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Implementation of Dress Transformation Inspired by Ocean Waves

Naswa Izzah Salsabilla¹, Irmayanti^{2*}

¹Universitas Negeri Semarang, Indonesia, <https://orcid.org/0009-0002-7658-1561>

²Universitas Negeri Semarang, Indonesia, <https://orcid.org/0009-0004-1440-9066>

*Corresponding Author: irmayanti@mail.unnes.ac.id

Abstract

This study aims to develop a transformation dress inspired by ocean waves and to evaluate the feasibility of the resulting product. The background of this research is based on the increasing public interest in innovative, multifunctional, and flexible fashion products that are able to provide more than one appearance in a single garment. The method used was Research and Development (R&D) based on the ADDIE model, which includes the stages of analysis, design, development, implementation, and evaluation. The product developed was a transformation dress with a detachable system that allows changes in appearance without reducing the aesthetic value of the garment. The feasibility test was conducted by three expert panelists and ten trained panelists using a dichotomous scale questionnaire covering aspects of design, size, sewing technique, aesthetics, garment performance, and additional uniqueness. The data were analyzed using quantitative descriptive methods and presented in percentages. The results showed that the developed product obtained an average feasibility score of 92% and was categorized as highly feasible. The transformation dress also demonstrated innovative value, aesthetic appeal, functional flexibility, and potential to be developed as a multifunctional fashion product.

Keywords: transformative apparel, dress, ocean wave inspiration, feasibility test

INTRODUCTION

Developments in the modern fashion industry indicate a paradigm shift from purely aesthetic considerations toward more functional and innovative designs. One emerging innovation is the concept of the transformation dress—a garment design that allows for changes in form or function within a single product.^{1,2} This concept enhances the efficiency of garment use while helping to reduce excessive clothing consumption.³ In addition, advancements in textile materials have contributed to the creation of clothing designs that are flexible and adaptable to user's needs..⁴

Preliminary observations conducted at Eva Bridal in December 2024 indicated that public interest in dresses particularly party and wedding dresses is quite high. This is evidenced by the significant number of orders received by Eva Bridal. Consumers tend to prefer designs that are aesthetically pleasing, versatile, and multifunctional, and that allow for a change of look within a single event.

¹ Shahad Amal Mohammed Samkari and Dr. Wijdan Adnan Tawfiq, *Utilizing Modular Design Approach to Design a Transformable Women's Outerwear* (2022), <https://doi.org/10.31274/itaa.8771>.

² Anika Ansari, Sharma *International Journal of Home Science* (2025) 11(1) 603-609

³ Puja Putri, Kurnia Dewi, and Adhi Kusumastuti, *JURNAL TEKNOLOGI BUSANA DAN BOGA The Transformation Wardrobe: Integrating Indonesian Batik and Modular Design for Sustainable Stage Wear*, vol. 14, no. 1 (2026), <https://journal.unnes.ac.id/journals/teknobuga/index>

⁴ Shiqian Zhu and Xiaogang Liu, "The Ecodesign Transformation of Smart Clothing: Towards a Systemic and Coupled Social–Ecological–Technological System Perspective," *Sustainability (Switzerland)* 17, no. 5 (March 2025), <https://doi.org/10.3390/su17052102>.

A dress is a type of women's clothing that possesses high aesthetic value and is worn on various occasions, whether formal, semi-formal, or casual.^{5,6} Generally, dresses are designed as one-piece garments that cover the body from the top down to a certain length, with design variations tailored to the wearer's needs and intended use.⁷ Dresses serve not only as a means of covering the body but also as a medium for self-expression, identity, and enhancing one's appearance in various activities.

Based on their function and use, dresses can be classified into several types, such as evening gowns, casual dresses, work dresses, and other formal dresses. Additionally, dresses can be distinguished by their length such as mini, midi, and maxi as well as by their silhouette, such as A-line, sheath, ball gown, and mermaid, each of which offers a distinct visual character. This variety demonstrates that dresses possess high flexibility in their use; however, they generally remain static in nature, meaning they are typically worn in a single form and serve a specific function.^{8,9}

With the evolution of the modern fashion industry, there has emerged a need for clothing that is not only visually appealing but also practical, flexible, and innovative. This has spurred the emergence of the concept of transformation in fashion design. The theory of transformation is a concept that explains changes in the form, structure, or function of an object without losing its core identity.¹⁰ Transformation in fashion is part of design innovation that allows a single product to serve various functions or appearances through techniques such as folding, detachability, or shape reconstruction.¹¹ This approach focuses not only on aesthetics but also on efficiency of use and sustainability within the fashion industry. This transformation aims to enhance the efficiency of clothing use while offering a variety of looks within a single product.^{12,13,14}

