

THE APPLICATION OF "NYANGGIT NGGATHOK" BATIK PATTERNS ON BATIK FABRIC IN THE KLAMPAR BATIK VILLAGE UMKM AS A BATIK TOURISM ATTRACTION IN MADURA

Urip Wahyuningsih^{1*}, Indarti¹, Yulistiana¹, Ratna Suhartini¹, Andang Widjaja¹,
Bima Yatna Anugerah Ramadhani¹

¹Universitas Negeri Surabaya, Surabaya, Indonesia

*uripwahyuningsih@unesa.ac.id

Abstrak: Kemunculan industri batik saat ini dalam rangka memenuhi kebutuhan pangsa pasar yang semakin berkembang. Batik berpola Nyanggit Nggathok adalah pola dari motif batik yang motifnya tidak penuh, dan ditempatkan pada lokasi tertentu berdasarkan pola bagian busananya, sehingga setelah menjadi busana akan Nggathok (bahasa Jawa) atau bertemu pola motifnya. Hal ini akan menambah nilai estetis dari busana batik dan efisien pada penggunaan kain. Pengrajin Kampung Wisata Batik Klampar dalam pembuatan motif batik masih menganut pola tradisional sehingga inefisiensi waktu dan biaya. Untuk itu perlu pengetahuan dan pelatihan membuat motif batik berpola Nyanggit Nggathok. Tujuan dari kegiatan ini adalah: (1) Pemberian pengetahuan dan pelatihan membuat motif batik berpola Nyanggit Nggathok pada pengrajin batik di Desa Klampar (2) Pengrajin mampu menekan biaya produksi (3) Pengembangan motif batik khususnya pada tukang gambar. Metode yang digunakan dalam kegiatan ini adalah pelatihan dengan jumlah peserta 10 pengrajin batik. Hasil penelitian pada penilaian kesesuaian bentuk motif 100% sesuai, kesesuaian ukuran motif 100% sesuai dan kesesuaian posisi motif pada pola 90% sesuai. Pada kriteria peletakan pola bermotif sesuai arah serat kain dan kriteria efisiensi penggunaan bahan (jarak antar bagian-bagian pola) 80% sesuai. Hal ini menunjukkan bahwa peserta hampir semuanya memahami peletakan pola bermotif dan efisiensi penggunaan kain. Selanjutnya pada penilaian pelaksanaan pelatihan 70% sangat baik, 26% baik dan 4% cukup. Pada aspek materi pelatihan 73% kategori sangat baik, 25% baik dan 3% cukup. Ditinjau dari aspek Narasumber, sangat baik sebesar 78% dan baik 23%. Kegiatan ini berimplikasi pada peningkatan kualitas estetika produk batik serta penekanan biaya produksi pada pemakaian kain. Diharapkan hal ini dapat lebih luas diterapkan pada banyak industri batik untuk peningkatan mutu dan produksinya.

Kata Kunci: nyanggit nggathok, UMKM, kampung batik klampar, estetis, efisiensi kain batik

Abstract: The emergence of the batik industry today is to meet the needs of the increasingly growing market share. The Nyanggit Nggathok patterned batik is a batik motif pattern that is not fully covered but strategically placed in specific areas based on the garment's pattern, ensuring that the motifs align or "Nggathok" (Javanese for "match") when the garment is assembled. This will add aesthetic value to batik clothing and be efficient in the use of fabric. Artisans in the Klampar Batik Tourism Village adhere to traditional patterns, leading to inefficiencies in time and cost. Thus, there is a need for knowledge and training on creating Nyanggit Nggathok patterned batik. The objectives of this activity are: (1) To provide knowledge and training on making Nyanggit Nggathok patterned batik to batik artisans in Klampar Village, (2) To enable artisans to reduce production costs, and (3) To develop batik motifs, especially among pattern makers. The method used in this activity was a training program involving ten batik artisans. Research results on the suitability of the motif form show that 100%, 100% of the motif sizes and 90% of the motif positions on the pattern are accurate. In the criterion of motif placement according to the fabric grain direction and material efficiency (spacing between pattern pieces), 80% were appropriate. This indicates that most participants understand the placement of patterned motifs and the efficient use of fabric. Furthermore, the evaluation of the training implementation showed that 70% rated it as excellent, 26% as good, and 4% as fair. Regarding the training content, 73% rated it as excellent, 25% as good, and 3% as fair. Reviewed the trainer's aspect, 78% rated them as very good and 23% as good. This activity has implications for improving the aesthetic quality of batik products while reducing production costs related to fabric usage. It is hoped it can be applied more widely across various batik industries to enhance their quality and production.

