

Development of Engineering for the Craft Industry of Women's OuterClothing in Blacu

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Abstract

The engineering development of the outerwear industry is a creative research conducted in the Medan area, Indonesia. This research applies explosives qualitative method in producing new products. Creativity in the development of outerwear craft industry engineering, as follows: 1) Craft industry engineering learning is carried out online in the delivery of theoretical studies; 2) concept map; 3) drawing sketches; 4) motif design and outer clothing; 5) manufacture of women's outerwear; 6) fashion art presentation. Thus the creative activities of the women's outerwear craft industry can be useful for the younger generation in developing knowledge and skills in the field of textile and fashion craft with the hope that the younger generation will be able to become independent entrepreneurs.

Keywords: *Development, industry, craft, outer.*

[1] Development is an activity of designing logical and systematic practical learning in order to determine a learning activity and pay attention to the potential and competence of students.

[2] The development of practical learning is an activity to improve the quality of the craft industry and improve the learning process in terms of material, methods, shape sketches, craft designs, and substitutions. Materially, it means that the aspect of theoretical study is adapted to the development of knowledge that is poured into teaching materials, then methodologically and substantively related to the development of craft industry products in practice with theory.

[3] Shape is referred to as the process of re-creating an image from the results of observing an object that is considered attractive or beautiful on the surface of the image plane. Drawing shapes is part of the drawing activity in which the drawing object is in the form of objects that are drawn objectively, which means that the shape is drawn in accordance with the exact shape or color conditions. So that shape images are a form of ideas embodied in the image field through hand skills by processing points, lines, planes, shapes, colors, textures, and darkness that are designed with the correct proportions, composition, and perspective so as to produce beautiful works of art.

[4] Form means a real form of animate object, but field means an inanimate form. Various types of shapes have a linear quality when directed at the boundaries of the field, but these contours usually have an effect by producing various types of shapes, namely by presenting silhouette colors on the field or space that is fenced off. The presence of a form that has a linear quality with a spatial boundary result. So that you immediately realize that form has a breadth and volume that can be measured, felt, and interpreted in its existence (SP. Gustami, 1991: 28-29).

Thus it can be concluded that drawing shapes is an attempt to express and communicate ideas and feelings in a two-dimensional (dwi dimensional) form with artistic value and to apply elements of line and color to a plane surface (Dr. Cut Kamaril WS).

[5] Industrial engineering is a community of expertise that applies an engineering approach to design, evaluate, and develop productivity in an integrated system of people, materials, equipment, technology, energy, and information. Then the women's fashion craft industry engineering is a group of expertise that applies the women's fashion craft engineering approach to design concepts, evaluate and develop productivity in an interrelated system between consumers or clients, fabric and

thread materials, equipment, sewing machine technology and hand embroidery, and information on ideas and markets achieved. Craft industry engineering is realized to assist in creating jobs and helping to move the wheels of the community's economy.

[6] Women's clothing is a cloth material that is shaped according to its function which is worn by women from head to toe. The grouping of women's clothing into two parts, namely clothing and outer clothing. First, underwear is clothing that directly covers the skin, such as underwear, singlets, corsets, and so on. Second, outerwear. While outer clothing is clothing that is worn over underwear, for example: school clothing, home clothing, sports clothing, and so on. The function of women's clothing is to protect the body from various types of weather, protect against disturbances by animals, such as mosquitoes and ants, as well as add aesthetic value to the human body, and show personal identity in an institution such as: police clothing, nurse clothing, and so on.

[7] Women's clothing is clothing worn by women that shows the feminine side of a woman and can show her advantages by beautifying her appearance and can provide comfort by displaying beauty for the wearer.

[8] The development of shapes and natural objects in the engineering of the women's fashion industry, specifically in outerwear, is an activity carried out in the city of Medan, Indonesia to increase creativity, skills and knowledge in the field of the women's fashion craft industry. Thus the products produced by students are more innovative, creative, and ethnic according to current trends. The knowledge and skills acquired by students in the engineering study of the fashion craft industry are expected to meet the needs of the community in the world of fashion trends, then can provide opportunities for the younger generation to open new jobs in the outer clothing craft industry or textile craft, and the younger generation is expected to be able to work in an industrial environment garments and textiles. So that the young spirit in entrepreneurship continues to grow and is able to help and improve the economy of the family and society today.

