



Utilizing Craft Techniques in Zero Waste Fashion Design Clothing: An Exploration of Research Methods in Fashion Design.

Shella Wardhani Putri¹⁾, Faradillah Nursari²⁾.

¹⁾ Department of creative industry, Textile and fashion craft study program, Telkom University, Indonesia

²⁾ Department of creative industry, Textile and fashion craft study program, Telkom University, Indonesia

*Corresponding Author

Email : faradillah@telkomuniversity.ac.id

How to cite: Putri, Shella., Nursari, Faradillah., (2023). *Utilizing Craft Techniques in Zero Waste Fashion Design Clothing: An Exploration of Research Methods in Fashion Design.* Gondang: Jurnal Seni dan Budaya, Vol (No): Page.

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 Methods
Zero Waste

This is an open access article under the [CC-BY-NC-SA](https://creativecommons.org/licenses/by-nc-sa/4.0/) license



INTRODUCTION

Research is a fundamental process in design (Mbonu, 2014). One of the roles of research in design is to develop potentials that can drive the creation of novelty in the resulting design. In the research process for design, it is not only the understanding of ideas or concepts that needs to be comprehended, but designers also need to grasp scientifically oriented facts to explore and harness their potential holistically. Most designers, especially student designers, need help determining the starting point of research for the product design they will undertake (Dieffenbacher, 2021). Furthermore, student designers need help identifying the initial starting point or initial idea for the design, potentially leading to a lack of clear direction regarding the necessary steps to materialize the design. Student designers have access to various conveniences in accessing data and information, creating challenges in selecting data relevant to the raised idea. This ease of access indirectly allows students to observe references and types of materials related to the design idea. However, this can



result in a lack of understanding for students as designers, particularly regarding the materials and techniques used. The absence of direct interaction between student designers and materials and techniques related to the design idea leads to design considerations that may not be suitable for the realized design. Furthermore, student designers need help to determine the design's starting point or initial idea, potentially leading to a lack of awareness about the subsequent 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 fashion product design, both clothing and accessories, craft techniques are among those that can add value to the design, especially aesthetic value. Aesthetic value is the assessment of an object to measure its attractiveness or unattractiveness and weigh its beauty or ugliness (Mudra, et al, 2021). Various potential implementations of craft techniques on materials for fashion products need to be understood through direct interaction to ascertain how to optimize their potential in fashion products. The data collected becomes the source and justification for student designers to consider the design before the design process. These design considerations include limitations and analyses of the gathered data, which will then be applied in the embodiment of the design.

The entire sequence of idea-research-design requires a precise mapping of the thought process of student designers in their creative process (Dieffenbacher, 2021). With the ease of information access and technological advancements, there is a need to find a way to utilize these resources optimally in the idea-research-design sequence. The occurrence of changes from conventional working systems or old systems to more sophisticated ones is expected in the art world, as the characteristic of art is a creative and dynamic life (Zulkifli, 2021). The dynamic nature of the creative process of student designers today cannot be limited to existing research methods alone, as the concept ideas can emerge from various sources, such as design concepts initiated from craft techniques in a linear mapping flow. This can be a reference for a linear idea-research-design flow employed in zero-waste fashion design to understand its potential, particularly in applying craft techniques. This research was conducted qualitatively by examining literature data and studying case examples of student designers' creative process using a linear method in the idea-research-design sequence. Regular observations were made on the student participants to understand their creative processes after providing them with an understanding of general design methods and the zero-waste fashion design approach. Zero waste is one solution that optimizes the character and availability of materials in the fashion industry, which has been applied since 2008 by generating pre-production waste of less than 15% in garment production processes (Nursari & Djamal, 2019).

Furthermore, student designers were tasked with incorporating craft techniques into fashion products as a potential for innovation. Apart from observations, an assessment was conducted to determine the extent of understanding of the design considerations produced by the student designers. The articulation of student designers in narrating their idea-research-design journey served as a benchmark in evaluating their understanding of the outcomes of their work. The result of this research is an analysis of the fashion product design method with the application of craft techniques. It was carried out through a linear thinking process in applying craft techniques to zero-waste fashion, which serves as 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 methodology analysis.