Keywords: nyanggit nggathok, UMKM, klampar batik village, aesthetic, batik fabric efficiency

Introduction

Batik is an Indigenous Indonesian culture recognized by UNESCO as an Intangible Cultural Heritage (ICH) in 2009 and acknowledged by the international community as a part of the historical tapestry of human civilization (Inspectorate General of the Ministry of Education and Culture, 2023). Historically, during the era of kingdoms in Indonesia, batik art was considered a form of painting on fabric, primarily used for clothing within royal families. Initially, batik production was confined to the palace, with the resulting garments reserved for the king, his family, and their followers. However, as many of the king's followers lived outside the palace, they eventually introduced the art of batik to the outside world (Widodo et al., 2021).

Today, the batik craft continues to evolve, adapting to modern times with all its consequences, including technological advancements and ever-changing fashion trends. This evolution has given rise to various batik industries, ranging from Small and Medium Enterprises (UMKM) to larger-scale operations. The rise of the batik industry is driven by the growing demand for batik fashion, which continues to expand. In fact, according to a press release by the Ministry of Industry of the Republic of Indonesia (2022) on the Ministry's website (<https://kemenperin.go.id/>) on Tuesday, October 4, 2022, the batik industry is recognized as a significant contributor to the national economy. The Ministry of Industry encourages this industry predominantly dominated by UMKM, to remain productive and competitive. One of the efforts is facilitating Batikmark certification as part of the Ministry's support to ensure the quality authenticity, and standard of Indonesian batik products, enabling them to compete in local and global markets.

According to Siregar et al. (2020), the largest batik producers are still concentrated on the island of Java, with Madura being one of them. The batik industry in Madura has not yet reached a large-scale industrial level; almost all batik production is still conducted by small and medium enterprises (UMKM) (Rakhmawati, 2016). Batik craft center in each district in Madura has batik artisans with their characteristics. However, the largest number of batik artisans is founded in Pamekasan district (Jayanti & Nasution, 2021). In Pamekasan, the batik industry is mostly centered in the Proppo District, with 42 batik centers, and the village of Klampar has the largest number of centers, totaling 24 (Suharwati, 2019).

The increase in the number of batik industry players as above, has automatically heightened the competitiveness of each batik industry, driving them to compete for both local and global market share. This situation has sparked ideas for creating batik patterns that can improve the efficiency of batik fabric production in terms of cost and time, allowing for reduced production expenses and time without compromising the quality, creativity, and innovation of the products. According to Wahyuningsih et al. (2023), the "Nyanggit Nggathok" batik pattern is a type of batik motif where the design is not fully covered but is strategically placed in certain areas based on the garment's pattern. This ensures that when the garment is assembled, the patterns align or "Nggathok" (a Javanese term) meaning to meet or align). Such a batik pattern can significantly reduce the cost and production time of batik garments. Training is necessary to implement problem-solving (Wening et al., 2015).

UD Aneka, managed by Mr. Ahmadi and located in Dusun Banyumas, Klampar Village, Proppo District, Pamekasan Regency, Madura, is a renowned home industry that produces and manages the distinctive batik of Pamekasan, Madura (Amalia, 2022). UD Aneka has produced various unique and diverse batik patterns. According to Sakdiyah (2017), the motifs created by UD Aneka often depict stories that represent the daily lives of the local community. Some of the motifs produced still belong to the classic batik category, such as "*beras tumpah*," "*sekarjagat*," "*sisik*," and "*kerang*," which are characteristic of Pamekasan with the distinctive bold colors of Madura, particularly dark red.

