TEKNOBUGA Vol. 14 No.2 (2026)

p-ISSN 2085 4056
e-ISSN 2528 7087

JURNAL TEKNOLOGI BUSANA DAN BOGA

https://journal.unnes.ac.id/journals/teknobuga/index

Exploring Mixed Materials in Creating Peony Flower Embellishments on Party Dress

Audina Nur Saffanah* and Mandhe Sekar Nurindah

Fashion Design Education, Faculty of Engineering and Industrial Education, Universitas Pendidikan Indonesia
*Corresponding author: saffaaudina@gmail.com

ABSTRACT - This research explores the use of mixed materials in creating Peony flower embellishments for party wear using the Double Diamond Model (discover, define, develop, deliver). The Peony's layered and wavy morphology is translated through combinations of satin, chiffon, organza, tulle, and cotton, applying cutting, burning, and layering techniques to achieve dimensional effects. The results show that the combination of satin and organza with full petal patterns and the combination of cotton and chiffon with intersecting petal patterns most effectively represent Peony characteristics, while sequins enhance visual value. This study contributes a practical framework for translating complex floral forms through specific fabric combinations and material manipulation techniques. The findings suggest that this mixed material approach can support the development of more innovative and aesthetically refined party wear.

Keywords: Mixed material, Peony flower, embellishments, party wear.

INTRODUCTION

Textiles are a basic human need that continue to evolve alongside technological advances and innovations in the fashion industry (Pandansari et al., 2022). In the fashion design process, fabric plays a fundamental role as a medium of creative expression, offering various possibilities in terms of texture, colour, and structure (Burns, 2022). These developments create opportunities for designers to explore materials and develop innovative fashion products (Chen, 2024). One approach is the mixed material method, which involves combining two or more types of materials to produce rich visual effects, textures, and dimensions (Alipa & Arumsari, 2019). Mixed materials utilize various objects, including textiles, to create texture and dimension in the product. (Pernanda & Siagian, 2020). This approach is closely related to the concept of mixed media, which allows designers to combine different materials and techniques in a single work to produce unique and innovative outcomes (Buami et al., 2021). Previous studies have demonstrated the potential of material exploration in creating texture and dimension, particularly through fabric-based floral modules (Alipa & Arumsari, 2019).

In the fashion industry, embellishment is a decorative technique that adds aesthetic value and function to clothing through various elements such as embroidery, beads, and fabric flowers (Rahayu & Siagian, 2022). It is defined as an ornamental technique applied to textile surfaces using various external materials to enhance visual appeal and aesthetic value (Nursyifa & Nurlita, 2021). One popular form of embellishment is the use of fabric flowers. Research (Treadhani et al., 2023) reveals that sequin products dominate the current embellishment market. Therefore, this study expands the exploration by using fabric materials, such as organza, chiffon, tulle, and satin, to create textures and dimensions that resemble the shape of real flowers using mixed material methods. Decoration or embellishment in fashion aims to enhance the aesthetic value of garments by adding elements such as texture, pattern, and visual interest (Afriliah & Ruhidawati, 2025).

This study focuses on peony flowers as a source of inspiration for embellishment design. Known as "king of flowers," peonies are characterized by their large, layered, and wavy petals, making them suitable for design that emphasize luxury and elegance (Zhang et al., 2018). The characteristics of *Paeonia ostii*, in particular, present strong visual potential for translation into three-dimensional textile forms. The application of three-dimensional elements on textile surfaces contributes to the visual appearance and enhances the overall aesthetic value of the design (Buami et al., 2021).

A party is a formal social event where clothing plays an essential role, particularly party wear that reflects elegance and exclusivity (Fernandi & Ruhidawati, 2021). Party wear refers to garments designed for formal occasions such as weddings or gala dinners, characterized by refined design and high quality materials (Rizkiya et al., 2022). In this context, embellishment plays a crucial role in strengthening the aesthetic identity of the garment. Integrating peony-inspired embellishment into party wear design offers the potential to create garments that are not only functional but also visually expressive.

