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Choose clothes shaping elements that fit the basic shapes of the clothes

Pham Thi Huyen*, Doan Thi Thu Thuy
Hanoi University of Industry, Ha Noi, Vietnam

ABSTRACT: *To create clothes with a variety of shapes, we can use a variety of rendering methods. In this study, 5 shaping factors include pleats, darts, assembly seams, ironing and pressing methods, the forming properties of the material, and the coordinating elements. They are considered suitable for the design of three product shapes: fit, medium, and loose. These are the basic elements that make up the shape of the outfit. In the process of designing the template, it is necessary to select individual or combine elements. This contributes to shortening the design time, creating a shape that matches the design idea, and increasing the value of the garment product.*

Keywords: *Shapes of clothes, Create the shape of clothes.*

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I. INTRODUCTION

The clothes have many different shapes and sizes based on different rendering methods. It is possible to render the design on flat paper from the measurements of the human body, and it is also possible to use real fabric to directly pose on the mannequin. Combining both of the above methods involves designing a flat sample as a basis and then adjusting and processing further on the mannequin. Currently, technology is developing, and specialized software such as Chlorine 3D, Optitex, Lectra 3D, and Gerber AccuMark 3 are applied to create samples and test shapes directly on the virtual wearer's 3D model [2] [3].

During the process of using sample design methods, to create shapes for the product such as tight, semi-tight, and straight shapes as shown in Figure 1. Need to choose materials that match the idea. Create more pleats and darts in different spots such as the waist, chest, and buttocks. Then, thanks to different joint lines, bond the layers of material. Thermal and humid machining methods are performed to smooth and flatten the connecting line, creating a shape for the product. Therefore, it is necessary to choose suitable shaping elements for each product design.

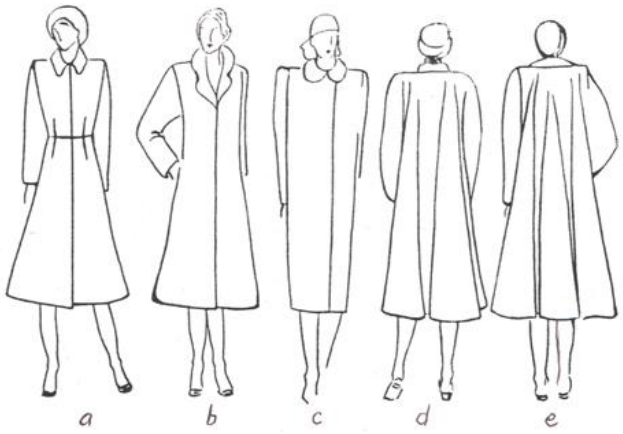

Figure 1. Basics Shape of Clothing [4]
c, d, e. Straight a. Fitted b. Semi-fitted

II. RESEARCH METHODOLOGY

The method of analyzing and synthesizing information is used to overview the elements that create the appropriate shape for the outfit. Important databases in the textile sector searched are Textile Technology Index and World Textiles, google search sites, and Internet Explorer. Published studies are searching for the phrase *Shapes of clothes, Create the shape of clothes*.

Based on the analysis characteristics, clothing design methods. Study the 5 elements that create the shape of clothes: Pleats, darts; seams; ironing and pressing methods; material properties, and combination elements. Thereby, select the elements that create the shape of clothes. These elements are selected and applied to 3 basic clothing shapes including Fitted, Semi-fitted, and Straight.

III. RESULTS AND DISCUSSION

1. **Pleats, Darts**

Pleats: Pleats are folds of fabric created on a seam of a piece to add dimension and shape of clothes.

Darts: Darts is a fold of fabric created on the seam of a part or inside a part and re-sewn to reduce the size and shape of clothes.

Fitted clothing hugs the body's curves from the chest, waist, and hips. Designers need to create more trim inside the details. It reduces the excess fabric size at the waist, chest, and hips of the product when sewing clothes (Figure 2). Darts the chest and waist of the clothes as shown in Figure 5.

