

Cold Night Batik as a Medium for Developing Modest Fashion Design Competence

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ABSTRACT

A training course on batik motif creation using the cold wax technique at the Islamic Fashion Institute (IFI) in Bandung aims to address students' limited experience with conventional batik techniques, which are complex and inefficient. Batik, as an Indonesian cultural heritage and a UNESCO heritage since 2009, has important philosophical and socio-cultural values, as well as being a significant element in the development of local-based modest fashion and Islamic law. The training method uses a participatory and practical approach with a Design Thinking framework to provide technical skills and innovative creativity in batik motif making that is fast, environmentally friendly, and 50% more efficient. Results of the community service activities include enhanced participants' competencies in batik techniques, innovative motifs for modest fashion products with aesthetic and functional value, and the potential integration of batik materials into the IFI curriculum. This training contributes to cultural preservation and the development of a sustainable halal creative industry.

1. INTRODUCTION

Batik is a rich cultural heritage of Indonesia, steeped in artistic value and philosophy. Batik is also an intrinsic component of Indonesia's cultural heritage, requiring diligent preservation efforts, especially in the context of advancing "Making Indonesia 4.0" (Prasetyo & Komariah, 2021). The efforts to create applied batik and develop batik design are strategic steps in order to strengthen the identity and excellence of Indonesia's creative industry while also preserving batik as a cultural heritage (Aljamaliah et al., 2023).

Batik in Indonesia can be traced back to the Majapahit Kingdom era and spread rapidly during the Mataram Sultanate period. Initially, batik was an art form limited to the royal court, with motifs rich in symbolism. Batik then spread outside the palace walls and became a folk craft, giving rise to various regional specialties such as Pekalongan, Cirebon, Lasem,

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and others. A significant milestone in the history of batik was its recognition by UNESCO in 2009 as a Masterpiece of the Oral and Intangible Heritage of Humanity. This recognition served as a catalyst for more serious documentation, preservation, and innovation. The history of batik is not linear, but full of adaptations, from the influence of trade with China and India to European colonialism, which popularized the batik cap technique for mass production. This proves that batik has always been a dynamic entity capable of adapting to the times (Hernawan et al., 2022).

Batik has values and philosophy that go beyond just patterned batik cloth; it is a textile of meaning. The profound values contained in batik cloth are:

- Philosophical Values: Each motif contains a message, prayer, and life lesson. For example, the Parang motif symbolizes consistency, perseverance, and unyielding spirit, like the never-ending waves of the sea (). The Kawung motif, inspired by the kolang-kaling (palm) fruit, symbolizes perfection, purity of heart, and the origins of life.
- Spiritual Value: The traditional batik process often begins with spiritual practices, such as fasting or prayer. Batik cloth is considered a medium that connects humans with the Creator and nature.
- Social-Cultural Value: Batik serves as a marker of social status, a marker of life events (birth, marriage, death), and a medium for communicating cultural values between generations.

The symbolic meaning of batik as non-verbal visual communication emphasizes that traditional batik motifs are cultural codes that represent the worldview of the communities that support them, such as harmony with nature, divinity, and social order (Afifah & Sari, 2021). This has influenced the development of batik fabrics in the fashion industry, especially Muslim fashion. The rapid global growth of Muslim fashion has become a highly effective channel for popularizing batik. Batik and Muslim fashion have a strong synergy because both are elegant and dignified expressions of identity. Modern Muslim fashion designers are no longer confined to traditional forms such as kebaya or long cloth. Batik is also applied to various products such as tunics, maxi dresses, outerwear (blazers, cardigans), hijabs, and even men's clothing such as shirts and suits. Batik is not only applied to silk or mori cotton, but also to modern materials such as chiffon, jersey, denim, and wool. The manufacturing techniques also vary, ranging from authentic hand-drawn and stamped batik to more affordable printed batik for the mass market, while still paying attention to ethics in labeling.

