

Utilizing Craft Techniques in Zero Waste Fashion Design Clothing

Shella Wardhani Putri¹⁾, Faradillah Nursari^{2)*}

^{1,2)} Department of Creative Industry, Textile and Fashion Craft Study Program, Telkom University.

*Corresponding Author

Email : faradillah@telkomuniversity.ac.id

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ABSTRACT

The role of research in design is to develop the potential that drives the creation of novel value in design. In the research process for design, the majority of designer-students have difficulties in determining the starting point or initial idea of a design, so they have the potential not to have a train of thought regarding what needs to be done in realizing the design and do not know the next process. One aspect that can enrich design ideas and novelty in fashion products is the application of craft techniques. With the application of craft techniques, the data and facts obtained become increasingly massive. So that the series of ideas- research-design requires a clear mapping of the flow of thinking in the creative process. Today's student-designers cannot be limited to just one research method, knowing that conceptual ideas can start from anywhere, such as design concept ideas that start from craft techniques in a linear mapping flow. This can be a reference regarding the linear flow of ideas-research-design that is carried out in zero waste fashion design to find out its potential, especially in the application of craft techniques. This research was conducted qualitatively by reviewing literature data and looking at examples of case studies from the student-designer work process using the linear method. Observations are made periodically for students who have designed the application of craft techniques to zero waste fashion design, to become research subjects and find out their creative process. The result of this study is an analysis of fashion product design methods with the application of craft techniques that have been carried out in a linear way of thinking as a reference for designers in producing innovative works.

KEYWORDS

*Craft Techniques
Fashion
Research Method
Zero Waste*

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INTRODUCTION

Research is a fundamental process in design (Mbonu, 2014). One of the roles of research in design is to develop potentials that can encourage the creation of novelty in the resulting designs. In the design research process, it is not only necessary to understand ideas or concepts, but designers also need to understand scientifically oriented facts to explore and utilize their potential holistically. Most designers, especially student designers, need help determining the starting point for research on the product design they will undertake (Dieffenbacher, 2021). Additionally, student designers need help identifying starting points or initial design ideas, which can potentially lead to a lack of clear direction regarding the

steps needed to realize the design. Student designers have access to various conveniences in accessing data and information, which creates challenges in selecting data that is relevant to the ideas raised. This ease of access indirectly makes it easier for students to observe references and types of material related to design ideas.

However, this can result in a lack of understanding of students as designers, especially regarding the materials and techniques used. The absence of direct interaction between student designers and materials and techniques related to design ideas gives rise to design considerations that may not be in accordance with the realized design. Additionally, student designers need help determining the starting point or initial design idea, which can potentially lead to a lack of awareness about the rest of the design process.

One aspect that can enrich design ideas is the application of specific techniques that can bring novelty or reinvention to product design. In designing fashion products, both clothing and accessories, handicraft techniques are among those that can provide added value to the design, especially aesthetic value. Aesthetic value is an assessment of an object to measure whether it is attractive or not and weighing its beauty or ugliness (Mudra, et al, 2021). The various potential applications of craft techniques on fashion product materials need to be understood through direct interaction to find out how to optimize their potential in fashion products. The data collected becomes a source and justification for student designers to consider designs before the design process. These design considerations include limitations and analysis of the data collected, which will then be implemented in the design embodiment.

The entire idea-research-design sequence requires precise mapping of the thinking processes of student designers in their creative process (Dieffenbacher, 2021). With easy access to information and advances in technology, it is necessary to find ways to utilize these resources optimally in the idea-research-design chain. A change from a conventional or old work system to a more sophisticated system is highly expected in the world of fine arts, because the characteristic of art is a creative and dynamic life (Zulkifli, 2021). The dynamic nature of the creative process of student designers today cannot only be limited to existing research methods, because concept ideas can emerge from various sources, for example design concepts that start from craft techniques in the flow of linear mapping. This can be a reference for the linear research-idea design flow applied in zero-waste fashion design to understand its potential, especially in the application of craft techniques. This research was conducted qualitatively by reviewing literature data and studying case examples of the creative process of student designers using linear methods in the idea-research-design sequence. Regular observations are carried out on student participants to understand their creative processes after being provided with an understanding of general design methods and zero-waste fashion design approaches. Zero waste is a solution for optimizing the character and availability of materials in the fashion industry which has been implemented since 2008 by producing less than 15% pre-production waste in the garment production process (Nursari & Djamal, 2019).