Based on the situation described above, the main challenge faced by the Micro, Small, and Medium Enterprises (UMKM) of batik artisans in Klampar, Madura, especially at UD Aneka, is achieving efficiency in the batik production process without losing their distinctive characteristics. Another challenge is ensuring batik artisans understand how to create the Nyanggit Nggathok batik pattern. Therefore, it is essential to provide learning and training in making batik motifs with Nyanggit Nggathok patterns at UD Aneka in Klampar Village, Pamekasan, Madura. This learning and training aim to improve the quality of batik production at UD Aneka through the Nyanggit Nggathok process and increase fabric usage efficiency by strategically placing the batik motifs on specific fabric parts.

Method

The approach used in the Community Service program (PKM) is community development. Community development involves activities aimed at encouraging residents to initiate changes that lead to desired socio-economic improvements (Ledwith, 2020 in (Zahro, 2022)). The activities are conducted using methods of knowledge dissemination or training. According to (Noe, 2020) training is a planned effort to facilitate the learning of competencies, knowledge, skills, and behaviors related to employees' jobs to enable employees to master the knowledge, skills, and behaviors emphasized and apply them in their daily activities. (Dessler, 2020), outlines several methods for conducting training programs, including on-the-job training, apprenticeship, informal training, job instruction training, lectures, programmed instruction, behavior modeling, audiovisual-based training, and vestibule training.

This program will be implemented by providing knowledge or learning and training in making batik motifs with *nyanggit nggathok* batik patterns to 10 artisans from the Aneka UMKM in Klampar Village, Pamekasan, Madura. This activity was carried out using the method of providing knowledge or learning and training in making batik motifs with *nyanggit nggathok* patterns to 10 batik artisans of UMKM Aneka Desa Klampar Pamekasan Madura, with the following stages:

Preparation Stage

The preparation stage involves planning the community service program, which includes the following activities:

1. Initial Observation: Conducting an initial assessment of the field conditions at the program location.

2. Problem and Potential Analysis: Analyzing the challenges and potential of artisans in the Batik Village of Klampar, Pamekasan, Madura.
3. Partner Analysis: Analyzing the challenges and potential of the program's partner, Aneka Batik UMKM.
4. Discussion and Coordination: Discuss and coordinate with the partner the implementation of the learning and training program.

Implementation stage

This stage involves the execution of the community service program, which includes the following activities:

1. Training Material Preparation: Developing the content and materials for the training sessions.
2. Training Execution: Conduct the training sessions on creating Nyanggit Nggathok batik patterns.
3. Product Development Assistance: Providing ongoing support to batik artisans in developing Nyanggit Nggathok batik products.

Evaluation Stage

In this stage, the implementation team evaluates the program by observing the batik products produced during the training. The team also distributes questionnaires to participants to gather feedback on the program's execution.

Results and Discussion

Implementation of Activities

The implementation stage of this program began with the introduction of the Community Service Program Team, which consisted of six (6) members: four (4) lecturers from the D4 Fashion Design Program, one (1) lecturer from the Engineering Department, and one (1) student from the D4 Fashion Design Program. During this stage, participants were informed about the objectives and benefits of the training. The activities conducted during this stage are illustrated in [Figure 1](#).



Figure 1. Team and Training Participants, and the Opening ceremony of the learning and training event (source: personal collection)

Material Presentation

In this stage, participants received an explanation of the Nyanggit Nggathok batik pattern, including its definition, benefits, and the efficiency it offers in batik production. The next activity involved a detailed explanation of the techniques for creating the Nyanggit Nggathok batik pattern specifically for clothing (see [Figure 2](#)). This training not only introduces innovation and creativity but also has the potential to enhance production efficiency and enrich the variety of batik garments in the batik tourism village of Klampar, Pamekasan. As Prasetyaningrum & Trilaksana (2020) noted Pamekasan Batik can potentially become one of the trendsetters for Madura batik.



Figure 2. Presentation and explanation of the Nyanggit Nggathok patterned batik motif material (source: personal collection)

Guidance

In this stage, participants received training to determine the placement of batik motifs on fabric to achieve efficiency by minimizing fabric waste (see [Figure 3](#)). Proper placement of the clothing patterns ensures that the Nyanggit Nggathok motif alignment is achieved, meaning that the batik patterns will meet correctly when the garment is completed. Sadyah et al., (2013) note that when placing clothing patterns on batik fabric, designers often focus solely on the harmony of motifs between patterns and neglect the density of the layout. This oversight results in significant fabric waste due to inefficient pattern placement.