However, previous studies have primarily highlighted the potential of material exploration and embellishment techniques, particularly in creating texture and dimension, without specifically addressing how mix-material approaches can be applied to develop fabric-based floral embellishments that represent natural forms. In addition, although sequin-based embellishments dominate current trends, limited research has explored the use of fabric materials to create three-dimensional floral forms with greater textural and visual complexity. Therefore, this study aims to explore the use of mixed materials in developing fabric-based Peony inspired embellishment for party wear, with a focus on translating natural floral characteristics into three-dimensional textile forms.

METHOD

This study uses the Double Diamond Model, a method developed by the Design Council UK. This method is widely applied in various creative industries, including fashion design, because it offers a systematic approach to producing innovative solutions through the application of design thinking (Jauhari & Prayudi, 2023). This model divides the creative process into four stages: Discover, Define, Develop, and Deliver (Indarti, 2020). A detailed explanation of the application of this method in the research is a follow:

Discover: this stage focuses on the process of exploration and information gathering as the basis for idea development in the next stage (Diwanti & Yulistiana, 2023). The author conducted research based on the broad theme of "Nature and Mythical Creatures," which then focused on peony flowers as the primary source of ideas. The author collected data through a literature review to understand the characteristics of peony flowers and explore mixed material methods in making peony flower embellishments.

Define: this stage aims to identify design priorities based on information gathered in the discover stage (Nur Rohma, 2022). The author determines the mixed material exploration method to be used and the technique for creating peony flower embellishment, and conducts the initial development of a party dress design that integrates these embellishment elements. The focus is on compiling design guidelines to facilitate the next stage.

Develop: This stage of the design process involves conducting trials or experiments to create prototypes (Diwanti & Yulistiana, 2023). The author explores the creation of peony flower embellishment prototypes using various techniques and materials to determine which approach can produce the most suitable product.

Deliver: this stage involves gathering suggestions and feedback, selecting and approving prototypes, and finalizing the product (Indarti, 2020). The author gathered feedback from experts on the design and application of peony flower embellishment on party dresses. The suggestions provided were used to refine the final product. Once completed, the embellishment is applied as a garnish element on party wear in accordance with the planned design concept.

RESULTS AND DISCUSSION

Discover

The discover phase in the first diamond focuses on gaining a deep understanding of the problem. This stage emphasizes observation, exploration, and interaction to uncover insights that form the foundation of the design process (Felia Sri Indriyani et al., 2023). According to Diwanti and Yulistiana (2023), sources of ideas are a crucial element in realizing a work, as design concepts are key to creating effective products. Peony flowers were chosen as a source of inspiration due to their distinctive aesthetic characteristic, particularly their large, densely layered, and wavy petals,

which create a sense of volume, softness, and visual richness. These qualities convey an impression of luxury and elegance, making peonies highly suitable for party wear design, where expressive and visually striking elements are essential. In addition, the complex petal structure offers strong potential for three-dimensional interpretation and material exploration compared to simpler floral forms. This uniqueness was interpreted into a three-dimensional, fabric-based embellishment using mixed material methods.

As in the research conducted by (Alipa & Arumsari, 2019) which developed flower modules from scrap fabric using mixed materials techniques, this shows the great potential of material exploration in creating texture and dimension.

This research builds upon these findings by incorporating peony flower embellishments as party dress accessories. The first step was to create a mood board as a means of visualizing the concept and inspiration. According to Suciati (2009), a mood board is a medium containing a collection of images, colours, and other visual elements that can provide a designer with ideas for creating a work.

FIGURE 1. Mood board.

FIGURE 1 illustrates a mood board that features fashion models and peony flowers as its primary sources of inspiration. In this mood board, peony flowers are interpreted as fabric flower embellishments. Additionally, this mood board features fabric type selections and colour palettes that will be incorporated into the party dress design.

Define

This stage aims to refine the understanding gained from the explorations in the discovery stage and establish the design goals to be achieved. (Jauhari & Prayudi, 2023). The author developed exploration and development techniques for party dress design by creating peony flower embellishments. The techniques used included cutting fabric according to patterns, burning the edges of the fabric, and layering. (Pernanda & Siagian, 2020).