Batik has grown rapidly in Muslim fashion or modest wear, integrating traditional motifs with halal designs that cover the *aurat*, in line with global halal industry trends. In Indonesia, Madura batik has become a halal fashion trend, produced in accordance with sharia law for important events, with a focus on sustainability and business ethics. Internationally, batik supports the circular economy in Muslim fashion, such as collaborations with global designers for sustainable products. Studies show that this growth is influenced by globalization and social media, where batik is combined with modern elements such as stylish hijabs, expanding the market to Muslim countries. Muslim fashion that uses batik has successfully penetrated the international market, not only among Muslims but also among non-Muslim consumers due to its unique aesthetics and story. Similarly, batik marketing strategies in facing global competition in the fashion industry (Puspitasari & Suryandari, 2023) found that the cultural value and philosophical narrative behind batik motifs are a strong unique selling proposition (USP) for fashion brands, including Muslim fashion, to differentiate themselves in the global market. This is further reinforced by the findings of (Rahayu et al., 2020), which concluded that this collaboration's successfully created a "new face" for batik that is relevant to urban lifestyles without losing its traditional essence, thereby expanding the market segment, particularly among the younger generation.

As time goes by, batik is not only used in traditional clothing, but has also entered the world of modest fashion, which is increasingly in demand. However, the process of making traditional batik using the hot wax technique often takes a long time and requires special skills. On the other hand, there is another technique that can be used to make batik more simply, namely the cold wax technique. This technique offers a more practical and efficient alternative in the process of making

batik motifs using simple tools. The cold wax technique allows for a relatively faster batik-making process. This is because cold wax is easier to apply and does not require a heating process.

The cold wax technique is easier to learn than the hand-drawn technique. The use of simple tools such as brushes, sponges, or canting is easier for beginners to master. The process is faster and easier, and the production cost of batik using the cold wax technique is cheaper than the waxing technique. Cold wax is also generally safer and more environmentally friendly than hot wax/candle wax, which requires heating in a pan on a stove, making the cold wax technique very suitable for application to modest fashion products. This technique allows designers or creative industry players to produce unique and innovative batik motifs more quickly.

Modest clothing is a style of dress that emphasizes modesty, comfort, and simplicity. This concept of clothing is often associated with religious values and Eastern cultural influences that uphold the values of modesty, humility, and respect for tradition. Modest clothing is in line with these values because it emphasizes how to cover the body in a modest and unobtrusive manner. Thus, modest clothing is not only about religion, but also about cultural values and personal preferences. The characteristics of this clothing style are loose, not tight, covering most of the skin, and not transparent. With the growing modest fashion industry, there are more and more clothing options available for people to look more modest, stylish, and in line with the values they hold. Even though it covers the body, modest clothing designs still look simple, elegant, trendy, and flexible, easy to mix and match with various clothing items and accessories to create a unique and attractive look.

Modest fashion, often referred to as modest clothing, refers to a style of dress that emphasizes modesty, comfort, and covering the body without sacrificing aesthetics or contemporary trends. In Indonesia, the concept of modest clothing is closely linked to Islamic values, where clothing is designed to be loose-fitting, non-transparent, and covers the body except for the face and palms, although it has also been adopted by non-Muslims for lifestyle reasons. The term "modest fashion" is not new, but rather an evolution of the practice of simple dressing that has existed for centuries in various religions, including Islam, Christianity, and Judaism. (Naziraet al., 2023).

Modest fashion in Indonesia is rooted in Islamic cultural heritage influenced by local traditions such as batik and weaving, which began to flourish in the 1990s. Early Muslim fashion was synonymous with conventional styles such as long *gamis* and simple hijabs, often considered stiff and unfashionable. However, significant changes occurred in the 2010s with the emergence of designers such as Dian Pelangi and Ria Miranda, who integrated traditional elements with modern designs, making it part of popular culture. Global recognition came in 2018-2019 when Indonesia ranked among the top 3 exporters of Muslim fashion worldwide according to the State of the Global Islamic Economy Report. This evolution was driven by social factors such as the phenomenon of "hijrah" (spiritual migration) among young people, which increased the demand for modern syar'i fashion. (Srisusilawati et al. 2024)

Over the past five years (2020-2025), modest fashion in Indonesia has experienced rapid growth, with the domestic market value reaching around US\$20 billion in 2023 and projected to rise to US\$22 billion in 2025. Indonesia ranks first in the world in the modest fashion sector according to the SGIE Report 2024/2025, surpassing Malaysia and Turkey, thanks to programs such as Indonesia Global Halal Fashion (IGHF) that promote products in the international market. Events such as Jakarta Fashion Week (JFW) and Jakarta Muslim Fashion Week (JMFV) have been catalysts, showcasing innovations such as the combination of *endek* woven fabric with traditional motifs such as Singa Ambara Raja for modest clothing. This growth is supported by digitalization, where e-commerce facilitates access, with online sales reaching tens of billions of rupiah.