Next, student designers are tasked with incorporating craft techniques into fashion products as a potential innovation. Apart from observations, assessments are also carried out to determine the extent of understanding of design considerations produced by student designers. The articulation of student designers in telling their idea-research-design journey becomes a benchmark in evaluating their understanding of their work. The results of this

research are an analysis of fashion product design methods using craft techniques. This is done through a linear thinking process in applying craft techniques to zero-waste fashion which becomes a reference for designers in producing their creations.

METHOD

This research was conducted qualitatively, involving observations of the design process, with the research subjects being undergraduate students majoring in Craft (Telkom University). The collection and application of theories from the literature supporting the research topic serve as the foundation for the analysis. Furthermore, the analysis and evaluation of the design process and the students work were carried out with the aim of obtaining an analysis of the fashion product design method, including the idea-design-research process, with the application of craft techniques carried out through a linear thinking process in the implementation of craft techniques in zero-waste fashion design. The research stages will begin with a literature review of research methods for fashion design and the scope of craft studies. Next, comprehensive socialization of various methods will be conducted with the research subjects, namely eighth-semester undergraduate Craft students who are undertaking pre-final projects. Subsequently, the research subjects will be assigned to go through the idea-research-design phase and identify the students' design outcomes categorized under the linear process. Following this, assessments, interviews, and observations will be conducted on the design process and outcomes, culminating in drawing conclusions from the analysis to form a methodological analysis.

In this research the author used Fashion Product Research and Design methods with the Application of Craft Techniques. This method comes from an analysis of the Victorious Beauty design process carried out by student designers, starting from finding an idea in the form of a craft technique (Sashiko technique) with the limitation of zero waste fashion design clothing products. The following are methods for research and designing fashion products using craft techniques: (1) determining the craft techniques that will be used, (2) Research based on the craft techniques that will be applied. (3) Exploring the basic techniques that must be mastered in using handicraft techniques by observing and then imitating the same visual form. (4) Collaborating craft techniques with designer ideas, such as combining them with local content such as motifs, artifacts, architectural visuals, etc. This collaboration is needed to provide innovation in the visual results of craft techniques and increase the aesthetic value of craft techniques, thereby providing added value to the fashion products produced. (5) Researching ideas to collaborate with craft techniques to serve as inspiration and a basis for exploration. (6) Initial exploration stage of craft techniques by incorporating ideas as a result of innovation. For example, applying the Javanese Hokokai Batik motif with the Sashiko technique. In this initial stage, you will go through many different stages depending on the type of idea you want to collaborate with using handicraft techniques. If the idea involves motifs, a stylization process is required to simplify the form and reduce the level of detail of the motif, which may not be achievable visually with craft techniques. (7) The final exploration stage involves making samples to see the accurate determination of composition and how the craft technique works. (8) Application to fashion products.

RESULT AND DISCUSSION

Pre-Design

In the previous section the author explained the steps in this research process. To make the framework of this article easier to understand, the author includes the following research and design scheme:

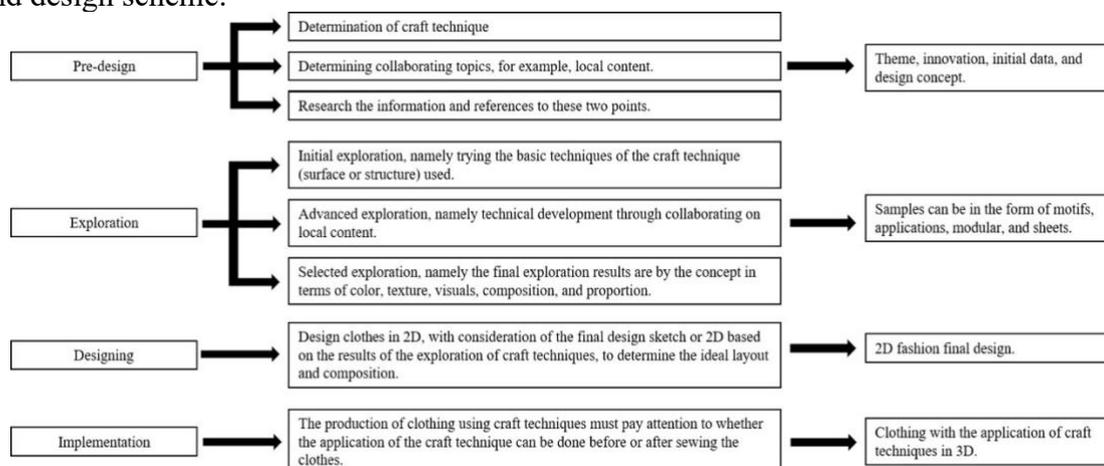


Figure 1. Schematic of Linear Design Process

The first stage is the pre-design phase. This pre-design stage includes the process of determining or selecting the craft technique to be used as a starting point or initial design idea. To determine and choose the craft technique, initial research and exploration of various surface and structure craft techniques are needed so that the designer's insights on the craft technique references are comprehensive and extensive. Besides selecting the craft technique, this pre-design phase also involves determining the local content to be incorporated by the designer. The collaboration of local content, such as motifs, artifacts, architectural visuals, and others, is necessary to provide innovations in the visual results of the craft technique and enhance its aesthetics, thus adding value to the resulting fashion products. Research and initial information gathering can be conducted through literature studies, books, social media, direct observation, interviews, and other methods to determine and select the local content. Through this research and information gathering, an initial concept idea and inspiration for the design can be obtained.

The second stage is the exploration phase. This exploration phase consists of three stages: initial exploration, further exploration, and selected exploration. The initial exploration aims to try the basic techniques of the craft, such as basic knitting techniques, types of basic embroidery stitches, and others. Further exploration involves developing the basic craft techniques, which are then collaborated with the pre-determined local content. In further exploration, stylization, adoption, simplification, and local content development are carried out. This allows the motif or artifact of the local content not to be directly and entirely applied to the fashion product through the craft technique. This development aims to add original value by the designer, provide innovations, simplify the form, and reduce the level of detail that may not be visually achievable with the craft technique used. The third exploration is the selected exploration from several exploration results carried out in the

previous exploration stage. Considerations for choosing the exploration results to be used are based on color, composition, texture, proportion, aesthetics, and alignment with the concept determined by the designer.

The third stage is the design phase. In this design phase, the process of creating 2-dimensional sketches or designs is carried out. The fashion product design process starts with sketching as the initial concept idea, silhouette, style, and fashion design lines. In this initial sketching process, the designer also considers how to apply the craft technique to the fashion product. If the craft is a surface technique, the placement and composition on the garment surface must be considered. On the other hand, if the craft technique is a structured technique, attention needs to be given to the garment's structure, silhouette, and design lines. The structure craft technique affects the fabric's flexibility, width, thickness, and complexity of fabric production, so it needs to be maximized in fabric use. The design phase also includes prototyping, usually at a scale of 1:2, to see the 3-dimensional results of the sketches and anticipate difficulties in realizing the design in the next stage.

The fourth stage is the realization phase. In this realization phase, the production of the fashion garment into the actual work is carried out according to the design and the final prototype. In the production phase, attention needs to be given to applying the surface craft technique, whether it can be applied before or after the garment production process. For example, applying batik motifs on the fabric requires the craft technique application to be done before the garment production process.

Design Process Analysis (The Beauty of Winning)

The design process for "Victorious Beauty" begins with finding an idea, continues with research, and then continues with the design process. In this design project, the supervisor gives students designer keywords that must be included in fashion design. These keywords include using zero-waste fashion design methods and including local content or Indonesian culture. With these given keywords, student designers can start designing concepts through a linear or more random process. Below is an analysis of the design process flow of "Victorious Beauty":



Figure 2. The Design Process Mindman (Doc. Dewi, 2021)

Student designers search for ideas through craft techniques that have the potential for innovation and can add aesthetic value. In the “Victorious Beauty” design process, student designers chose the Sashiko craft technique as the technique of choice to be explored and developed in the design. The consideration behind this choice is that the Sashiko technique still needs to be used more widely. Student designers are also interested in learning more about this technique because of its handmade nature and potential for further innovation.