RESULT AND DISCUSSION

Design Process Analysis (*Victorious Beauty*)

The design process for "Victorious Beauty" begins with the discovery of ideas, followed by research, and then moves on to the design process. In this design project, the supervising lecturer gives the student designer keywords, which must be present in the fashion design. These keywords include using the zero-waste fashion design method and incorporating local content or Indonesian culture. With these given keywords, the student designer can initiate the design concept through a linear or a more random process. Below is an analysis of the design process flow for "Victorious Beauty":

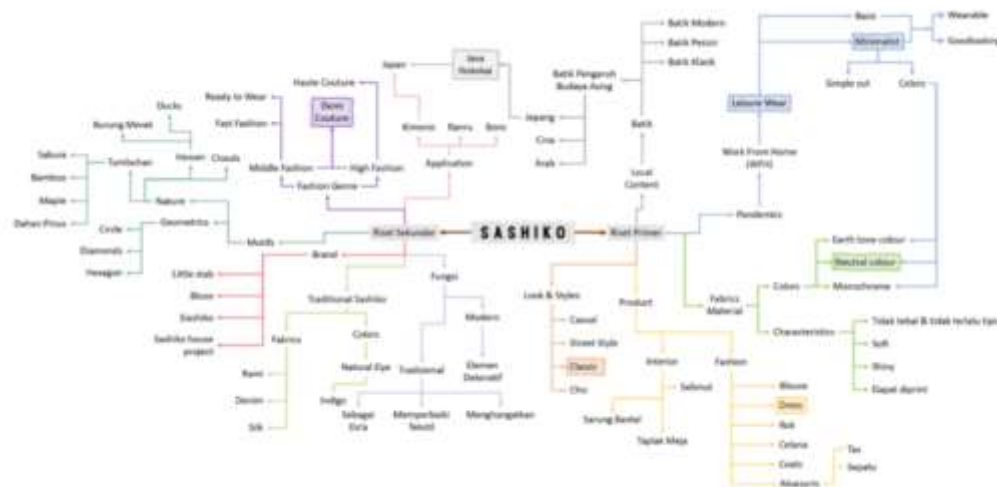


Figure 1. The Design Process Mindmap
(Doc. Dewi, 2021)

1. The student designer conducts an idea search through craft techniques that have innovation potential and can add aesthetic value. In the design process of "Victorious Beauty," the student designer selects the Sashiko craft technique as the chosen technique to explore and develop in the design. The consideration behind this choice is that the Sashiko technique still needs to be more widely used. The student designer is also interested in delving deeper into this technique due to its handmade nature and the potential for further innovation.
2. Tahap riset yang The research phase conducted by the student designer involves both primary and secondary research on the Sashiko surface technique. Primary research is carried out through direct interviews and observations, while secondary research involves gathering data from relevant literature related to the Sashiko technique. During this research activity, the student designer not only investigates the technique and its historical background but also

expands the search keywords. For example, the student designer adds keywords related to brands that use Sashiko, the functions of Sashiko, Sashiko motifs, fashion genres that incorporate Sashiko technique, applications of Sashiko, historical aspects of Sashiko as local content, looks, and styles associated with the Sashiko technique. By conducting comprehensive research with a wide range of keywords, the student designer gathers abundant data, enabling the adoption of numerous ideas for innovation. Due to the abundance of keywords and data obtained from the research, the student designer creates a mind map as a mapping tool to facilitate the conceptual design flow. During this research phase, the student designer also discovers a keyword that can be linked to Indonesian local content, namely the Java Hokokai Batik motif. Java Hokokai was obtained from the primary research conducted by the student designer.

3. The next stage is to analyze the local content that will be applied. In the research process conducted by the student designer, the Java Hokokai Batik motif is identified as the local content whose design will be adopted through the Sashiko technique. The selection of the Java Hokokai motif is motivated by its historical background and origin influenced by Japanese culture. As a result, there is a connection and similarity between the Sashiko technique and the Java Hokokai motif, both intertwined with Japanese culture.
4. 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 :

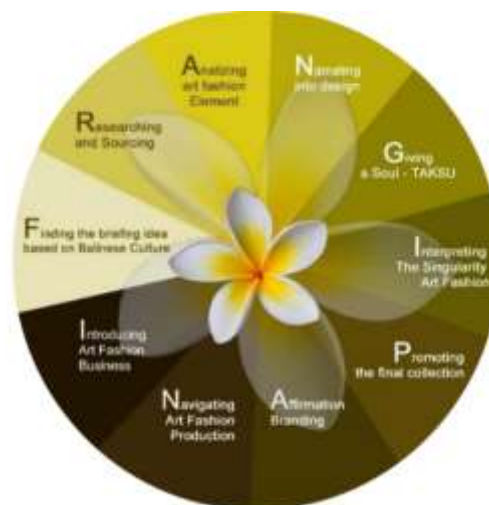


Figure 2. FRANGIPANI
(Doc. Dewi, 2021)

- 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 involve 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 result 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 2. 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 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 Hokakai batik..