Research Method

The research method in this paper entitled "Development of Flora forms and natural objects in the Engineering of the Women's Clothing Industry" is to apply a qualitative exploring method. This method is a method that seeks new inspiration by thinking critically to produce new designs that have never been designed by anyone else. This method produces outer women's clothing crafts using flora ornaments and natural shapes on hand embroidery techniques. The process of activities in the development of engineering learning for the outer women's clothing craft industry, is as follows:

Engineering learning for the outer women's clothing craft industry on zoom media.

Craft industry engineering learning is carried out online in conveying general theory regarding the textile and fashion craft industry, especially outerwear through power point media. Furthermore, the lecturer gives and explains to students to carry out project assignments in stages, namely; 1) explains the process of making concept maps, sketching shapes, to making outerwear products by applying decorative hand embroidery to the surface of clothing materials. Thus lecturers can guide students in practical learning online, without reducing the quality of online learning.

Concept Map

Concept maps are student assignments that are designed based on product creation ideas. So that the concept map designed by the creator explains systematically starting from the background of the creation as an idea, the organizational structure of the craft industry, sketches of shapes, colors, materials, manufacturing processes and techniques, and marketing. Thus the concept map is designed in a structured, systematic, complete, and clear manner that will be realized in the creation of outer women's fashion crafts.

Sketch the shape

Sketches of shapes are made by stylization, which is changing the original shape with new and varied enrichment techniques and decorative, but the authenticity of the object can still be seen. Shape sketches are made freely and creatively based on the creators' ideas. Then a sketch of the shape is

made on the surface of the drawing paper using a 2B pencil medium with a line stroke and hatching technique to produce an innovative and creative two-dimensional shape.

1) Motif design and outer clothing design

The motif design and outer design are designed on corel draw media. Motifs are designed by applying elements of art and design principles. Then the motif design is carried out in four stages, namely the first is making the basic motif, separating the basic colors, making the master design or repeating the shape of the basic motif, and separating the colors on the master motif. Next, make a new outer page women's clothing design using the tools available in Corel Draw. This is briefly the use of corel draw media in the process of creating motif designs and outer clothing designs.

2) Making outerwear for women

The making of outer clothing is carried out in several stages, starting from selecting fabric materials, preparing equipment that supports the product manufacturing process, measuring the body completely, making patterns according to the size of the client's body, making new motifs on the body patterns on the hands and front-facing clothing patterns using hand embroidery techniques. , then the overlock process, the process of sewing the pattern as a whole, and finishing by ironing the clothing product on the inside and outside of the outer garment neatly.

3) Product presentation

Presentations were made using power point media which contained background on creation, ideas, organizational structure and role functions, materials, techniques, processes, product finishing, markets, and image documents. Presentations are made in a systematic, structured, concise, clear, and complete way with the data presented in the process of creating outerwear industry products.

Several stages of activity in designing basic motifs on Corel Draw media are as follows:

1. Outerwear design.

The outer clothing design is made on screen page 6. The steps for making the outer clothing design are as follows: 1) outline the dress or sketch the image using the pen tool with the default black color palette; 2) after making the outline of the clothing, the outer clothing design can be colored according to the creator's wishes by selecting navy blue or white in the default palette simultaneously clicking the left and right mouse buttons. then the color of the outer garment appears blue or white on the part of the garment you want; 3) applying basic motifs to outer clothing by means of; click the pick tool all parts of the basic motif on page 5; press Ctrl C; press Ctrl V on page 6 screen; 4) then reduce the basic motif according to the scale of a certain part of the outer garment; click objects; select PowerClip; click places inside frame; right arrow appears; then click on the arm or the front of the dress; then the motif appears on the surface of the sleeve and the front view of the outer garment. This is the process of applying basic motifs to women's outerwear designs.

After making the basic motif design, then a creative process is carried out based on the principle of rhythm or repetition of the basic motif form to become the master motif, which is as follows:

1. Drawing paper making.

The process of making drawing paper by clicking 1) click file; new; click name: basic motif; click primary color mode: RGB; click width 10 cm; click height 15 cm. 2) Click Ok, then the drawing paper appears according to the size the creator wants on page 1 screen. So the drawing paper measures 10 X 15 cm.

2. Visual black outline.

The border of the basic motif is made on page 1. The border of the basic motif is designed in black. The process for making the basic motif outline is as follows: 1) open the basic motif sketch stored in data D and display the shape sketch placed on page 1; 2) click the pen tool which is used as a guide line in forming the outline of the motif; 3) click the shape tool to form a curved line on the sketch shape and soon for other shapes. So that the image sect is formed into a basic motif that outlines the screen on

page1.

Visual separation of navy blue by block system.