The research phase carried out by the student designers involved primary and secondary research on Sashiko surface techniques. Primary research was carried out through direct interviews and observation, while secondary research was carried out by collecting data from relevant literature related to the Sashiko technique. During this research activity, student designers not only investigate the technique and its historical background but also broaden the search terms. For example, student designers add keywords related to brands that use Sashiko, Sashiko functions, Sashiko motifs, fashion genres that incorporate Sashiko techniques, applications of Sashiko, historical aspects of Sashiko as local content, looks and styles related to Sashiko. technique. By conducting comprehensive research with various keywords, student designers collect a lot of data, enabling the implementation of various ideas for innovation. Because of the large number of keywords and data obtained from research, student designers create mind maps as a mapping tool to facilitate the conceptual design flow. At this research stage, student designers also found keywords that could be linked to local Indonesian content, namely the Java Hokokai Batik motif. Java Hokokai was obtained from primary research conducted by student designers.

The next stage is to analyze the local content that will be applied. In the research process carried out by the student designer, the Java Hokokai Batik motif was identified as local content whose design would be adopted using the Sashiko technique. The choice of the Javanese Hokokai motif was motivated by its historical background and origins which were influenced by Japanese culture. As a result, there are connections and similarities between the Sashiko technique and the Javanese Hokokai motif, both of which are closely related to Japanese culture. The next stage is to enter the concept design phase using the linear method FRANGIPANI, which consists of 10 systematic steps starting with searching for ideas based on Indonesian cultural local content. The student designer initiates the FRANGIPANI method by discovering the Java Hokokai Batik motif.

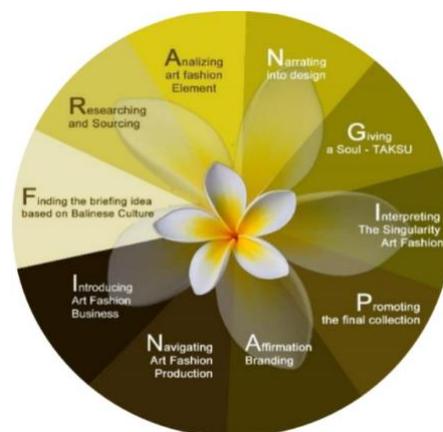


Figure 3. FRANGIPANI (Doc. Dewi, 2021)

Finding the briefing idea based on local content (Java Hokokai Batik motif). Building upon the Java Hokokai Batik motif, the student designer conducts further brainstorming, starting from the Java Hokokai Batik as the foundation. During this process, new keywords are obtained, which have the potential to be combined to form a concept. The keywords obtained at this stage are Sashiko, demi-couture, Java Hokokai, minimalist, neutral colors, dress, and classic style.

Researching and sourcing involves conducting research based on the keywords obtained from the previous brainstorming process. This stage is used to obtain more detailed data and information regarding the Sashiko technique, demi-couture, Java Hokokai Batik motif, minimalism, neutral colors, dress, and classic style. The data obtained at this stage includes the forms of clothing silhouettes, color determination, material selection, types of Java Hokokai Batik and Sashiko motifs, symmetrical garment proportions, and fabric manipulation techniques that will be applied to the clothing.

Analyzing art fashion elements, this stage involves selecting and visually compiling from the observation process based on the chosen keywords. The search and observation results in a collection of visuals, including clothing silhouettes, textures, materials, colors, shapes, and visual Sashiko motifs. These images are then arranged and composed into a mood board for the concept and clothing design. From this visual mood board, conclusions can be drawn and later narrated as the design concept.



Figure 4. Moodboard (Doc. Dewi, 2021)

The conclusion of the concept based on the visual mood board is that Victorious Beauty adopts a classic fashion design concept with an A or I silhouette reminiscent of the iconic Dior style from the 1940s to 1950s. The surface concept of the clothing will incorporate the Sashiko technique, with motifs inspired by Javanese Hokokai batik.

Exploration Stage - Initial Exploration

In the initial exploration stage, the student designer explores the Sashiko technique, which includes getting acquainted with the basic Sashiko technique and basic Sashiko motifs. The next step involves experimenting with the basic Sashiko technique on various fabric types by duplicating existing Sashiko motifs. This exploration aims to understand how to create and apply the Sashiko technique on fabric. In addition to exploring the Sashiko technique, the initial exploration stage also includes exploring the fashion design sketches. The fashion exploration begins with sketches since the zero-waste fashion design process starts from conventional methods. The conventional fashion design is then approached using the zero-waste fashion design method.