The modest fashion trend in Indonesia now includes modern syar'i style (loose and fully covering the *aurat*), conventional modest style (covering the face, wrists, and feet), and modern modest style (modest with contemporary elements such as earth tones and sporty hijabs). Popular elements include *gamis*, tunics, culottes, blouses, oversized shirts,

pleated skirts, and square or pashmina hijabs, often combined with eco-friendly materials such as knitwear or local weaves. The influence of social media and influencers such as the Hijabers Community has encouraged the widespread adoption of among young people, transforming it from a religious obligation into an inclusive lifestyle. Culturally, this integrates Islamic values with ethnic diversity, such as the use of batik in Java or songket in Sumatra, while supporting a sustainable halal industry. (Amalia et al., 2023).

Economically, modest fashion contributes significantly to GDP, with exports rising 39% in 2022 to US\$2.8 billion, creating jobs in the textile, design, and logistics sectors. It also encourages MSMEs, with many local brands such as Elzatta utilizing halal certification for global expansion. The social impact includes women's empowerment, where modest fashion boosts confidence and spiritual identity, despite criticism of commercialization that makes it more consumptive. In addition, it strengthens Indonesia's position as the world's Muslim fashion hub, with an annual growth projection of 18.2%.

Some types of modest fashion products that are popular among the public today include scarves, dresses, tunics, blouses, skirts, pants, and outerwear. Modest fashion trends are created using loose and comfortable oversized patterns. There is also the application of floral motifs that give a feminine and fresh impression, as well as the use of soft colors such as pastels, which are widely used in modest clothing because they give an elegant feminine impression. Therefore, the rise of modest fashion products has become a part of the clothing industry that has great potential to continue to grow in the future, as more and more people are looking for clothing that is in line with religious and cultural values, so this industry is expected to continue to grow and become an economic force. The integration of batik motifs into modest fashion designs presents a unique avenue for cultural expression and economic empowerment in the Indonesian context, especially since Indonesia has a large Muslim population and a large Muslim market potential, particularly in Muslim fashion (Indarti et al., 2020).

This is in line with one of the Muslim fashion schools that produces creative individuals in the field of Muslim fashion, namely the Islamic Fashion Institute (IFI) in Bandung, which is one of the universities that offers a unique and comprehensive curriculum. The IFI curriculum is based on Islamic values and principles. Students are taught about the rules and ethics of dressing in accordance with Islamic law, as well as how to integrate these values into their concepts and designs. The IFI curriculum is designed to equip students with the knowledge and skills needed to succeed in the Muslim fashion industry. In implementing its curriculum, IFI provides an individual teaching system, where students are guided to focus on their respective interests, backgrounds, and experiences. This allows students to develop their potential to the fullest.



Fig. 1 . Islamic Fashion Institute logo

Source: IFI Management, 2023

The IFI curriculum is based on the Indonesian National Work Competency Standards (SKKNI), which ensures that students have the relevant skills required by the fashion industry. The comprehensive learning materials at IFI cover various aspects of fashion, from design and production to marketing and business. Students learn how to design creative and innovative Muslim fashion while adhering to the rules of Muslim fashion, how to make patterns and sew high-quality Muslim clothing, learn about various types of textiles suitable for Muslim fashion, and learn about effective marketing and business strategies for Muslim fashion products.