The visual in dark blue with a block system is placed on page 2. Shape the image in navy blue using the following steps: 1) Pick the tool certain parts of the shape that will be colored blue from the outline of the basic motif; 2) click Ctrl C or copy. 3) then go to page 2 screen and press Ctrl V or paste; 4) point the mouse to the default palette section; press the right mouse button, then the outline of the shape is darkblue; 3) Next, press the left mouse on the default part of the palette colored navy blue, then the visual content will be colored navy blue. Thus the separation of the dark blue color form on the basic motif design on screen page 2.

Visual separation of navy blue with a border system.

A navy blue colored visual with a border system is made on the page 3 screen. Making certain visuals blue on the outline of a shape, namely as follows: 1) pick a tool for a certain part of the image shape on page 1 and click Ctrl C or copy; 3) then go to page 3 screen and press Ctrl V or paste. Then a visual imageof a certain part will appear on the paper which will be transformed into a blue outline; 4) select the navy blue color in the default palette and click the right mouse button on the color choice. Then a blue border appears in certain parts of the visual form.

The background is white.

The background of the basic motif is white or you can use other colors according to the creator's concept. The background color is made on page 4. The stages for making the background color are as follows: 1) click the rectangle tool, then draw a line from the top corner of the drawing paper to the bottom corner of the drawing paper. 2) choose white color in the default palette; left mouse click; then the background color appears white.

Basic motif design.

The basic pattern is created on the page 5 screen. The process for making the basic motif is as follows: 1)Click the shape of the outline of the pattern on page 1, press Ctr C, and press Ctrl V. Then the outline of the basic motif appears on page 5. 2) Click pick tool part of a certain shape that will be given a color.Then select the dark blue color in the default palette, then click the right mouse button and click the leftmouse button. Then a motif appears in the form of a navy blue color with a block technique. 3) Next, click the pick tool for a certain shape group that will be colored. Then select the dark blue color in the default palette, then click the right mouse button. So the visual border is navy blue.

Repeating shape on white background separation.

The rhythm in the form of repetition of white background forms is located on page 6. The process of making repetition of white background forms is as follows: 1) pick tool for white background shapes on the motif master; press Ctrl C; press Ctrl V or paste on drawing paper measuring 20X30 cm, then a duplicate of white background shape 1 will appear in the center of the drawing paper; 2) then the duplicate is copied again to form a duplicate of the white background shape 2 and arranged to the right; 3) then press Ctrl V or paste to display a duplicate of the 3 white background shapes arranged on the left. So that in the middle row of the drawing paper there are 3 white background shapes that are neatlyaligned side by side; 4) all three duplicates are in the pick tool; copied or Ctrl C; press Ctrl V; the 4th duplicate is arranged at the top of the middle row of the white background shape parallel and neat; 5) then press Ctrl V or paste to produce a duplicate of the 5th white background shape; then arranged at the bottom of the middle row of white background shapes parallel and neat. Thus, drawing paper measuring 20X30 cm is filled with the rhythm of repeating shapes on a white background, so that it becomes a master design for the outlines of blue motifs.

The creative activities carried out in making hand embroidery motifs that are applied to women's outerwear, are as follows:

1) Make a fashion pattern.

Before making a dress pattern, measure the body starting from the circumference of the body to the length of the arms. After getting the actual body measurements, then make a fashion pattern design that matches the outer clothing design that the creator wants. The equipment used by creators in making fashion patterns is as follows: brown pattern paper, pattern ruler, red and blue pencils, paper scissors, rader, and so on. Outer clothing patterns are divided into 3 groups, namely: front and back body patterns, collar patterns, and hand patterns. The three groups of outer clothing patterns are designed according to the size of the client's body which is done manually or the skill of a creator's hands.

2) The process of embroidering motifs on clothing patterns.

The clothing pattern that has been designed on brown pattern paper is then printed on the surface of the fabric and then the fabric is cut to follow the actual pattern print. Then print the motif or paint the motif on the surface of the fabric using a 2B pencil according to the previous motif design concept. The motifs are designed by applying hand embroidery techniques in collaboration with three stitches, namely: trail stab, chain stitch, and flat stitch. The process of making motifs on the surface of the fabric is done manually, namely with the skill of the creator's hand. So that the resulting decorative motifs are more creative and have good artistic value in women's outerwear.

Finishing process.

After the cloth material is given a motif using hand embroidery techniques, then the edges of the material are overlocked so that the threads on the cloth cannot be separated. Then the fabric pattern design is sewn using a sewing machine to become an outer garment. The final step is the ironing process on the surface of the fabric. So that outer clothing looks neat and comfortable to wear by clients. Outer clothing can be packaged in plastic clothing and branded according to the creator's concept. This is the creative process of making women's outerwear designed by the creator.