In this exploration, two different peony flower patterns were used as comparative materials to determine the embellishment that best suited the visual representations of the peony flower. Research (Treadhani et al., 2023) revealed that the current embellishment market is dominated by product s featuring sequins. Therefore, this study expands the explorations by using fabric materials, such as organza, chiffon, cotton, tulle, and satin, which were selected based on their unique characteristics, such as transparency, texture, and material strength. Through the mixed material method, the combination of two types of fabric in one embellishment is expected to present a visual dimension that more realistically and artistically resembles the shape of peony flower.

The party dress design in Figure 2 features a strapless midi dress with a slit on the right side of the skirt, allowing for freedom of movement, and princess lines to create a slimming effect on the body. The dress is complemented by a satin and tulle cape with ruffle embellishments at the bottom, giving it an elegant look while adding volume and dynamism to the outfit. Peony flower embellishment are applied with a scattered decorative pattern on the front of the dress (from the chest to the hips) and the back of the cape, in line with the characteristic of peony flowers, which are arranged randomly without a regular pattern, giving a dynamic and natural impressions. This stage ensures that the

costume design reflects the aesthetics of peony flowers while fulfilling the artistic function in accordance with the research theme.

FIGURE 2. Party dress design.

Develop

Development is the stage where prototypes are developed, tested, reviewed, and refined (Angela & Indarti, 2023). At this stage, the author explored the creation of peony flower embellishment using a mixed material method. There are three techniques used in the creation of embellishment: 1. Cutting the fabric according to the flower pattern template), 2. Burning the edges of the fabric, and 3. Layering (stacking 12 flower petals consisting of 2 different types of fabric and sewing them by hand). The first exploration utilized a full-flower petal pattern template with three circle sizes: 10 cm, 7cm, and 3 cm, which were combined to form a peony flower embellishment. The following is an image of the first flower pattern template.

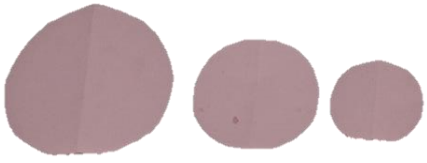


FIGURE 3. Peony flower full petal pattern print.

The second exploration utilized a flower petal pattern template with two petal sizes: 5 cm and 3 cm, which were combined to form a peony flower embellishment. The following is an image of the second flower pattern template.

FIGURE 4. Peony flower sliced petal pattern print.

TABLE 1. The results of cutting technique exploration in the process of making peony flower embellishments.

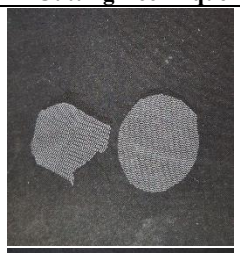
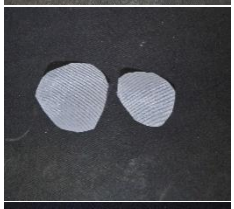
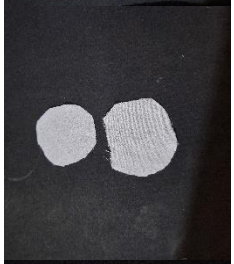
Type of Fabric	Full Flower Petal Pattern Cutting Technique	Sliced Flower Petal Pattern Cutting Technique	Analysis
Tile fabric			Cutting tulle fabric with scissors is relatively easy, but the material is very slippery and can be cut in large quantities. The cut edges do not fray.
Organza fabric			Cutting organza fabric with scissors is relatively easy, but the material tends to shift and is slippery. The cut edges fray, but the result is fairly neat.
Satin fabric			Cutting satin fabric with scissors is easy, but it cannot be cut in large quantities at once. The fabric slightly frays after being cut.
Chiffon fabric			Cutting chiffon fabric with scissors is slightly tricky because the material is very slippery and drapes easily. The cut edges fray slightly, but it can be cut in large quantities.
Cotton fabric			Cutting cotton fabric with scissors is relatively easy, but it is not suitable for cutting large quantities. The cut edges fray easily.

TABLE 2. The results of hot textile technique exploration in the process of making peony flower embellishments.