During this process, detailed explanations were provided on how to choose the layout of patterns on the fabric to match existing batik motifs, thereby increasing fabric usage efficiency. Additionally, the layout must consider both the batik motifs and the patterns; therefore, they align correctly when the garment is completed (see [Figure 4](#)). The fabric-cutting process must adhere to the established patterns to ensure efficiency and achieve a final garment with properly aligned Nyanggit Nggathok motifs.



Figure 3. The process of creating and positioning patterned batik motif (source: personal collection)



Figure 4. The final product of the Nyanggit Nggathok patterned batik motif (Source: Personal collection)

Evaluation

The final products included garments with Nyanggit Nggathok batik patterns, which achieved production efficiency by minimizing the amount of unused fabric cuttings. Additionally, the garments featured correctly aligned Nyanggit Nggathok motifs where the patterns met as intended. Based on observations and assessments of these products, the results are illustrated in the following diagram:

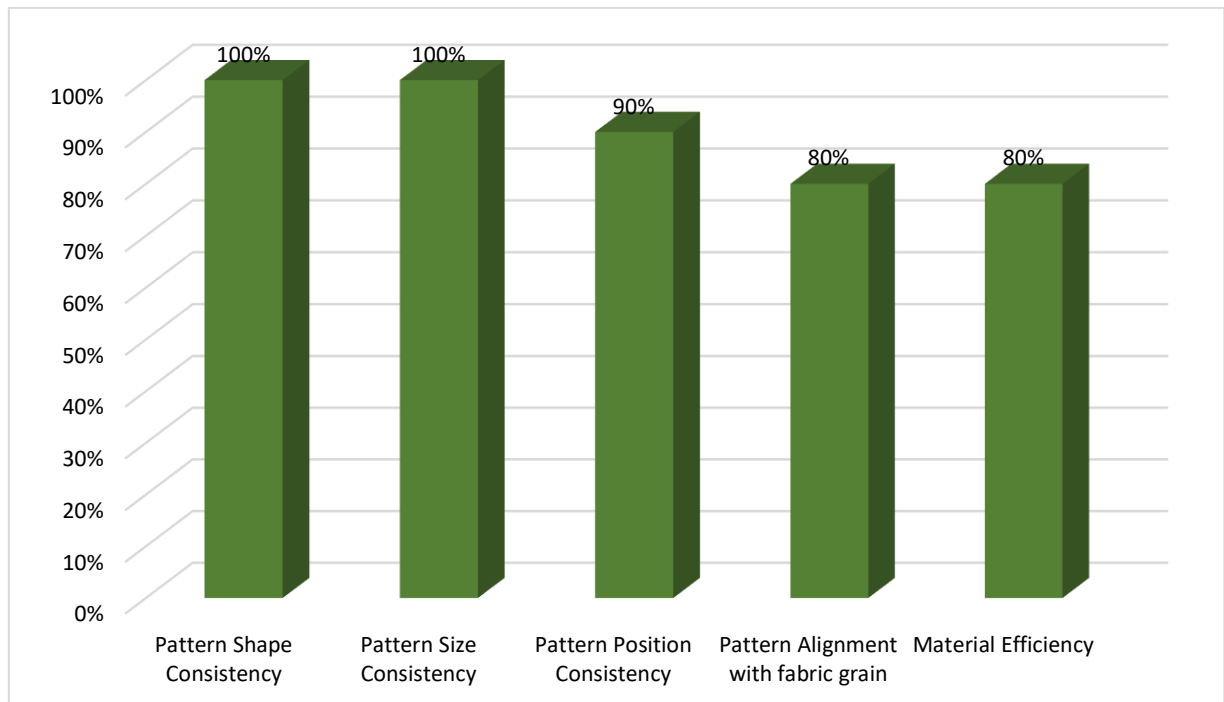


Figure 5. Product evaluation percentage

The percentage evaluation of the products as shown in [Figure 5](#) indicates the following:

- Pattern Shape Consistency: All participants received a 100% rating, meaning every participant's product met the criteria for pattern shape.
- Pattern Size Consistency: All participants achieved a 100% rating, indicating that all patterns were the correct size.
- Pattern Position Consistency: This criterion received a 90% rating, suggesting that almost all participants correctly positioned the patterns on their fabric.
- Pattern Alignment with Fabric Grain and Material Efficiency: Both criteria received an 80% rating. This shows that almost all participants understand the placement of motif patterns and the efficient use of materials.