Exploration Stage - Advanced Exploration

Advanced exploration is a development stage based on what has been done in the initial or previous exploration process. In this stage, the student designer explores stylizing the Java Hokokai Batik motifs. This stylization process is necessary to simplify the shapes and reduce the motifs details that may not be achievable visually through the Sashiko technique. Besides shape simplification, the student designer uses the advanced exploration process to determine the Sashiko stitching patterns, each with specific counts and measurements to achieve symmetric motifs. Additionally, in the advanced exploration of clothing, the student designer created three selected clothing patterns using conventional methods.

Exploration Stage - Selected Exploration

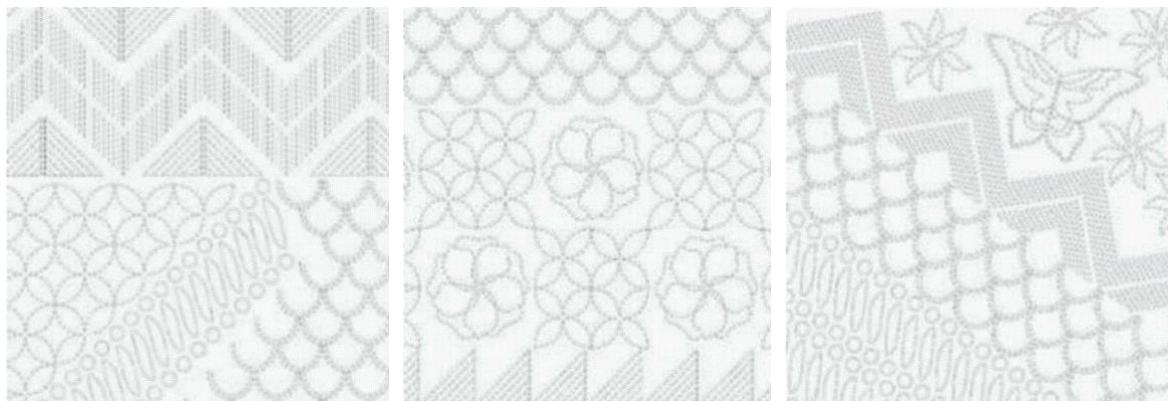


Figure 5. Shasiko's Selected Exploration (Doc. Dewi, 2021)

Selected exploration is the stage of exploring selected Javanese Hokokai Batik motifs to be applied to clothing using the Sashiko technique. Selected clothing exploration involves transforming conventional clothing into zero waste. Student designers transform conventional clothing patterns into zero waste by changing the pattern plotting position and modifying several pattern shapes to ensure the waste produced is below 15%. In creating zero-waste fashion design patterns, designers go through several steps that are different from making conventional patterns; (1) Creating conventional patterns. (2) Counting the amount of waste; If the initial calculation produces more than 15% waste, then the pattern needs to

be adjusted and changed to a zero waste fashion design pattern. (3) Modifying a conventional pattern involves changing the method of plotting and reshaping the pattern while trying to maintain the original design concept of the garment. (4) Recalculating waste after pattern modification; The fabric cutting stage can be continued once the waste is below 15%. Designers can only perform the fabric cutting stage for zero waste fashion design patterns because others may need help understanding the specific zero waste patterns and garment sewing process.

Garment Production Stage

The garment production stage is the final stage in the fashion design process, where student designers handle the entire garment production process from start to finish. At the garment production stage, student designers follow the zero-waste fashion design method, where the designer carries out the process of making patterns, cutting fabric, and sewing. After completing the garment sewing process, student designers apply the Sashiko technique to the garment, following the markings and patterns created by digital printing on the fabric. Research methods and fashion product design using craft techniques



Figure 6. Final Look (Doc. Dewi, 2021)

CONCLUSIONS

Through the linear design process in designing Victorious Beauty, designers will have a more systematic approach in the design stages, ensuring that the ideas and points to be conveyed in the design concept are clear, accurate, and easily understood. By applying the Sashiko craft technique in the design of Victorious Beauty through the linear design process, student designers determine their ideas based on the craft technique they will use. Starting from this determination, the student designer conducts research and identifies several keywords for the design concept. These keywords are then associated with the local content of Batik Java Hokokai, which is later applied to the zero-waste fashion design through the Sashiko craft technique. Based on the analysis, one of the research methods for designing fashion products with the application of craft techniques as the starting point or concept idea is developed using the linear method. This method will help student designers in understanding the design process flow and the stages they need to follow in fashion product design.

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