The application of the concept of transformation to dresses in this study is realized through the design of a transformation dress capable of changing shape in specific parts of the garment. The transformation is focused on the waist section, which is designed using a detachable system, allowing that component to be removed from the dress's main structure. The detached waist section is then repurposed as an additional element worn around the neck as a complementary fashion accessory. Thus, a single dress design can produce two distinct looks: the initial look as a dress with a waist accent and the second look as a dress with additional detailing around the neck.^{15,16}

This transformation mechanism was designed with ease of use and comfort in mind. The detachable system used allows for practical removal and reattachment without damaging the garment's main structure.¹⁷ With this approach, the design not only showcases aesthetic value but also introduces functional innovation that offers style variations within a single product.¹⁸ This innovation aligns with findings that transformable designs can enhance the utility and flexibility of clothing across

⁵ Michelle. Jones, *London Couture and the Making of a Fashion Centre* (The MIT Press, 2022).

⁶ Jenny. Udale, *The Fundamentals of Fashion Design* (9782940373390) (Ava Publishing, 2020).

⁷ Phyllis G. .. Tortora and Sara B. .. Marcketti, *Survey of Historic Costume* (Fairchild Books, an imprint of Bloomsbury Publishing Inc., 2015).

⁸ Alison. Gwilt, *Fashion Design for Living* (Routledge, 2015).

⁹ Le, Khanh Trang, Thi Kim Lien Dang, Thanh Thao Nguyen, and Thi Thu Nguyet Vu. "Research on Multi-Functional Fashion Contributes to Sustainable Development." *Engineering and Technology For Sustainable Development* 35, no. 5 (October 2025): 050–058. <https://doi.org/10.51316/jst.186.etsd.2025.35.5.7>.

¹⁰ *Architecture: Form, Space, and Order*. Wiley, 2021.

¹¹ Rissanen, Timo., and Holly. McQuillan. *Zero Waste Fashion Design*. Fairchild Books, 2020.

¹² Shahad Amal Mohammed Samkari and Dr. Wijdan Adnan Tawfiq, *Utilizing Modular Design Approach to Design a Transformable Women's Outerwear* (2022), <https://doi.org/10.31274/itaa.8771>

¹³ ÇEĞİNDİR, Neşe Yaşar, and Ceren ÖZ. "Dönüştürülebilir Elbise Uygulamaları." *Tekstil ve Mühendis* 27, no. 119 (September 2020): 186–96. <https://doi.org/10.7216/1300759920202711907>.

¹⁴ فيومي، همت محمد. "تصميمات مقترحة لملابس قابلة للتحويل لإطلاالات مختلفة من أجل الاستدامة." *مجلة العمارة والفنون والعلوم الإنسانية* 0 (March 2021): 0–0. <https://doi.org/10.21608/mjaf.2021.63237.2219>.

¹⁵ Puja Putri, Kurnia Dewi, and Adhi Kusumastuti, *JURNAL TEKNOLOGI BUSANA DAN BOGA The Transformation Wardrobe: Integrating Indonesian Batik and Modular Design for Sustainable Stage Wear*, vol. 14, no. 1 (2026), <https://journal.unnes.ac.id/journals/teknobuga/index>

¹⁶ Anika Ansari, and Abhay Sharma. "Modular and Transformable Clothing." *International Journal of Home Science* 11, no. 1 (January 2025): 603–9. <https://doi.org/10.22271/23957476.2025.v11.i1h.1832>.

¹⁷ Jones, Sue Jenkyn. *Fashion Design*. Laurence King, 2005.

¹⁸ فيومي، همت محمد. "تصميمات مقترحة لملابس قابلة للتحويل لإطلاالات مختلفة من أجل الاستدامة." *مجلة العمارة والفنون والعلوم الإنسانية* 0 (March 2021): 0–0. <https://doi.org/10.21608/mjaf.2021.63237.2219>.

various wear scenarios.^{19,20,21}

The inspiration for the design of this transformable dress comes from a natural phenomenon: ocean waves. Ocean waves possess visual characteristics such as repetitive movement patterns (rhythm), a flowing motion (flow), and dynamic, flexible layering.²² These characteristics are translated into the design through fluid silhouettes, the use of lightweight fabrics, and layered details that create a dynamic and elegant impression on the dress. This approach is supported by research indicating that exploring natural forms in fashion design can result in more innovative and artistic creations.²³



Figure 1. Ocean waves

Although there has been extensive research on transformation dresses and nature-inspired designs, studies that integrate ocean-wave-based transformation dress designs with product feasibility testing remain limited.²⁴ Previous research has generally focused on visual aspects and the design process, without comprehensively examining product quality from the user's perspective.²⁵ Furthermore, few studies have combined the concept of transformation with the visual characteristics of ocean waves while simultaneously testing them through a feasibility approach. Therefore, research is needed that not only produces innovative designs but also provides an objective assessment of product quality.