Fig 2 . Learning Activities at Ifi

Source: <https://www.instagram.com/islamicfashioninstitute/>

One of the learning materials that attracted the attention of researchers in teaching and learning activities at IFI was the exploration of techniques, which included material on batik motif creation. In the batik learning process at IFI, students were taught about the process of creating stamped batik and hand-drawn batik. An introduction to the main tools and materials used in batik making, such as mori cloth, dyes, canting, wax/candle, wajan and stove. As we know, batik is a traditional Indonesian art form that has high artistic value and beauty. In this era of globalization, batik is not only used as traditional clothing, but has also developed into an important part of the fashion industry, including modest fashion.

IFI, as a center for modest fashion education, plays a strategic role in producing designers who integrate Indonesian cultural values with the principles of Muslim fashion. However, there are three pressing issues that represent gaps in competence and market opportunities, namely: 1) Limited batik techniques that are adaptable for beginners, in fact, 85% of IFI students (based on preliminary surveys) have no experience in batik because traditional techniques (hot wax) are considered complicated, time-consuming, and high-risk (exposure to heat, chemicals), and the current IFI curriculum only teaches conventional stamped/hand-drawn batik, without touching on the innovation of cold wax techniques, which are safer and more efficient. As a result, IFI graduates are less competitive in creating batik-based modest fashion designs, even though the global market demands products with local wisdom (Indarti et al., 2020). 2) The demands of the dynamic modest fashion industry. In fact, modest fashion consumers want trendy, environmentally friendly designs that are produced quickly (Raya AB et al., 2021). Cold-night techniques address these needs with a production time 50% faster than hand-drawn batik and the use of natural materials (environmentally friendly resin) that align with halal lifestyle principles. Without this training, IFI students will lag behind in responding to sustainable fashion trends and market demand for contemporary batik.

The rapidly growing modest fashion industry in Indonesia and batik as a cultural heritage have great potential to become an important part of it. IFI, as one of the centers of Muslim Fashion education, realizes the importance of preserving and developing batik techniques in fashion products. Therefore, training in batik motif making using the cold wax technique is very relevant, especially for students and modest fashion industry players at the Islamic Fashion Institute (IFI). This training aims not only to provide technical skills to students, but also to give them a different experience in making batik and foster a sense of love and pride in the cultural heritage of batik. Thus, participants are expected to be able to produce batik motifs using the cold wax technique to be applied to modest fashion product designs that have aesthetic value, functional value, and selling value. Researchers hope that this training program will contribute significantly and provide a creative process experience to produce innovative, creative works that are mindful of cultural heritage.

2. METHODOLOGY

The implementation method for this activity is designed systematically with a participatory and practice-based approach, actively involving partners (Islamic Fashion Institute/IFI). The following stages refer to the proposed Design Thinking framework, but are clarified with concrete operational steps. The stages of implementation of this community service activity for students at the Islamic Fashion Institute are as follows:

2.1 Socialization

Introducing the community service program to partners, namely managers and teams from the Islamic Fashion Institute, to build partner commitment and identify the specific needs of participants. Based on discussions with partners, it was identified that the IFI curriculum does not yet include material on learning about batik making using the cold wax technique. So far, IFI has only discussed material related to conventional batik made using a canting. This is also only as material and seeing firsthand the batik process at the batik center in Bandung. So, the students' experience is limited to seeing the batik process using stamps and canting.

Thus, IFI welcomes the program we offer, considering that it is highly relevant and bridges students in learning cultural sciences while supporting the enhancement of IFI students' creativity. At this meeting, we also discussed the training schedule. This also took into account the preparation of teaching staff from the community service team, as well as its suitability with the learning plan. With a clear schedule in place, it is hoped that the program's implementation will proceed more effectively and yield optimal results for both students and partners.

Not only that, we also formed communication groups through WhatsApp and Google Classroom to coordinate with the IFI team and students. Through this activity, partners participated in providing training room facilities, providing a list of participants, and acting as mediators between the proponents and participants.