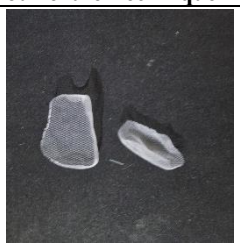
Type of Fabric	Full Flower Petal Pattern Hot Textile Technique	Sliced Flower Petal Pattern Hot Textile Technique	Analysis
Tile fabric			Burning tulle fabric with fire causes the material to shrink, but does not leave any residue.
Organza fabric			Burning organza fabric with fire causes the material to slightly shrink and become wavy, with the edges slightly darkened and showing traces of burnt residue.
Satin fabric			Burning satin fabric with fire causes the material to shrink slightly and become wavy, with the edges darkened and showing traces of burnt residue.
Chiffon fabric			Burning chiffon fabric with fire causes the material to shrink and become wavy, but the edges do not darken.
Cotton fabric			Burning cotton fabric with fire causes the material to become wavy, with the edges darkening. It burns easily and leaves noticeable burnt residue.

TABLE 3. The Results of layering technique exploration using the mixed material method in the process of making peony flower embellishments.

Mixed Material	Full Flower Petal Pattern Layering Technique	Sliced Flower Petal Pattern Layering Technique	Analysis
Chiffon and satin fabric			The combination of the two fabrics yields flower petals that appear full and dimensional, but are not very sturdy and feel soft to the touch.
Tulle and cotton fabric			The combination of the two fabrics yields flower petals with increased volume and varied textures, but dark lines remain from the burning process.
Organza and satin fabric			The combination of the two fabrics results in flower petals with greater volume, beautiful waves, sturdiness, and more vibrant colors.
Tulle and organza fabric			The combination of the two fabrics yields flower petals with varied textures, where the white color appears faded, yet the petals appear voluminous.
Chiffon and organza fabric			The combination of the two fabrics yields flower petals with slight volume, a faded white color, and wavy shapes that appear dimensional.
Cotton and chiffon fabric			The combination of the two fabrics results in flower petals that appear soft, with less volume, lacking sturdiness, and showing burnt edges.

TABLE 4. The results of embellishment decoration technique exploration in the process of making peony flower embellishments.

Decorating Technique	Exploration Result	Analysis
Sequin Technique		The use of cascading sand bead arrangements in the center creates new textures and forms in the embellishment.
Coloring Technique Using Textile Paint		The use of textile paint in the center of the flower adds a vibrant color that aligns with the characteristic appearance of a peony flower.

Deliver

The deliver stage involves evaluating the peony flower embellishment prototype and providing suggestions for its application on party dresses. The evaluation was conducted by Mrs. Mandhe Sekar Nurindah, M.Ds., a lecturer in Fashion Design Education at Universitas Pendidikan Indonesia, as an expert in the field. The assessment was based on several criteria, including aesthetic quality, the accuracy of form representation, texture and dimensionality, material compatibility, and overall design harmony. The data obtained from the evaluation were analyzed descriptively to interpret the effectiveness of each prototype in representing the characteristics of peony flowers.

The evaluation results indicate that the combination of satin and organza fabrics with full-petal patterns most effectively represents the visual characteristics of peony flowers. This is due to the smooth and lustrous surface of satin, which reflects light and enhances the impression of elegance, combined with the transparency of organza that creates a layered and voluminous effect, resembling the natural structure of peony petals. To introduce variation in texture and dimension, sliced petal forms using a combination of cotton and chiffon were also selected. This combination produces a unique and artistic aesthetic effect, particularly through the burnt-edge technique, which creates wavy and irregular contours that emphasize the organic and dynamic nature of peony petals while adding volume. This finding is supported by (Pernanda & Siagian, 2020), who demonstrate that combining organza with materials such as cotton and satin can produce a subtle and elegant visual dimension.

This translation of peony characteristics into textile form reflects an effort to reinterpret the flower's morphology into a three-dimensional embellishment. The layered construction mimics the fullness of peony blooms, while the variation in materials and techniques enhances depth and visual complexity. The use of mixed materials not only serves a technical function but also conveys an aesthetic meaning associated with softness, luxury, and femininity, which aligns with the conceptual direction of party wear.