Proper placement of motifs on fabric must adhere to specific guidelines, including balancing the motifs on both sides of the garment pattern and ensuring the harmony of repeating motifs (Pratiwi, [2007](#)). The composition of batik motifs affects the placement of patterns on garments, impacting the final product. When creating a motif composition, key points include "joining" motifs, particularly on fabrics with designated pattern areas on the sides of the front and back patterns (Rifaah, [2020](#)).

Overall, the evaluation results show that all participants met the established criteria. The Nyanggit Nggathok batik patterns were consistent in motif shape, size, and positioning. The patterns were aligned with the fabric grain, and material usage was efficient, with minimal fabric waste due to well-planned spacing between pattern sections.

Based on the questionnaires distributed to the participants and the data obtained, the results are as follows:

1) Implementation of Training/Guidance

The feedback from the questionnaires distributed to the participants, along with the collected data, reveals the following outcomes:

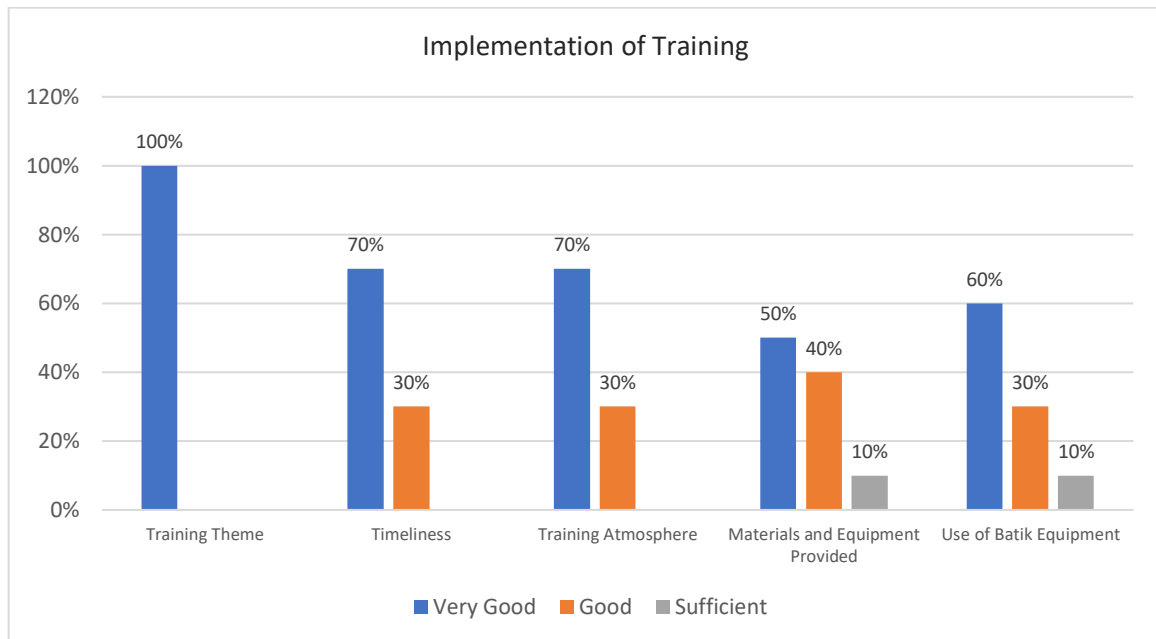


Figure 6. Percentage of training implementation evaluation

The percentage diagram of the training implementation as shown in [Figure 6](#) reveals the following results:

- Training Theme: Received a 100% rating in the "Very Good" category, indicating high positive feedback on the Nyanggit Nggathok theme.
- Timeliness: Achieved a 70% rating in the "Very Good" category and 30% in the "Good" category, reflecting good adherence to the schedule.
- Training Atmosphere: Scored 70% in the "Very Good" category and 30% in the "Good" category, showing a positive environment during the training.
- Materials and Equipment Provided: Received a 50% rating in the "Very Good" category, 40% in the "Good" category, and 10% in the "Sufficient" category, indicating generally good provision of materials and equipment.
- Use of Batik Equipment: Scored 60% in the "Very Good" category, 30% in the "Good" category, and 10% in the "Sufficient" category, demonstrating effective use of equipment.