2.2 Training (Empathize-Ideate Stage in Design Thinking)

The training stage was the main focus of this activity because it was during this stage that IFI students were introduced to the cold wax batik technique. The activity began with an opening by the research team from the Islamic Fashion Institute and continued with a presentation by the manager of the Islamic Fashion Institute, Mrs. Hanni Herani. Next, students were given a presentation on batik and the cold wax technique, as well as the tools and materials used for batik practice. This part is very important to convey to students regarding the differences in tools and materials used in batik with the cold wax technique compared to the hot wax technique. After that, the distribution of tools and materials for practice began. Students need to understand that the cold wax batik technique is an innovation of the traditional batik process, where wax is used as a color barrier on the fabric without the need for heating, making it safer and more environmentally friendly than the hot wax technique. This technique combines elements of screen printing or printing with cold wax, producing detailed and neat motifs, with durable coloring through a dipping or dyeing process. Its advantages include ease of application for all groups, including children, as it does not involve fire or high temperatures, as well as the potential use of natural materials such as alginate to improve quality. This technique is often applied in art education to train thematic illustration skills while preserving the cultural heritage of batik.

The tools and materials used in making cold wax batik include:

1. 50x50 chiffon fabric
2. Wooden frame, size 40x40
3. Funnel Bottle
4. Brush
5. Bucket
6. Hairdryer
7. Iron

8. Hacker
9. Duplex
10. Scissors

Materials:

1. Cold Wax
2. Dye Liquid
3. Clean Water

2.3 The process of making batik patterns with cold wax is as follows:

Table 1. Batik Pattern Process



No	Image	Description
1	<p>Pre-printing</p> 	<p>The motif design is created on a computer using Adobe Photoshop, then printed onto 50x50cm paper. Alternatively, the motif can be created manually using a marker or pencil on paper.</p>
2	<p>Tracing the Pattern</p> 	<p>The motif, which has been created using digital or manual techniques, is then printed on 50x50 cm paper. The next step is to trace the motif onto the fabric using a black or blue marker, covering the entire motif in detail.</p>

Fig. 3. Batik Pattern Making
Source: Researcher Documentation, 2025

Fig. 4 . Tracing the Pattern onto Fabric
Source: Researcher Documentation, 2025

3 Stretching the Fabric on a Frame



Fig. 5 . Fabric Stretching on Frame
Source: Researcher Documentation, 2025

A 40x40 cm wooden frame and a 50x50 cm chiffon fabric are secured to the frame using a stapler to make the fabric surface rigid. This facilitates the application of cold wax onto the fabric, ensuring the fabric fibers are completely covered

4 Application of Cold Wax on Fabric



Fig. 6 . Application of Cold Wax on Fabric
Source: Researcher Documentation, 2025

Cold wax is applied on fabric using a funnel bottle as a substitute for the traditional canting tool. Cold wax is applied according to the traced pattern.

5 Drying Cold Wax



Fig. 7 . Drying of Cold Wax
Source: Researcher Documentation, 2025

Fabric that has been applied with cold wax must be dried first before proceeding to the dyeing stage. Drying can be done using direct sunlight or a hairdryer.

6 Dyeing

Fig. 8 . Dyeing

Source: Researcher Documentation, 2025

The fabric is dyed using synthetic dyes such as remasol or natural dyes, using the colet or dip technique, followed by drying. Dyeing is done using a brush according to the part of the motif to be dyed slowly.

7 Drying and Washing

Fig. 9 . Drying and Washing

(Source: Researcher Documentation, 2025)

The dyed fabric is dried again using a hair dryer and iron so that the color binds to the fabric and does not fade easily when washed. Then, the wax is removed through washing so that the cold wax comes off the fabric. This is done to clean and produce sharp colors on the motifs because they are reheated by ironing

8 Finishing

Fig. 10 . Finishing

Source: Researcher Documentation, 2025

Quality evaluation, such as color fastness and absorption, with variations in wax concentration for optimal results.

9

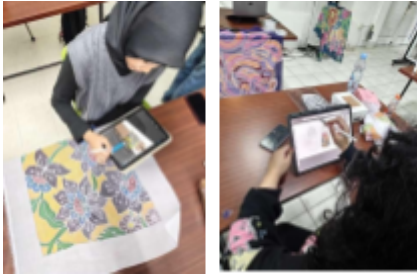


Fig. 11 . Digital Design
Source: Researcher Documentation, 2025

The final stage after evaluating the final results of the batik fabric is to create a digital Muslim fashion design and apply the batik motifs that have been created to the design. This is done to see the possibility of applying batik motifs and fabrics to Muslim fashion designs, whether they can be combined or only used as accents. However, in the process, IFI students also apply design elements when sketching to create harmony and conformity with the concept of modest fashion.