Feasibility testing is a crucial stage to ensure that the product is not only visually appealing but also suitable for use.²⁶ The evaluation is based on design aspects, size, aesthetics, sewing techniques, garment performance, and product features. These aspects include functionality, comfort, ease of use, and suitability for user needs. The evaluation is conducted by three expert panelists in the field of

¹⁹ Gwilt, Alison. *A Practical Guide to Sustainable Fashion*. Bloomsbury Publishing Plc, 2020. <https://doi.org/10.5040/9781350067059>.

²⁰ Rissanen, Timo., and Holly. McQuillan. *Zero Waste Fashion Design*. Fairchild Books, 2020.

²¹ Fletcher, Kate. *Sustainable Fashion and Textiles*. Routledge, 2013. <https://doi.org/10.4324/9781315857930>.

²² Sayidatul Istighfarini, Inty Nahari, Deny Arifiana, and Mita Yuniati. "Penciptaan Busana Ready To Wear Deluxe Dengan Sumber Ide Lautan Pasir Gunung Bromo." *Mutiara : Jurnal Penelitian Dan Karya Ilmiah* 3, no. 4 (July 2025): 91–109. <https://doi.org/10.59059/mutiara.v3i4.2665>.

²³ Sulistyadewi, Mirza Aulia, and Yulistiana Yulistiana. "Inspirasi Harimau Sebagai Sumber Ide Busana Pesta." *BAJU: Journal of Fashion and Textile Design Unesa* 5, no. 1 (October 2024): 99–109. <https://doi.org/10.26740/baju.v5n1.p99-109>.

²⁴ Okpatrioka, M. (2023). "Evaluasi kualitas produk busana ditinjau dari aspek desain dan kenyamanan".

²⁵ Rahmawati, D. (2022). "Analisis proses perancangan busana pada pendidikan tata busana". *Jurnal Pendidikan Vokasi Busana*

²⁶ Waruwu, F. (2024). "Uji kelayakan produk busana pada mata kuliah praktik tata busana". *Jurnal Pendidikan Tata Busana*, 2 (2), 55-55.

fashion design and ten trained panelists, ensuring the results are more objective and representative.

The significance of this research lies in the integration of the concept of transformation with inspiration from ocean waves in the design of innovative and multifunctional dresses. This approach is expected to yield designs that not only possess aesthetic value but also offer flexibility of use and meet product viability criteria. Consequently, the findings of this study are expected to make a tangible contribution to the development of fashion designs that are not only visually innovative but also proven to be practical and relevant to user needs.

METHOD

This study employs a Research and Development (R&D) methodology using the ADDIE development model, with the aim of producing a transformation dress inspired by ocean waves and testing its feasibility.²⁷ This method was chosen because it systematically covers the product design, development, and evaluation processes.²⁸ This approach aligns with Borg and Gall, who emphasize that R&D involves design, testing, and revision stages to produce a viable product.²⁹

The research design is based on the R&D model, using a simplified version of the ADDIE development model tailored to the needs of fashion product development,³⁰ which encompasses several aspects, namely:

Analysis Aspects

A needs analysis was conducted to assess public demand for clothing, particularly party and wedding dresses, through initial observations made during an internship at Eva Bridal in December 2024.³¹ The analysis focused on consumer preferences regarding dress design, covering aesthetic aspects, flexibility, and the need for multifunctional garments that allow for a change in appearance within a single occasion.

Design Aspects

The design process was carried out through several stages, namely theme determination, literature review as a conceptual foundation, and the search for relevant design references. Next, a mood board was created as a visual reference inspired by the characteristics of ocean waves. The mood board served as the basis for developing the design concept. The subsequent stage involved creating the garment design and selecting materials tailored to the concept and function of the transformable dress to be developed.

²⁷ Husamah, H., Hadi Suwono, Hadi Nur, and Agus Dharmawan. "Global Trend of Research and Development in Education in the Pandemic Era: A Systematic Literature Review." *Research and Development in Education* 2, no. 2 (December 2022): 89–101. <https://doi.org/10.22219/raden.v2i2.23224>.

²⁸ Abuhassna, Hassan, Samer Alnawajha, Fareed Awae, Mohamad Azrien bin Mohamed Adnan, and Bosede Iyiade Edwards. "Synthesizing Technology Integration within the Addie Model for Instructional Design: A Comprehensive Systematic Literature Review." *Journal of Autonomous Intelligence* 7, no. 5 (May 2024): 1546. <https://doi.org/10.32629/jai.v7i5.1546>.