In summary, the training implementation overall received an average rating of 70% in the "Very Good" category, 26% in the "Good" category, and 4% in the "Sufficient" category.

2) Training Materials

Based on the questionnaires distributed to the participants and the obtained data, the results for the training materials are as follows:

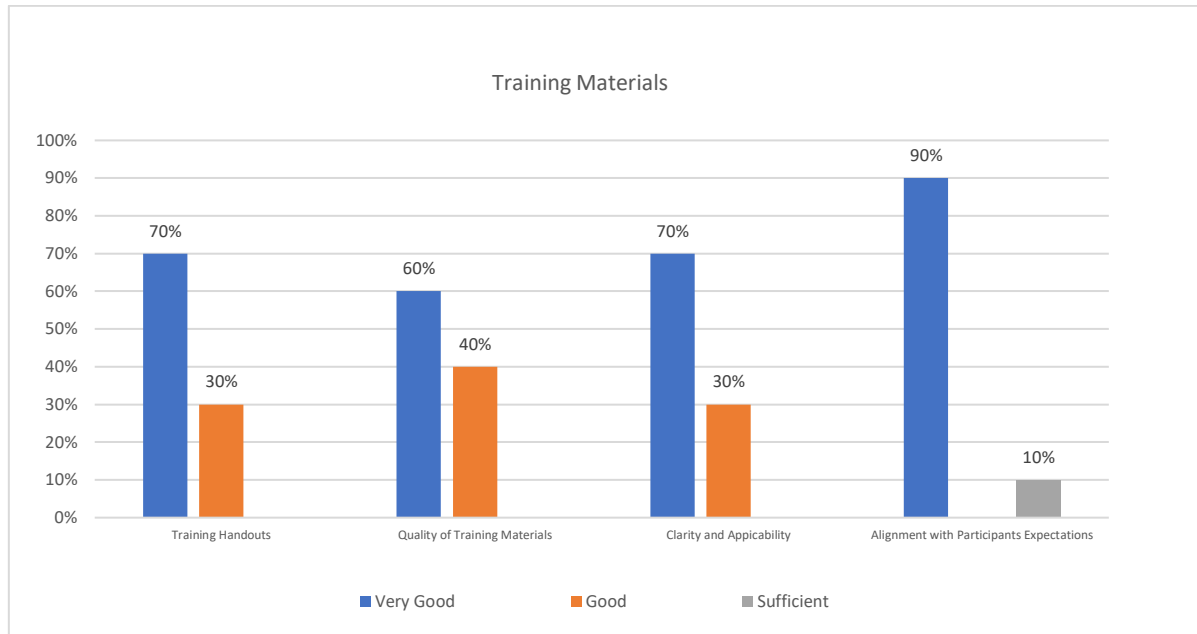


Figure 7. Percentage of Training Materials Evaluation

Based on the percentage diagram of the training materials in [Figure 7](#), the following results are observed:

- Training Handouts: Received a 70% rating in the "Very Good" category and 30% in the "Good" category, indicating that the provided handouts were well-received by participants.
- Quality of Training Materials: Evaluated at 60% in the "Very Good" category and 40% in the "Good" category, showing that the materials effectively enhanced participants' knowledge and skills.
- Clarity and Applicability: Scored 70% in the "Very Good" category and 30% in the "Good" category, suggesting that the materials were easy to understand and apply in practice.
- Alignment with Participant Expectations: Achieved a 90% rating in the "Very Good" category and 10% in the "Good" category, demonstrating that the materials met participants' expectations.

Overall, the training materials were rated with an average of 73% in the "Very Good" category, 25% in the "Good" category, and 3% in the "Sufficient" category.