Results and Discussion

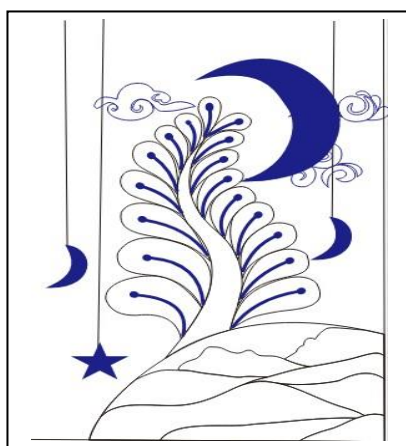


Figure 1. Motif design



Figure 2. Clothing Design



Figure 3. Women's outerwear

Figure 1. Is a stylized motif design in the form of stars, crescent moons, clouds, stylized shallot flowers, and sea waves. The motif is designed on the surface of the calico cloth which is creamy white or ivory white. The motifs are made manually, namely using hand embroidery techniques with the collaboration of several types of stitches, including flat stitches, trace stitches, and chain stitches. Shallot flower stylization has a symbol of human life, where shallot flower plants are useful in preventing cancer. Onion flower plants contain vitamins and minerals that can protect the body from lung cancer, prostate cancer, and can control blood sugar in diabetics. Thus the stylized flora and natural objects motifs are designed based on elements of art and design principles in corel draw media.

Figure 2 is the application of motifs to women's outer clothing designs. The outer clothing design is designed on corel draw media, so that the design results look creative, practical, innovative, efficient and effective in the process of making a new fashion design today. The application of motifs is done on the right hand and left hand which are located between the wrist and the elbow. Then apply the motif on the front of the clothing, namely the motif on the right side of the front of the clothing and the motif on the left side of the front of the clothing. The motif is placed between the upper shoulder and the top of the breast, which is in the form of star stylization, crescent stylization, short and long lines. The colors applied to figure 2 consist of three colors, namely navy blue, black, and ivory white.

Figure 3 is the resulting product, in the form of a women's outerwear made with ivory white cotton linen and navy blue linen cotton on the V-shaped collar line extending to the hips. The decoration applied to the outer garment is a stylized form of shallot flower flora, crescent moon stylization, star stylization, sea wave stylization, and cloud stylization. The decoration is applied with hand embroidery techniques on the surface of the outer garment which is applied to the front of the garment and the front chest of the garment. The clothing motif uses embroidery thread in navy blue, brown, black embroidery thread, and sewing thread in ivory white and navy blue. Outer clothing is combined with black inner clothing, namely blouses and cloth pants. Thus outer clothing looks more lively, innovative, exclusive, and attractive in terms of color and outer design combined with black blouses and pants. So that outer clothing can be worn by adult women aged 20-45 years.

Visual Aesthetic Value Approach

Women's outerwear has an aesthetic value visually, this is formed because of the elements of art and design principles that become a unified whole to create products of artistic value. The design principles that create aesthetic value visually in outerwear are as follows:

First, the principle of balance. In outer clothing, the principle of balance is applied, this can be seen in the shape of the sleeves which are the same, namely the shape of the right arm and the left arm which are in the form of a straight pipe. Then in the outer garment there is a balance of the collar outline that extends to the hips where there are two elongated borders on the right and left. In balance, there are also two groups of the same motive, which are visible on the right front hand and left front hand which are located between the top of the elbow and the wrist. The two groups of motifs are the same: stylized shallot flower plants, stylized crescent moons, stylized stars, sea wave shapes, line geometric shapes, and cloud stylized shapes. Furthermore, the balance is found in the second group of motifs which are located on the right side of the chest and the left side of the front side of the chest. The motifs located on the chest are in the same two groups, namely star stylized shapes, crescent stylized shapes, and line geometric shapes. The balance of the results of this clothing product can be seen from the size and distance of the large and small decorations attached to the outer clothing. Those are the design principles applied to women's outerwear.