²⁹ Hasanah Dewi Lestari, Diana Rossa Martatiyana, Herlina Usman,. "APPLICATION OF THE ADDIE MODEL IN DESIGNING DIGITAL TEACHING MATERIALS." *Jurnal Pendidikan Dan Pengajaran Guru Sekolah Dasar (JPPGuseda)* 6, no. 1 (March 2023): 105–9. <https://doi.org/10.55215/jppguseda.v6i1.7525>.

³⁰ Pitura, Joanna. "Using the E-Questionnaire in Qualitative Applied Linguistics Research." *Research Methods in Applied Linguistics* 2, no. 1 (April 2023): 100034. <https://doi.org/10.1016/j.rmal.2022.100034>.

³¹ Husamah, H., Hadi Suwono, Hadi Nur, and Agus Dharmawan. "Global Trend of Research and Development in Education in the Pandemic Era: A Systematic Literature Review." *Research and Development in Education* 2, no. 2 (December 2022): 89–101. <https://doi.org/10.22219/raden.v2i2.23224>.



Figure 2. Moodboard

Development Aspects

Product creation involves several stages, namely pattern making according to the design, cutting the fabric based on the pattern, the sewing process which includes joining the garment's components and the finishing stage to perfect the product, resulting in a transformation dress that aligns with the designed concept.^{32,33}

Implementation Aspects

The implementation stage involves applying the created product in real-world conditions.³⁴ The transformation dress, having gone through the production stages, was then showcased at a fashion show at Semarang State University, where the garment was presented on stage as a form of product implementation in accordance with the designed concept.

Evaluation Aspects

A product evaluation was conducted to assess the quality of the transformation dress that had been developed through a feasibility test covering design, sizing, sewing techniques, aesthetics, performance, and additional features. The evaluation was carried out by three expert panelists and ten trained panelists using a dichotomous scale questionnaire (yes or no). The assessment instrument is structured as a matrix that includes indicators and sub-indicators for each aspect, which are then broken down into specific statements serving as the basis for product evaluation. The assessment data is analyzed using quantitative descriptive analysis in the form of percentages to determine the product's level of feasibility.

³² *Garment Manufacturing Technology*. Elsevier, 2015. <https://doi.org/10.1016/C2013-0-16494-X>.

³³ Kanakana-Katumba, Mukondeleli Grace, Kazeem Aderemi Bello, and Georges Kabamanyi Katumba. "Optimization of the Clothing Industry Manufacturing Process to Improve Efficiency." *ICIMP 2024* (Basel Switzerland), October 21, 2024, 28. <https://doi.org/10.3390/engproc2024076028>.

³⁴ Szabo, Dan Alexandru. "Adapting the Addie Instructional Design Model in Online Education." *Studia Universitatis Babeş-Bolyai Psychologia-Paedagogia* 67, no. 1 (June 2022): 126–40. <https://doi.org/10.24193/subbppsyped.2022.1.08>.

Table 1. Product Feasibility Assessment Tool

Appropriateness of Party Attire	Indicator	Sub Indicator	Item No
Design, texture, fabric, stitching, balance of form, and overall finish of the garment (Anggraini et al., 2022)	Design (Anggraini et al., 2022; Juli et al., 2023; Marbubah & Wening, 2022; Supraeni & Suwendra, 2024; Vera et al., 2021)	Color Lines Shape / Silhouette Proportions Focal point	1 -5
Design, fabric, garment sizing standards, sewing standards, label (Marbubah & Wening, 2022)	Size (Marbubah & Wening, 2022)	Accuracy of circumference measurements Accuracy of gauge measurements Size balance Pattern accuracy Jatuh/ kelangsaan kain	6 – 10
Design, texture and color, shape, supporting details, stitching, and finish (Juli et al., 2023)	Sewing Techniques (Anggraini et al., 2022; Juli et al., 2023; Marbubah & Wening, 2022; Vera et al., 2021)	Neatness of Stitching Finishing Seam Strength Decorative Techniques Zipper Installation	11 –15
Design, Finished Product, Texture and Color, Stitching, Supporting Appearance (Vera et al., 2021)	Aesthetics (Putri et al., 2021)	Unity of design elements Visual balance Harmony of texture and embellishments Combination of details and ornaments Visual appeal	16 –20
Product features, fit quality, durability, and design (Supraeni & Suwendra, 2024)	Performance (Putri et al., 2021)	Fit and proportions Shape stability Ease of use Alignment with character and theme Elegant and professional impression	21 –25
Performance, added features, reliability, conformity, durability, service capability, aesthetics, perceived quality (Putri et al., 2021)	Additional features (Putri et al., 2021)	Creativity of ideas Form innovation Material exploration Harmony of exploration results Design identity	25 –30

Source: Research Data

The assessment data was analyzed using quantitative descriptive techniques in the form of percentages to determine the product's suitability level. The suitability percentage was calculated using the following formula:

$$P = \frac{f}{N} \times 100\%$$

Notes:

P = eligibility percentage

f = total score obtained

N = maximum score

The calculated percentages are then categorized into feasibility levels: highly feasible, feasible, somewhat feasible, and not feasible.