3) Resource Person

Based on the questionnaires distributed to the participants and the obtained data, the results for the resource persons are as follows:

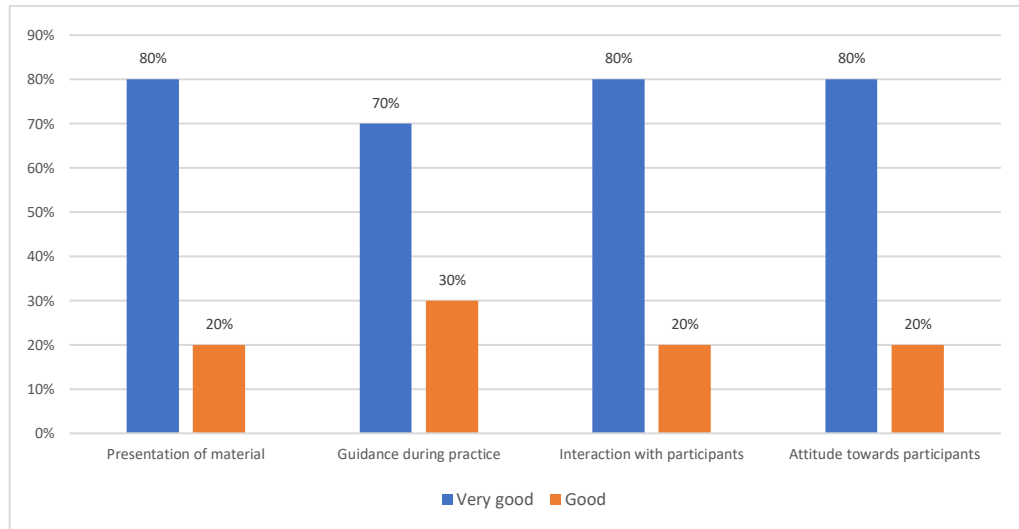


Figure 8. Percentage of Material Presentation by Resource Person Evaluation

The percentage criteria diagram for resource persons in [Figure 8](#) shows the following:

- Presentation of Material: Received an 80% rating in the "Very Good" category and 20% in the "Good" category, indicating effective presentation.
- Guidance During Practice: Scored 70% in the "Very Good" category and 30% in the "Good" category, reflecting strong guidance during hands-on activities.
- Interaction with Participants: Achieved an 80% rating in the "Very Good" category and 20% in the "Good" category, showing effective interaction with participants.
- Attitude Towards Participants: Received an 80% rating in the "Very Good" category and 20% in the "Good" category, indicating a positive attitude towards participants.

In summary, the resource persons received an average rating of 78% in the "Very Good" category and 23% in the "Good" category.

Achievement Outcomes

The training and learning process for creating Nyanggit Nggathok batik patterns at UMKM Aneka Desa Klampar Pamekasan Madura resulted in batik clothes with Nyanggit Nggathok motifs (see [Figure 9](#)). The evaluation of the motif shape, motif size, and motif placement on the fabric related to the efficiency of fabric use, showed good and satisfactory results. This demonstrates that the batik artisans successfully understood and applied the material to create Nyanggit Nggathok batik patterns as taught by the instructors.



Figure 9. Indicate the alignment of motif shape, motif size, motif positioning, and placement of the motif according to the fabric grain direction, as well as the efficiency in material usage (spacing between pattern sections) (Source: Personal collection)

In the production of Nyanggit Nggathok batik patterns, not only were products with Nyanggit Nggathok motifs created, but there was also a noticeable improvement in the quality of the batik motifs. This enhancement is attributed to the Nyanggit Nggathok characteristic, where patterns meet seamlessly. Additionally, this method introduced innovative aspects to batik design, potentially increasing the market value of the batik products. The approach also contributes to production efficiency by reducing production time and fabric waste.

Conclusion

The community service program through batik pattern training yielded positive results. Artisans at UMKM Aneka Desa Klampar Pamekasan Madura successfully produced Nyanggit Nggathok batik patterns that met the criteria for shape, size, positioning, and alignment with the fabric grain. The training resulted in higher quality batik products due to the characteristic meeting of patterns. Moreover, the Nyanggit Nggathok motif helped reduce production costs and time by utilizing incomplete patterns and strategic placement on the garment. Learning and training programs provide a valuable alternative for batik industry practitioners to enhance the quality and quantity of their production.

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