5. 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.

● 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 motif's 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 creates three selected clothing patterns using conventional methods.

- Selected Exploration

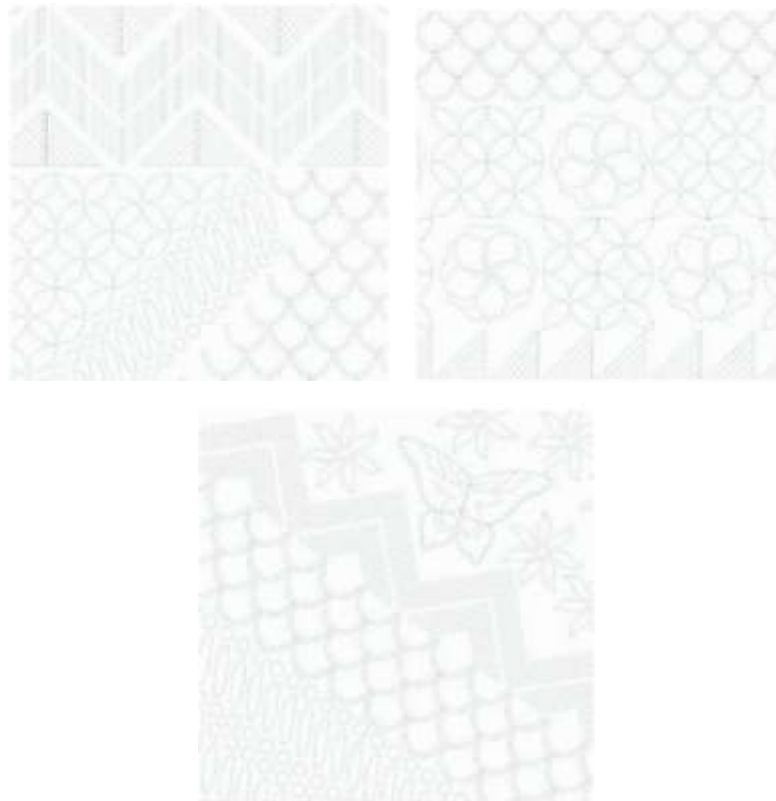


Figure 3. Shasiko's Selected Exploration
(Doc. Dewi, 2021)

Selected exploration is a stage of exploring the chosen Java Hokokai Batik motifs to be applied to the clothing using the Sashiko technique. The selected clothing exploration involves transforming conventional clothing into zero waste. The student designer transforms conventional clothing patterns into zero waste by changing the position of pattern plotting and modifying some pattern shapes to ensure that the resulting waste is below 15%. In creating zero-waste fashion design patterns, the designer goes through several steps that differ from conventional pattern-making:

- Creating the conventional pattern.
- Calculate the amount of waste; if the initial waste calculation results in more than 15%, the pattern needs to be adjusted and converted into a zero-waste fashion design pattern.
- Modifying the conventional pattern involves changing the plotting method and reshaping the pattern while striving to retain the original design concept of the garment.
- Recalculating the waste after the pattern modification; the fabric cutting stage can proceed once the waste is below 15%.
- The designer can only carry out the fabric cutting stage for the zero-waste fashion design

pattern since others may need help understanding the specific zero-waste pattern and clothing sewing process.

6. **Garment Production Stage** The garment production stage is the final phase in the fashion design process, where the student designer handles the entire garment production process from start to finish. In the garment production stage, the student designer follows the zero-waste fashion design method, where the designer carries out the pattern-making, fabric-cutting, and sewing processes. After completing the garment sewing process, the student designer applies the Sashiko technique to the garment, following the marks and patterns created with digital printing on the fabric. Research methods and design of fashion products with the application of craft techniques



Figure 4. Final look
(Doc. Dewi, 2021)