RESULTS AND DISCUSSION

This section presents the research findings and discussion of the product development process for a “transformation dress” inspired by ocean waves, using the ADDIE model, which comprises the stages of analysis, design, development, implementation, and evaluation. Each stage not only presents the results obtained but is also accompanied by a discussion to explain the meaning, rationale, and relevance of the results to the concept and previous research. Thus, the results of this study are expected to provide a comprehensive overview of the process and quality of the developed product.

Analysis Aspects

Analysis Of Publics Demand

Eva Bridal in December 2024, it was found that public interest in party dresses and wedding gowns is quite high. Consumers tend to choose garments that are not only aesthetically pleasing but also flexible and multifunctional. Most consumers want garments that can be styled in more than one way, making them more practical and efficient. Developments in the modern fashion industry also indicate a shift in public demand toward more innovative and adaptable clothing.³⁵ Clothing no longer serves merely as a covering for the body but also as a form of self-expression and visual identity.³⁶ This trend indicates that the demand for transformable clothing designs is on the rise.

The results of the needs analysis indicate that the transformation dress has the potential to be developed as an innovative garment because it offers a variety of looks within a single product. This concept aligns with the views of Ansari and Rane, who state that transformable clothing enhances the efficiency of garment use through modular and detachable systems.³⁷

Analysis of Ocean Wave Inspiration

The source of ideas in this study comes from ocean waves, which possess visual characteristics such as rhythm, flow, and layering. Ocean waves were chosen because they have dynamic, flexible, and aesthetic forms, making them suitable for application in transformable dress design.³⁸ The flow characteristic of ocean waves is applied through the development of an A-line silhouette and the use of draping fabrics that follow the body's contours. The layering characteristic is realized through stacked pleats on the skirt and bustier. Meanwhile, the rhythm of the waves is applied through the repetition of curved lines in the garment's decorative details.

The analysis results indicate that ocean wave inspiration can provide a strong visual identity to fashion products. The use of natural elements in fashion design is also considered capable of enhancing the artistic value of the product, resulting in a more innovative and modern appearance.

Design Aspects

The design was developed based on the results of a needs analysis, which indicated that the garments required not only aesthetic value but also functional flexibility. The concept developed is a transformation dress inspired by ocean waves, expressed through the silhouette, pleated details, and decorative accents that mimic the dynamics of waves.

Design Presentation

The design showcases the initial concept of a transformation dress inspired by ocean waves. This design features an A-line silhouette with layering details and decorative accents resembling waves. The bustier section is tailored to the body's contours to create an elegant look, while the skirt is designed to be wider to produce a flowing effect reminiscent of ocean waves. Pleats and curved lines are highlighted as focal points of the garment.

³⁵ Ong, Ardivin Kester S., Maria Arielle Cleofas, Yogi Tri Prasetyo, Thanatorn Chuenyindee, Michael Nayat Young, John Francis T. Diaz, Reny Nadlifatin, and Anak Agung Ngurah Perwira Redi. "Consumer Behavior in Clothing Industry and Its Relationship with Open Innovation Dynamics during the COVID-19 Pandemic." *Journal of Open Innovation: Technology, Market, and Complexity* 7, no. 4 (December 2021): 211. <https://doi.org/10.3390/joitmc7040211>.

³⁶ withdraw, withdraw. "Withdraw." *Lecture Notes in Education Psychology and Public Media* 127, no. 1 (October 2025): 45–49. <https://doi.org/10.54254/2753-7048/2025.NE27647>.

³⁷ Anika Ansari, and Abhay Sharma. "Modular and Transformable Clothing." *International Journal of Home Science* 11, no. 1 (January 2025): 603–9. <https://doi.org/10.22271/23957476.2025.v11.i1h.1832>.

³⁸ Zhang, Yu, and Liyao Wang. *FROM MARINE DEBRIS TO DIGITAL FASHION: RESEARCH AND PRACTICE IN SUSTAINABLE INTERACTIVE DESIGN BASED ON HUMAN-CENTERED INTELLIGENCE*. n.d.