In addition, the application of sequin applique at the center of the flower enhances the focal point of the embellishment. Variations such as stem-shaped or pearl sequins contribute to dimensional emphasis and reinforce the elegant impression. This combination of techniques demonstrate how embellishment elements can be strategically integrated to balance visual richness and design cohesion.

Based on the evaluation, the selected embellishment design applied to party wear consist of combination of satin-organza full petal forms and cotton-chiffon sliced petal forms. These two prototypes are applied simultaneously to create variation in size, texture, and dimension, resulting in more dynamic and visually engaging composition. This approach supports previous findings that mixed-material techniques can produce unique aesthetic effects in fashion design (Karima & Arumsari, 2019).

FIGURE 5. Party dress results.

CONCLUSION

This study successfully explored mixed-methods approaches in creating peony flower embellishments for a party dress using the Double Diamond Model. The characteristics of peony petals, which are large, layered, and wavy, were represented through a combination of satin and organza materials with a full petal pattern, as well as a combination of cotton and chiffon fabrics with an intersecting petal pattern. Expert evaluation recommended combining these two prototypes to create variations in dimension and texture, resulting in a more dynamic and visually engaging design. The addition of sequin embellishments further enhanced the aesthetic value and strengthened the overall visual composition. These findings demonstrate that the mixed-material approach can innovatively enhance the aesthetic and artistic quality of party wear.

This study contributes a practical material-based framework for translating complex floral morphology into three-dimensional textile embellishments through specific fabric combinations and manipulation techniques. Practically, the findings offer guidance for fashion designers in developing innovative embellishment designs that enhance visual richness, texture, and dimensionality in formal wear

Despite these findings, this study has several limitations. The evaluation was conducted by a single expert, which may limit the generalizability of the results and introduce subjectivity in the assessment. In addition, the study employed a qualitative descriptive approach without a structured evaluation instrument. However, the use of expert judgment provides in-depth insights into design quality and supports the validity of the findings within the context of exploratory design research.

Therefore, future studies are recommended to involve a larger number of evaluators and incorporate structured assessment instruments to enhance reliability. Further research may also explore a wider range of materials and techniques or apply the mixed material approach to different types of garments to expand its application in fashion design.

REFERENCES

Afriliah, R., & Ruhidawati, C. (2025). Application of Ribbon Quilling Sakura Flower Embellishment on Daytime Party Dress as a Center of Interest. *TEKNOBUGA: Jurnal Teknologi Busana dan Boga*, *13*(2), 99–107. https://doi.org/10.15294/teknobuga.v13i2.32493

Alipa, D., & Arumsari, A. (2019). Eksplorasi Teknik Mix Media Dengan Bahan Utama Kain Perca Sebagai Aplikasi Imbuh Untuk Produk Fashion Exploration of 'Mix Media' Techniques With Perca Fabric Main Materials As Imbuh Applications for Fashion Products. *E-Proceeding of Art & Design*, *6*(2), 1785–1804.

Angela, A., & Indarti, I. (2023). Kuda Laut Sebagai Inspirasi Motif Sablon DTF (Direct Transfer Film) Pada Evening Gown. *Journal of Fashion & Textile Design Unesa*, *4*(1), 67–75.

Buami, K. ., Tsotorvor, K. E., Amankwah, R. M., Howard, A. M., & Seidu, K. E. (2021). Expression of the Ordeals of "kayayie" through Mixed-Media Textile Art. *Arts and Design Studies*, *89*, 7–17. https://doi.org/10.7176/ads/89-02

Burns, A. (2022). Rethinking Fabric: The Application of Fabric Manipulation Techniques in Fashion Design Education. *International Journal of Art and Design Education*, *41*(1), 66–80. https://doi.org/10.1111/jade.12375

Chen, G. (2024). Textile Product Innovative Design: The Practical Exploration of Integrating Fashion with Sustainable Development. *Art and Society*, *3*(6), 18–25. https://doi.org/10.56397/as.2024.12.03

Diwanti, B., & Yulistiana. (2023). Penerapan Modifikasi Circular Flounce Pada Busana Pesta dengan Iinspirasi Bunga Calla Lily. *Journal of Fashion & Textile Design Unesa*, *4*, 76–86.