The process of making batik using cold wax shows that this technique is relevant to the development of contemporary batik products, such as fashion designs, with a focus on aesthetics and sustainability. This technique is also highly effective as an educational tool and an introductory activity for young people or beginners. Its low level of difficulty and risk makes it easier to perform, thereby fostering interest before moving on to the more complex traditional batik techniques (Astuti & Rukmi, 2021).

Improving participants' technical skills and creativity in cold wax batik. Activities include delivering material in the form of theory (2 sessions) related to the history of batik, the differences between cold wax and hot wax, and the principles of modest fashion design. Market trend analysis by industry experts. Practical sessions (2 sessions): Demonstration of tools (canting, brushes, sponges) and materials (cold wax, dyes). Creation of basic to complex motifs with one-on-one guidance. Experimentation with color combinations and dyeing techniques. The technology applied in this training activity is the use of digital moodboards (Canva/Pinterest) for design inspiration. Video tutorials are provided as supplementary teaching materials.

2.4 Technology Application (Prototype Stage)

This activity aims to integrate traditional techniques with digital tools for design efficiency. The activities carried out are creating digital designs using the Procreate application and simulating the application of batik motifs on digital Muslim fashion designs. The roles of the team members are as follows: Chair Dede Ananta as the coordinator of digital design materials; member Martien Roos as the batik practice assistant; and student Dwil Audrey as the technical and documentation assistant.

2.4.1 Mentoring and Evaluation (Test Phase)

This activity aims to ensure the success of the program through feedback and improvement. Activities include weekly mentoring or consultation for the completion of participants' batik projects. Coaching clinic troubleshooting cold wax techniques. Evaluation includes pre-test and post-test of participants' skills, assessment of participants' work by the proposing team and IFI lecturers based on criteria such as motif creativity, compliance with modest fashion principles, technical quality (color fastness, application precision), and discussion of evaluation results with partners for program improvement.



Fig. 12. Design Guidance

Source: Researcher Documentation, 2025

2.4.2 Program Sustainability

Ensuring long-term impact and replication of the program by implementing strategies such as advanced training at IFI that integrates cold night batik modules into the curriculum. Exhibitions of works in collaboration with IFI for fashion shows or online exhibitions. Publications in the form of guidebooks and video tutorials uploaded to IFI's YouTube channel. Building industry networks to bring participants together with batik artisans and modest fashion entrepreneurs.

This is a method that can be used to conduct batik training activities using the cold wax technique as a modest fashion product. This approach involves a creative and innovative process that focuses on understanding user needs and developing solutions that meet those needs. By incorporating design thinking into training activities, participants can engage in a direct and collaborative process that allows them to explore different ideas and perspectives. Workshops and art classes can also play an important role in improving the implementation of batik training activities.

This training provides a structured environment for individuals to learn new techniques and skills, such as flat painting. By setting up workstations and simplifying the learning process, participants can gain valuable experience and knowledge in the process of making batik using the cold wax technique, which can be applied to modest fashion products. In addition to batik training, the use of digital tools and technology can also enhance the design and implementation of batik training activities. Digital platforms can be used to display different design ideas, manage designs, and collaborate with team members.

2.5 The application of design thinking theory leads to a five-step implementation process:

2.5.1 Empathize

At this stage, information gathering and empathetic understanding are conducted with potential users who are related to the problem to be solved. The empathize stage is very important to set aside personal assumptions in order to gain insight into user needs. This stage will produce a set of information that will be processed in the next stage as a basic reference for future application development.

The first stage in design thinking is to understand users deeply. This stage begins with in-depth research to understand the needs, desires, and challenges of modest fashion designers and batik artisans. In the context of modest fashion design, this means recognizing the preferences, needs, and challenges faced by the target audience, such as women who are looking for fashionable clothing that is still in line with values of modesty.

Interviews, observations, and surveys were conducted to collect data on design preferences, technical constraints in cold night batik, and expectations for user training to gain deep insight into their desires.