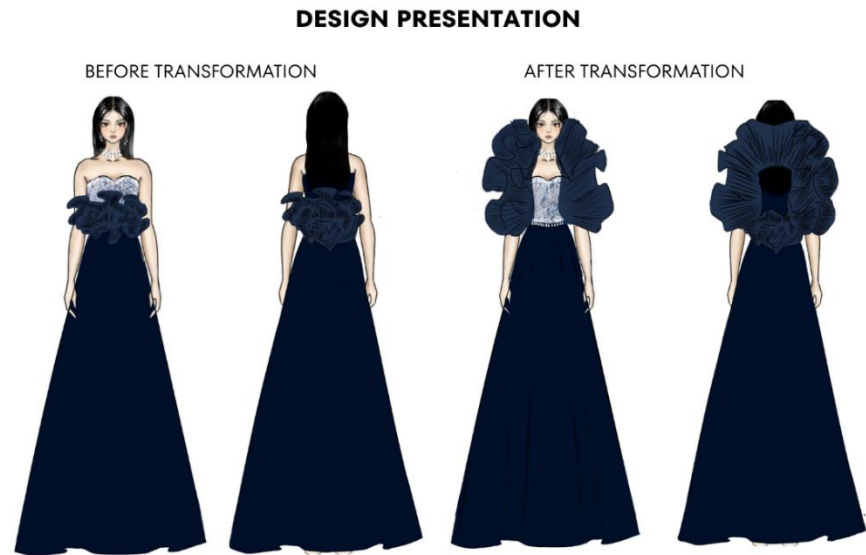


Figure 3. Design Presentation

The design outcome demonstrates that the visual character of ocean waves has been successfully incorporated through the garment's form, silhouette, and decorative details. This aligns with design theory, which states that exploring natural forms can produce artistic and innovative fashion pieces.³⁹

Production Design 1

Production Design 1 is a development of the initial design that focuses on the application of transformational features. At this stage, detachable elements are incorporated to create two distinct looks from a single garment. The detachable system is positioned at the waist so that it can be removed and reused as a neck accessory. This concept aims to enhance the garment's versatility.



Figure 4. Design Production 1

The design results show that the transformation concept can be applied without compromising the design's aesthetic value. The visual changes retain the visual character of ocean waves, ensuring that the design's identity remains intact.

Design Production 2

³⁹ Barnard, Malcolm. *Fashion as Communication*. Routledge, 1996.

Design Production 2 is the design refinement stage, involving the addition of sizing details and garment construction. In this stage, the details of the bustier, skirt, pleats, and closure system were developed. The skirt was made wider to achieve a more pronounced flow effect. Additionally, the use of straps on the back is intended to facilitate the garment's wear.



Figure 5. Design Production 2

The design results show that the garment's structure has become more proportional and functional. The development of construction details also helps improve the garment's comfort and performance when worn.⁴⁰

Development Aspects

Pattern-making

The initial stage of product development involves creating patterns based on the designed blueprint. Pattern creation uses individual measurements to tailor the bustier and A-line skirt shapes to the design. Patterns are created with consideration for body proportions, comfort, and the garment's transformability. Pattern accuracy is a critical factor as it directly impacts the final product.⁴¹

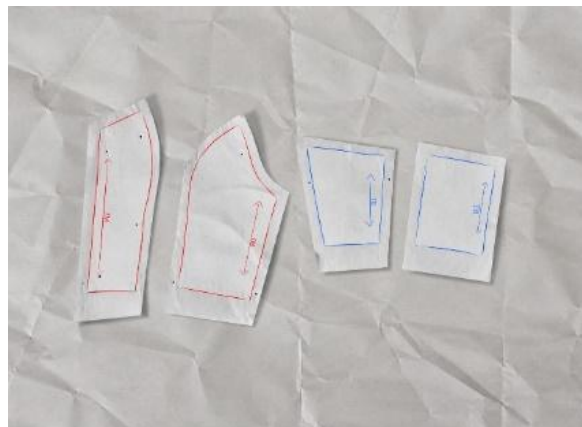


Figure 6. Pattern-making process

Fabric Cutting

Once the patterns are complete, the next step is fabric cutting. Cutting is performed on the main fabric and complementary fabrics according to the prepared patterns. The main fabrics used in creating this garment are bridal satin and Kencana Padjajaran batik. The complementary fabrics include plisket, kufner, and asahi fabrics. The cutting process is carried out carefully to ensure

⁴⁰ Keiser, Sandra J. ..., Deborah A. ... Vandermar, and Myrna B. ... Garner. *Beyond Design : The Synergy of Apparel Product Development*. Fairchild Books, Bloomsbury Publishing Inc., 2022.

⁴¹ Joseph-Armstrong, Helen. *Patternmaking for Fashion Design*. Pearson Education Limited, 2014.

dimensional accuracy and material efficiency.⁴²



Figure 7. The process of cutting the main fabric

Sewing Process

The sewing stage involves assembling the main components of the garment, such as the bustier, skirt, and detachable details. Additionally, zippers and pleated details are attached as decorative elements. The sewing process is carried out in stages to ensure the quality of the finished garment. Neat and sturdy sewing techniques are essential to ensure the garment is comfortable to wear and has good durability.