Felia Sri Indriyani, Dhita Diana Dewi, Asep Sholahuddin, & Akmal. (2023). Implementasi Metode Double Diamond Design pada User Interface Web Penjualan Kerudung untuk Meningkatkan Pengalaman Pengguna (Studi Kasus By. Tyash). *Jurnal RESTIKOM : Riset Teknik Informatika Dan Komputer*, *5*(2), 158–168. https://doi.org/10.52005/restikom.v5i2.162

Fernandi, R. A. R., & Ruhidawati, C. (2021). Penerapan Ruffles Sebagai Manipulating Fabric Pada Busana Pesta. *TEKNOBUGA: Jurnal Teknologi Busana Dan Boga*, *9*(1), 26–32. https://doi.org/10.15294/teknobuga.v9i1.24741

Indarti, I. (2020). Metode Proses Desain dalam Penciptaan Produk Fashion dan Tekstil. *BAJU: Journal of Fashion & Textile Design Unesa*, *1*(2), 128–137. https://doi.org/10.26740/baju.v1n2.p128-137

Jauhari, M. T., & Prayudi, Y. (2023). Implementasi Metode Double Diamond dalam Perancangan Prototipe Aplikasi Sistem ERP Berbasis Website. *AKSELERASI : Jurnal Ilmiah Nasional*, *5*(1), 85–98.

Karima, K., & Arumsari, A. (2019). Pengolahan Limbah Tekstil dengan Teknik Mixed Media untuk Pembuatan Produk Fashion Accessories. *E-Proceeding of Art & Design*, *6*(2), 2145–2151.

Nur Rohma, I. F. (2022). Paria Sebagai Sumber Ide Motif Bordir pada Busana Pesta. *BAJU: Journal of Fashion & Textile Design Unesa*, *3*(1), 30–38. https://doi.org/10.26740/baju.v3n1.p30-38

Nursyifa, S. R., & Nurlita, A. A. (2021). Penerapan Embellishment pada Inovasi Busana Etnik Nusa Tenggara Timur dengan Inspirasi Burung Garugiwa. *TEKNOBUGA: Jurnal Teknologi Busana Dan Boga*, *9*(2), 103–111. https://doi.org/10.15294/teknobuga.v9i2.30047

Pandansari, P., Purwanti, R., & Alfianti, D. (2022). Analysis of Steaming Ecoprint Techniques on Various Fabrics. *Formosa Journal of Social Sciences (FJSS)*, *1*(4), 411–424. https://doi.org/10.55927/fjss.v1i4.2049

Pernanda, S. A., & Siagian, M. C. A. (2020). Pengolahan Mixed Material yang Berpotensi sebagai Embellishment 3D pada Busana. *E-Proceeding of Art & Design*, *7*(2), 3513–3533.

Rahayu, Z. R., & Siagian, M. (2022). Pengolahan Teknik Interlocking Modular Sebagai Embellishment Dengan Inspirasi Bunga Dahlia Pada Workwear. *... of Art & ...*, *9*(3), 1992–2023.

Rizkiya, A., Yulistiana, & Indarti. (2022). Bunga Lavatera Sebagai Sumber Ide Penciptaan Busana Pesta. *Journal of Fashion & Textile Design Unesa BAJU*, *3*, 48–56.

Treadhani, A. A., Siagian, M. C. A., & Febriani, R. (2023). Pengembangan Metode Mixed Material Berbahan Mika PVC dan Kain Organza Sebagai Embellishment 3 Dimensi Pada Busana Wanita. *E-Proceeding of Art & Design*, *10*(3), 4129–4143.

Zhang, K., Yao, L., Zhang, Y., Baskin, J. M., Baskin, C. C., Xiong, Z., & Tao, J. (2018). A review of the seed biology of Paeonia species (Paeoniaceae), with particular reference to dormancy and germination. *Planta*, *0123456789*. https://doi.org/10.1007/s00425-018-3017-4.