tired and unmotivated.

So glad that we have this training. My eyes are opened because of this training, along the way when I see leaves, I become curious, I want to take them and try to make eco-print batik. After the training want to try and try again (Soeleman, 2019).

Collaboration results are documented together and given to the community. It is hoped that the results of the training will motivate the community to continue making this eco-print batik independently. In a certain period of time researchers continue to provide assistance, evaluation, and improvement to develop the quality of eco-print batik produced by the community.



Figure 4. Batik eco-print in collaboration between students and the district community.

Eco-print batiks produced by the community

After students conduct community training, researchers review it through field research, interviews, and seeing the results carried out by the community.

Previously, during the first training, researchers give several materials to the community in the form of a stove, an LPG tank, and pans. Students also contribute fabrics, mordant materials, and alum to be used by the community. The aims of this contribution to the community is to motivate them to be able to practice and repeat the process of making eco-print batik so that they can have a better understanding.

When the researchers conduct a survey, we find that among the four communities that are fostered, only two communities conduct further experiments to continue the process of making eco-print batik with their own initiatives. They carry out the training because of curiosity. The other reason is that there are friends who would like to join and try again using the materials provided, and there is a desire to make eco-print batik uniforms.

After getting eco-print batik training, mothers are motivated to try to make more. While waiting for their children studying at school, they promise each other to work together to make eco-print batik. They are happy because there is an activity while waiting for their children to come home from school (Mumpuni & Cahyani, 2019).

Whereas the communities that are not motivated to try to make eco-print batik after the training is because there is no time, busy with household affairs, hassled by many events, cannot match schedules with others to try together, no motivation to try individually, and after the training comes the Eid holidays so mothers usually are busy.

In general, the mothers are eager to try to make eco-print batik, but their time is hampered by routine duties as housewives, delivering and picking up their children, and some also work in the stockyards (Cahyani, 2019).

According to them, the making of this eco-print batik is beneficial for them because it can be economically profitable. When browsing through the Internet, the price of eco-print batik is expensive. Besides, eco-print batik is beautiful and easily sold. They are optimistic that it can become a business in the future. Another impact is on the environment because this program also aims to conserve nature and take care of plants, especially since there is already new awareness in some groups to not only take from existing plants but also that they should plant trees.

I am motivated to try to make this eco-print batik myself because the motifs are beautiful and sell well. In addition, by utilizing natural materials, I also help preserve nature, especially if the leaves are taken from the plants that I plant (Lobo, 2019).

Most communities expect follow-up from researchers for this eco-print batik training. The training provided by students is still basic and they feel they do not understand it well enough and still need further training.



Figure 5. Eco-print batiks by the community after training.

The students' innovative products

Students not only train the communities but also try to make innovative eco-print batik motifs. It is not easy because it often does not work. Natural materials, chemicals, and mixtures are often the unfitting factors that make the finished batik inadequate.

Among the 14 small groups of students, it turns out that only two groups can be classified as successful. The failures in making this eco-print batik motif innovation can be caused by:

- Fabrics are not washed before dressing
- Mixes that do not match the dosage
- The time of soaking the fabrics and/or leaves is too short or too long
- Leaves include types that do not leave off pigments
- Use of fabric types that do not absorb pigments at all
- Leaves are not young or dry

One successful group does not fully use the manual method. They apply the eco-print process manually, scanned the finished eco-print batik, and apply it to software that produces leaf-shaped stamps. Users can apply this stamp to the fabric that is then printed on textiles.

The researchers also conduct eco-print batik experiments to try to produce innovative textures. It is not easy to get the desired motif, because working with natural materials is sometimes full of surprises. However, this obstacle can be overcome by using appropriate materials such as the right type of fabrics and leaves, correct composition and dosage of materials such as mortar, soda ash, and alum, as well as the right timing for immersion and steaming.

It takes several experiments to produce the desired motif. This experiment is repeated by the researchers before further training is carried out. Hopefully, in the future, this training will not only improve people's welfare but also motivate the communities to open a business based on social *creativepreneurship*. The social entrepreneur is a mission-driven individual who uses a set of entrepreneurial behaviors to deliver a social value to the less privileged, all through an entrepreneurially oriented entity that is financially independent, self-sufficient, or sustainable. Social entrepreneurs: (1) are mission-driven, (2) act entrepreneurially, (3) act within entrepreneurially oriented organizations, and (4) act within financially independent organizations (Saifan, 2012). Meanwhile, *creativepreneur* comes from the word creative and

entrepreneur. It is interpreted as entrepreneurs who do business in the creative domain. Creativepreneurship is a business activity or business that uses creative ideas that have added value to art and design as the backbone of its main activities (Budiman, 2008).

Conclusion

The effort to empower the community requires the active role of the actors involved in it. In this training, researchers involve students, tutors, and their own research team who are also lecturers and tutors. Previous researchers have intensive communication, and the communities that are involved in this training have received different trainings before.

It is not easy to involve students in this training because the making of eco-print batik is relatively new for students, so they must also take training and conduct intensive experiments. For researchers, the success of students in producing eco-print batik is important, but what is more important is the process, especially the interactions between students and the community. Students also diligently and resiliently do the experiments even though not all can get the expected results. In the learning process, they interact in the team more intensively than when working digitally. Besides academic learning, students also learn about teamwork, time management, and communication in the multicultural interaction with the community. Their readiness to go into the community is included in one of the assessments.

For the community, this training is also quite new. Therefore, many people are still dependent on their friends in this training, so they cannot continue the task that has been given. In the future, researchers need to motivate the community to be willing to try making this eco-print batik independently.

For the researchers, the coordination in the classroom and in the field has challenges, especially how to match community schedules, students, tutors, and researchers. The limited time and costs do not make an obstacle but become a challenge for researchers to develop community empowerment programs.

We expect that the training that begins with this small group can motivate other communities in other regions to make eco-print batik production. We hope that this eco-print batik making can be sustainable, so the community can have a chance to become *socio-creativepreneurs*, where those who succeed can share their knowledge with other communities and because of that they can together become creative entrepreneurs in producing this eco-print batik.

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