Figure 8. The sewing process

Final Product

The final stage involves creating the transformation dress in accordance with the designed concept. The garment features two distinct looks through a detachable system incorporated into the design. The final result demonstrates that the visual motif of ocean waves has been successfully captured through the silhouette, layering details, and the flowing effect of the skirt. Additionally, the transformation mechanism functions effectively, ensuring the garment possesses both aesthetic and functional value.⁴³

⁴² Rissanen, Timo., and Holly. McQuillan. *Zero Waste Fashion Design*. Fairchild Books, 2020.

⁴³ TROCHIM, WILLIAM M. ... *RESEARCH METHODS : The Essential Knowledge Base*. CENGAGE INDIA, 2023.



Figure 9. Final product

Implementation

The implementation phase involved showcasing the transformable clothing designs in a real-world setting through a fashion show held at Semarang State University. During the event, the garments were presented on stage by models as part of the show, allowing the public and the audience to observe and evaluate the products firsthand. The implementation focused on applying the transformable function through a detachable system that enables changes in the garment's appearance within a single product.



Figure 10. Implementation of the dress transformation

The results of the implementation show that the garment successfully conveys the visual character of the ocean waves concept, as evidenced by its flowing silhouette, layered details, and the use of materials that enhance the flowing effect. The transformation system functions effectively, allowing for practical changes in appearance without compromising the design's aesthetic value. Additionally, the garment demonstrates comfort when worn, good shape stability on stage, and ease during the transformation process, so that overall the product can be effectively applied and receives direct feedback from the public.

Evaluation

The evaluation stage was conducted to determine the level of feasibility of the transformation dress product based on the panelists' assessments. The evaluation was carried out by three designers and ten fashion design students using a dichotomous scale questionnaire covering aspects of design, sizing, sewing techniques, aesthetics, performance, and additional features. Each indicator has several sub-indicators used to assess the product's quality comprehensively.

Table 2. Results of the Feasibility Test for the Transformation Dress Product

Evaluation Criteria	Percentage (%)	Criteria
Design	91%	highly feasible
Size	89%	highly feasible
Sewing Technique	92%	highly feasible
Aesthetics	92%	highly feasible
Garment Performance	94%	highly feasible
Additional Features	94%	highly feasible
Overall Average	92%	highly feasible

Source: Research data

Based on the data in Table 2, the feasibility test results show that the transformation dress achieved an average score of 92%, falling into the "Highly Feasible" category. These results indicate that the developed product meets feasibility standards in terms of visual appeal, construction, and functionality.

Design

The design indicator received a score of 91% (highly satisfactory). The selection of colors, silhouettes, proportions, and decorative details inspired by ocean waves was deemed capable of creating a harmonious and innovative look. This aligns with research indicating that design plays a crucial role in determining the visual appeal of apparel products.⁴⁴

Size

The sizing indicator received a score of 89%, categorized as highly acceptable. Although it falls into the highly acceptable category, the sizing indicator had the lowest score compared to the other indicators. This result aligns with previous research by Choirina, which also showed that the sizing indicator received a lower score than other aspects in fashion product feasibility testing, as it relates to pattern accuracy and fit with the user's body, which varies in shape.⁴⁵

Based on feedback from the panelists, the necessary improvement is to pay closer attention to the accuracy of measurements so that the patterns created better align with the design and the model's body shape, resulting in garments that are more proportional and comfortable to wear. This finding is supported by research stating that measurement accuracy and form balance are critical factors in determining the quality and comfort of apparel products.⁴⁶

Sewing Technique

The sewing technique indicator achieved a score of 92% in the "very satisfactory" category. This assessment indicates that the quality of the stitching, the strength of the seams, the attachment of straps, and the garment's finishing were deemed neat and well-executed. The neatness of the stitching and finishing are critical factors in producing high-quality garments. Research by Agiafrisca shows that proper construction techniques and sewing processes can produce garments with good quality

⁴⁴ Putri, Puja Rahmatika Lingga, and Adhi Kusumastuti. "Analysis of Characteristics and Feasibility Test of 'Swara Kretek' Costumes: Manifestation and Aesthetics of Kudus Kretek Dance." *Journal of Creativity Student* 9, no. 1 (January 2026): 71–82. <https://doi.org/10.15294/jcs.v9i1.41572>.

⁴⁵ Choirina, Rofiatul, and Adhi Kusumastuti. "Baskara Fashion Design Inspired by Kretek Dance from Kudus with Neo-Eco Theme and Woven Elements." *Journal of Creativity Student* 9, no. 1 (January 2026): 83–96. <https://doi.org/10.15294/jcs.v9i1.41481>.