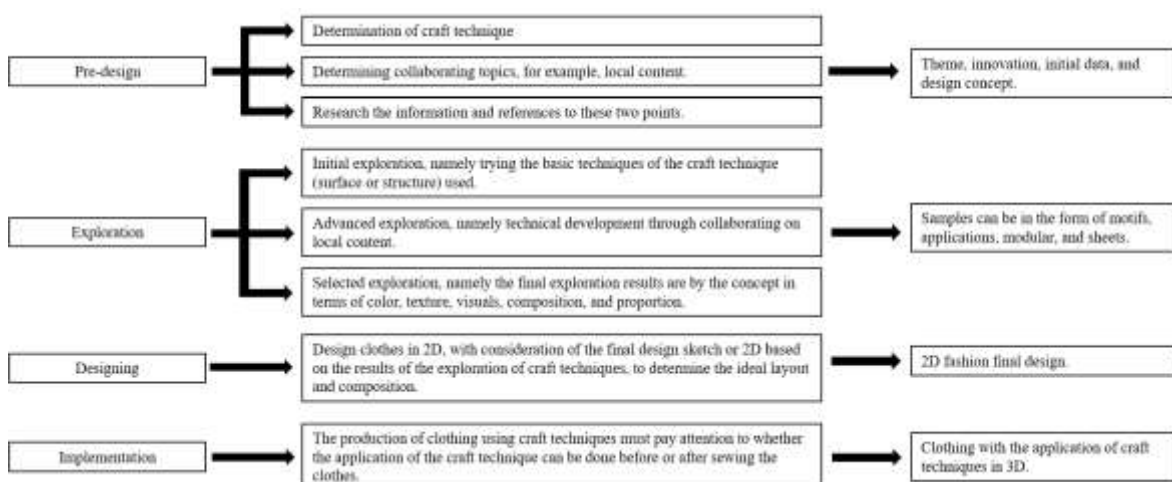


Research Methods and Design of Fashion Products with the Application of Craft Techniques

This method is derived from the analysis of the Victorious Beauty design process undertaken by the student designer, starting from the discovery of an idea in the form of a craft technique (Sashiko technique) with the constraint of zero waste fashion design clothing products. Below is the research and fashion product design method with the application of the craft technique:

- Determining the craft technique to be used.
- Research based on the craft technique to be applied.
- Exploring the basic techniques that must be mastered in using the craft technique by observing and then imitating the same visual form.
- Collaborating the craft technique with the designer's ideas, such as combining it with local content such as motifs, artifacts, architectural visuals, and others. This collaboration is necessary to provide innovations in the visual results of the craft technique and enhance the aesthetic value of the craft technique, thus adding value to the resulting fashion products.
- Research ideas to collaborate with the craft technique to be used as an inspiration and foundation for exploration.
- The initial exploration stage of the craft technique by incorporating ideas as innovative results. For example, applying Java Hokokai Batik motifs with the Sashiko technique. In this initial stage, there will be many different stages depending on the type of idea to collaborate with the craft technique. If the idea involves motifs, then a stylization process is needed to simplify the form and reduce the level of detail in the motifs, which may not be visually achievable with the craft technique.
- The final exploration stage involves creating samples to see the accurate composition determination and how applying the craft technique works.
- Application to fashion products.

The following is the schematic of the linear design process based on the craft technique as the initial design idea or starting point.



- 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.

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 assist student designers in understanding the design process flow and the stages they need to follow in fashion product design.



REFERENCE

- Davis, M. L. (1980). *Visual Design in Dress*. United Kingdom: Prentice-Hall.
- Dewi, V. K., Nursari, F., Siagian, M.C.A. (2021). PENERAPAN ZERO WASTE FASHION PADA BUSANA DEMI COUTURE DENGAN TEKNIK SASHIKO: PENERAPAN METODE ZERO WASTE FASHION DESIGN PADA BUSANA DEMI-COUTURE DENGAN PENGAPLIKASIAN TEKNIK SASHIKO. (Skripsi Sarjana, *Telkom University*)
- Dieffenbacher, F. (2013). *Fashion Thinking: Creative Approaches to the Design Process*. Switzerland: AVA Publishing.
- Mbonu, E. (2014).). *Fashion Design Research*. United Kingdom: Laurence King Publishing.
- Mudra, I.W. I G. Mugi Raharja. I W. Sukarya. (2021). Estetika Visual Keramik Berornamen Wayang Khas Bali. *Gondang: Jurnal Seni dan Budaya*, 5 (1): 53-63.
- Nursari, F., & Djamal, F. H. (2019). Implementing Zero Waste Fashion in Apparel Design. 6th Bandung Creative Movement 2019 (pp. 98-104). Bandung: Telkom University
- Zulkifli, (2021). Seni Rupa di Era Disrupsi: Dampak Teknologi dalam Medan Sosial Seni Rupa. *Gondang: Jurnal Seni dan Budaya*, 5 (1) (2021): 134-133.