Second, the principle of rhythm in outerwear can be seen from the repetition of curved lines, long lines, short lines and diagonal lines. Then the principle of rhythm in outer clothing can be seen from the repetition of the shape of the crescent moon, stars, clouds, stylized sea wave lines, and the repetition of the shape of the shallot flower in the decoration of the women's clothing. The ornaments are placed on the right side of the hand and on the left side of the hand. Meanwhile, the repetition of crescent moon, star, geometric long lines, short lines is placed on the right side of the chest and left front view of the chest. Repetition of form can be seen from the repetition of colors applied to clothing or the decoration on the outer clothing product. In the dress, there is a repetition of the shape of the navy blue color on the V-shaped neckline and the

border for placing the front buttons is also navy blue. As well as the repetition of black, brown and navy blue in the decoration. The repetition of shapes in the outer clothing design can be seen from the size of the decorative shapes applied to the surface of the fabric. Such is the principle of rhythm in the repetition of shapes applied to women's outerwear.

Third, the principle of unity can be seen from the various types of lines, planes, shapes and colors that form a unified whole to produce a new design in women's outerwear. This can be seen from the diversity of shapes or the diversity of types of decoration in a motif applied to the surface of the outer garment, such as the decoration of clouds, flower of the onion, the star moon, geometric lines, and the decoration of the crescent moon. All of these various decorations are composed into a unified whole to produce a unique aesthetic value and artistic value. Besides that, the diversity of types of colors can add value to the perfect unity of aesthetics that has artistic value. The diversity of colors applied to the decoration and outerwear, namely white, navy blue, brown and black. The principle of unity in the outer clothing above can be seen from the diversity of sizes in the form of decoration and the diversity in the size of the distance from one form to another. So it can be concluded that the principle of unity will have artistic value, if in a design work various types of shapes and colors are applied to a unified whole in a new design work. Thus the work of art has a functional value and has a good aesthetic value.

Conclusion

The engineering development of the outerwear industry in decorative flora and natural objects is a research of creativity in creating a product for the women's clothing craft industry in the Medan-Indonesia environment. The research method applied in this study is an explosive qualitative method. This method seeks new inspiration to produce new designs that have never been designed by anyone else. The process of developing engineering learning activities for the outerwear craft industry for women, as follows: 1) engineering learning for the outerwear craft industry is carried out online or zoom cloud meetings in craft industry material; 2) students are able to make concept maps in the creation of outerwear craft industry; 3) make a drawing sketch; 4) students are able to make motif designs and outer clothing designs; 5) manufacture of women's outerwear; and 5) product presentations from the results of the outerwear craft industry.

Furthermore, creative activities are carried out to design basic motifs on coreldraw media, which are as follows: 1) make drawing paper size 10 X 15 cm; 2) make the visual border black; 3) navy blue visual separation design with block system; 4) navy blue color visual separation design with border system; 5) make the background color white in the default palette; 6) make basic motif designs; 7) design of outerwear with the application of motifs on the surface of the clothing.

The next step is to be creative in women's outerwear, as follows: 1) designing a dress pattern that fits the client's body size on pattern paper; 2) the process of embroidering motifs on the surface of the white calico cloth in the form of pieces of a part of the clothing pattern using hand embroidery techniques. The outer garment uses several embroidery stitches, namely collaboration flat stitches, trail stitching, and chain stitches through the skill of the creator's hands in producing new motifs according to the concept; 4) the finishing process is carried out by cutting the edges of the dress pattern, followed by sewing the dress pattern into an outer garment, and the outer garment is neatly ironed and packaged in plastic.

The aesthetic value approach to women's outerwear can be viewed from the application of artistic elements and the application of design principles, as follows: 1) the principle of balance can be designed based on the layout of decorative patterns that are regularly measured. Then there is a repetition of the same form as the main decoration. Then the balance is obtained from the size of the decoration attached to the outer garment; 2) the principle of rhythm in outer clothing decoration is found in the repetition of elements of curved lines, long and short lines, and diagonal lines. Furthermore, the principle of rhythm is contained in the repetition of decorative forms of shallot flowers, decorative clouds, stars, crescent moons, and decorative sea wave lines. The principle of rhythm in outerwear is found in the repetition of the same form in the design of the hands and the neckline in the shape of the letter V. Then the principle of rhythm is in the repetition of color forms which are applied to the decoration and color of the clothing design. 3) the

principle of unity in outer clothing is found in the diversity of types of lines, areas, shapes, colors, to the diversity of decorations in a motif that forms a unified whole which is composed systematically in women's outer clothing. So that from this diversity produce fashion designs that are aesthetically pleasing, unique, and have good functional value for the needs of today's women. Thus, the creativity of developing industrial engineering in women's outerwear can benefit the younger generation in developing knowledge and skills in the textile and fashion craft industry with the hope that the younger generation will be able to become independent entrepreneurs in creating new jobs in the home industry or boutiques.

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