Observing global and local fashion trends relevant to modest fashion to identify elements that can be applied in design. Focusing on understanding the aesthetic and ethical values embraced in modest fashion, and how cold night batik can be integrated with these principles.

The target users of this training are identified as novice designers, traditional craftsmen, or modest fashion entrepreneurs who want to develop batik products.

2.5.2 Define

At this stage, analysis and synthesis are carried out on the information collected in the previous stage, namely empathize. The collection of ideas and information obtained from the previous stage consists of insights related to needs, desires, and in-depth information on similar applications that have been developed as competitors.

Based on the findings from the empathy stage, formulate specific and measurable problems or needs. Such as how to organize training in batik motif creation using the cold wax technique. How to provide demonstrations and hands-on practice in the use of tools and materials in cold wax batik creation. How to apply batik motifs using the cold wax technique to modest fashion product designs. The focus of needs in this stage is to define the important points obtained from the first stage, then focus on the main needs of the target users, so that specific needs that must be met by the design can be determined, such as comfortable materials, appropriate cuts, and color variations.

2.5.3 Ideate

At this stage, solutions are determined for the problem statements that were defined in the define stage. This stage involves thinking outside the box to come up with solutions to the problem. Solutions are determined using the ideation technique of brainstorming. This stage will produce several solutions in the form of ideas and design concepts that are used to develop products based on the information obtained. One of these techniques is creative brainstorming.

Facilitating brainstorming sessions will generate diverse and innovative ideas for solutions. For example, inviting designers and other stakeholders to generate creative ideas for modest fashion collections encourages participants to think outside the box and explore new possibilities in cold night batik designs for modest fashion. Ideas may include the development of new motifs, unique dyeing techniques, or the integration of technology in the design process. Combining the ideas that have been generated and selecting the most relevant ones can then lead to preliminary sketches of various design ideas for concept visualization.

2.5.4 Prototype

At this stage, a prototype is created as a visual form to investigate solutions to problems identified in the next stage. Creating a prototype will make it easier to get feedback from potential users about how users will behave and interact with the product being developed. Ideas are embodied in prototypes in the form of design sketches, samples of cold night batik fabric, and mockups of modest clothing with batik applications, with the aim of testing and validating ideas in a practical manner.

2.5.5 Test

At this stage, researchers present the stages from idea to prototype that were carried out to test and obtain feedback. This stage is the prototype evaluation stage, which involves testing the prototype with target users to obtain feedback on aspects such as design aesthetics, ease of use, and suitability with the principles of modest fashion. This testing phase provides feedback for improving and refining the prototype, both in terms of the technique of making cold night batik and the application of batik motifs in digital Muslim fashion designs. This process is iterative, meaning that testing and refinement are carried out repeatedly until an optimal solution is achieved.

Through the design thinking approach, cold night batik training for modest fashion design can produce innovative, relevant, and sustainable solutions. By systematically applying the design thinking method in this cold night training, participants can create modest fashion collections that not only meet aesthetic needs but also functionality and the cultural values of users. This will help strengthen Indonesia's position as the world's modest fashion hub.

3. RESULTS AND DISCUSSION

Through training activities in batik motif creation using the cold wax technique for modest fashion product design at the Islamic fashion institute, the results have had an overall impact. This training activity produced various outputs that reflect the main objectives of the program, namely to improve the competence and creativity of participants in applying the cold wax technique to modest fashion designs. First, participants successfully produced several original batik motifs that combine traditional elements and contemporary trends, in line with the characteristics of modest fashion, which is elegant and soft. Second, the creation of fashion product designs based on cold wax batik motifs applied to several product designs such as tunics, hijabs, and accessories, demonstrating the practical application of the training results in the context of product design. Third, there was an increase in participants' understanding of the principles of aesthetics and functionality in design through evaluation sessions and technical assistance provided during the training. Fourth, this activity also gave rise to potential for further collaboration between the team from the Faculty of Art and Design () and the Islamic Fashion Institute in the form of curriculum development, collaborative research, and joint promotional activities for the participants' work. Thus, from the 20 participants, the researchers selected 13 best works from the cold night batik and digital designs for modest fashion in various forms, as shown in the table below.