⁴⁶ Aini, Intan nur, and Rina Rachmawati. "Fashion Students' Perception of QR Code Innovation in Argenta Nala Fashion Design." *Journal of Creativity Student* 9, no. 1 (January 2026): 123–33. <https://doi.org/10.15294/jcs.v9i1.41902>.

and optimal shape stability.⁴⁷

Aesthetics

The aesthetics indicator scored 92% in the “very satisfactory” category, indicating that the combination of design elements, fabric textures, pleating details, and ornamentation successfully created an appealing visual unity. This demonstrates that the exploration of form and decorative details successfully enhances the garment’s appeal, aligning with research indicating that design innovation and the development of visual elements can elevate a product’s aesthetic value.⁴⁸

Garment Performance

The garment performance indicator achieved a score of 94% in the “very satisfactory” category. This indicates that the garment offers good comfort, shape stability, and ease of transformation. The detachable system also functions optimally, allowing for practical changes in appearance. The high score on this indicator indicates that the transformation function operates effectively without compromising user comfort, consistent with previous research findings that garment performance is determined by comfort, ease of use, and functional suitability.⁴⁹

Additional Features

The additional features indicator achieved a percentage of 94% in the “very satisfactory” category, indicating that the product demonstrates a high level of creativity and innovation through the application of the “transformation dress” concept inspired by ocean waves. The exploration of form, details, and additional functions is deemed capable of creating a strong and distinctive design identity. This aligns with research stating that design creativity and the application of innovative techniques can enhance the added value and appeal of fashion products.⁵⁰

Based on these evaluation results, the transformation dress was deemed highly suitable and has potential as an innovative multifunctional garment. However, improvements are still needed, particularly regarding sizing, the precision of details, and the consistency of the finish. Refining the pattern, achieving balanced drape, and improving sewing techniques are expected to optimally enhance the product’s quality—in terms of aesthetics, functionality, and user comfort.

CONCLUSION

Penelitian This study successfully developed a transformation dress inspired by ocean waves that was deemed highly feasible based on the panelists’ assessment. These results indicate that the concept of transformation can be effectively applied to clothing while maintaining comfort, aesthetics, and functionality. The resulting product has the potential to be developed as innovative and multifunctional apparel that meets the needs of modern users.

The application of transformable design in apparel can serve as an alternative for developing fashion products that are more efficient and adaptable to various occasions. Therefore, it is recommended that future developers pay closer attention to sizing accuracy and explore new techniques and materials to further optimize product quality and enable broader application within the fashion industry.

⁴⁷ Agniafrisca, Nabila Keysha, and Musdalifah Musdalifah. “Feasibility of ‘Tirta Ardana’ Sea-Themed Collection: Adapting 18th Century Corsets into Contemporary Bustier.” *Journal of Creativity Student* 9, no. 1 (January 2026): 109–22. <https://doi.org/10.15294/jcs.v9i1.41544>.

⁴⁸ Jannah, Frida Miftaql, and Maria Krisnawati. “Fashion Innovation Feasibility Study Celestique Transformabel For Stage Performance App in the Creative Industry.” *Journal of Creativity Student* 9, no. 1 (January 2026): 155–66. <https://doi.org/10.15294/jcs.v9i1.41897>.

⁴⁹ Putri, Syifa Nurhaliza, and Sri Endah Wahyuningsih. “Garment Quality of Biodegradable ‘Lydia Zois’ as an Application of Neo-Eco and Sustainable Fashion.” *Journal of Creativity Student* 9, no. 1 (January 2026): 97–108. <https://doi.org/10.15294/jcs.v9i1.41800>.

⁵⁰ Widyaasih, Dyah Ayu Nimas, and Wulansari Prasetyaningtyas. “The Feasibility of Ready-to-Wear Clothing with Bamboo Tree Ideas Source Using Weaving Techniques.” *Journal of Creativity Student* 9, no. 1 (January 2026): 167–76. <https://doi.org/10.15294/jcs.v9i1.42324>.

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AUTHOR(S) BIOGRAPHY

Naswa Izzah Salsabilla is a student in the Fashion Design Education Study Program at Semarang State University who is interested in fashion design and textile crafts. Her work titled "*Gelombang Jiwa*" was showcased in the Gelar Karya exhibition.

Irmayanti is a lecturer at Universitas Negeri Semarang with a strong educational background and experience in the field of fashion design education. Currently, she teaches various courses related to fashion design education at the Faculty of Engineering, Universitas Negeri Semarang. His courses cover various aspects of fashion science, from theory to practical applications, and are in line with the latest developments and needs of vocational fashion education. For academic purposes or research collaboration, she can be contacted via email at irmayanti@mail.unnes.ac.id.