Table 1. Works by participants of the Batik Malam digin training and their application in modest digital fashion design.


No	Name	Batik Motif / Digital Design
1	Najua	

Fig. 13. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

2 Berry
Deliyanti



Fig. 14. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

3 Alisa Dlyaul



Fig. 15. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 202

4 Nindita
Maharani



Fig. 16. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

5 Belly Melani



Fig. 17. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

6 Wina Putri



Fig. 18. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

7 Tasya Putri



Fig. 19. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

8 Khairun R



Fig. 19. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

9 Malika



Fig. 20. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

10 Catur R



Fig. 21. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

11 Fitria S



Fig. 22. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

12 Tanaya S



Fig. 23. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

13 Syfa W



Fig. 24. (left and right) Batik Motif and Digital Design
Source: Researcher Documentation, 2025

Through a training process that involves stages from design to realization of the work, students are encouraged to

explore creative ideas while applying the principles of aesthetics and technical skills in producing functional and innovative works. From all the works produced, ten best works were selected based on their suitability to design elements such as color harmony, lines, shapes, techniques, and the individual style of each participant. The selection of works was conducted objectively, taking into account aspects of originality, technical accuracy, and visual harmony.

The results of this activity show that the cold wax batik technique has high potential to be incorporated into modest fashion designs that are in line with contemporary fashion trends. The works of IFI students showcase their success in combining traditional elements with modern touches in terms of both clothing design and color combinations, resulting in a dynamic, youthful, and distinctive look. These findings indicate that mastery of the cold wax batik technique not only enriches the variety of visual expressions in fashion design, but also opens up new opportunities for the development of creative works rooted in local culture that remain globally relevant.

4. CONCLUSION

Through this community service activity, the research team successfully conducted a cold wax batik technique training for students at the Islamic Fashion Institute with very positive results. The cold wax technique has proven to be an effective innovative alternative to traditional batik, which is safer, more environmentally friendly, and easier for beginners to learn. Participants were able to creatively and practically integrate cold night batik motifs into modest fashion designs, which are in line with halal industry trends and Indonesian cultural aesthetics. This program not only improved technical skills but also fostered pride in cultural heritage and opened up opportunities for inclusive creative economies. The success of this activity was supported by the application of a systematic design thinking approach from the socialization, training, and prototyping stages to the evaluation stage. Additionally, this training paved the way for the integration of cold night techniques into the IFI curriculum, ensuring the sustainability of cultural heritage-based textile craft education that is relevant to global market needs. This activity can maximize its impact, so it is necessary to conduct regular follow-up training so that participants' skills become more mature and produce more innovative and economically valuable motifs and modest fashion products. Intensive mentoring after training is essential as a follow-up so that participants can develop their businesses independently and professionally. The integration of cold night batik techniques into the formal IFI curriculum must be prioritized so that the younger generation continues to acquire this knowledge as an important part of textile craft education. In addition, developing networks with the creative industry and traditional batik craftsmen can expand market opportunities and ensure the authenticity and sustainability of this technique. It is also recommended to expand the training target to wider communities and MSME actors so that the social and economic impact of preserving cold night batik becomes more widespread at the national level.

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CONFLICT OF INTEREST STATEMENT

The authors declare that this research was conducted without any personal, commercial, or financial interests that could be perceived as a conflict of interest with the funding sources or other parties involved. No conflicts of interest with the funders were present.

AUTHORS' CONTRIBUTIONS

Dede Ananta: Conceptualization, Methodology, Formal Analysis, Investigation, Writing – Original Draft. Martien Roos Nagara: Formal Analysis, Validation, Writing – Review & Editing

ETHICS STATEMENT

The study titled “Cold Night Batik as a Medium for Developing Modest Fashion Design Competence” did not involve living human or animal subjects. All procedures were performed in accordance with the institutional Safety, Health, and Environmental (HSE) protocols of ISBI Bandung. If your study includes human participants (e.g., surveys or interviews), replace with the following: This study was reviewed and approved by the Institutional Ethics Committee of ISBI Bandung (Approval No: 121/IT8.4/PT.01.01/2025). Informed consent was obtained from all participants, and data anonymity was maintained.

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