Semi-fitted: Semi-fitted clothing is less tight-fitted at the chest, waist, and hips than Fitted clothing. It is necessary to design additional details inside the waist, chest, and hips to reduce the size of excess fabric. However, the width of the fabric will be smaller than Fitted clothing.

Straight: Straight clothing does not reveal the body clearly on the chest, waist, and hips. Clothes are rectangular, trapezoidal, oval... No need to Darts as shown in Figure 4, design pleats at the neck and shoulders (Figure 6)

Figure 2. Fitted dress [5]

Figure 3. Semi-fitted dress [6]

Figure 4. Straight dress [7]

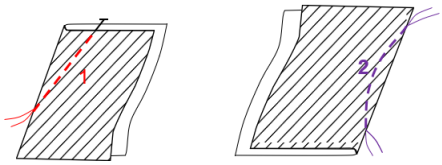

Figure 5. Darts

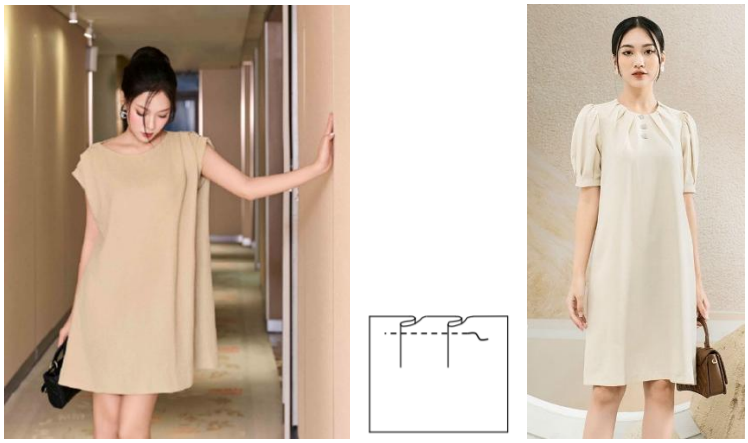

Figure 6. Pleats [8]

2. Seams

Seams are used to link product details together. Clothing uses assembled seams for different purposes. It has a positive effect on the product, which characterizes the overall shape of clothes.

The location and shape of seams are determined according to engineering design principles. For example, seams at the shoulders, waist, hips, and those defining the shape of the product on the front (figure 9). Besides, seams also have a decorative effect. As if highlighting the shape of the outer pocket, placket, and hem.

Figure 7. Seam on women's coats [9, 10]

3. Shaping properties of materials

The main material of clothes is fabric. The composition, structure, and some properties of the material such as stretch, drape, bending, thickness... They are noticed in the process of shaping clothes. Fitted and Semi-fitted clothing should be made of highly elastic materials to hug the body while still providing comfort. Stretch fabric will help the wearer feel comfortable when moving.

Semi-fitted clothing, choose a fabric with elasticity. The clothes keep their shape gently, not too tight on the body. The elasticity of the fabric used to make tight-fitted clothing is lower than the elasticity of the fabric used to make fitted clothes.

Straight clothing, prioritize stiff fabrics, hold shape well, are not too soft, and have moderate thickness. Fabrics with little or no stretch will keep the clothes straight when used.

4. Ironing and pressing methods

The factors of humidity, temperature, and pressure are combined. It changes the relative position between the fibers in the fabric. Thanks to that, it changes the surface shape and the volume of all garment products. Especially the impact of heat and moisture processing methods on clothes (Figure 8)

Figure 8. Moist heat treatment for products [11]

5. The coordinating elements

In fact, combine the above 4 shaping elements together to shape the garment product. The product combines assembly seams with pleats and darts, to create a tight upper body and a smooth lower body. Coordinate the moist heat processing method with the pleats, darts, seams, and forming properties of the material to shape products with additional special details such as the neck, waist, and hem(Figure 9).

Figure 9. Coordinate the shaping elements for garment products [12, 13]

IV. CONCLUSION

To give the garment product a Fitted, Semi-fitted, and Straight shape, it is necessary to pay attention to 5 forming factors including pleats and darts; assembly seams; methods of ironing and pressing; and the forming properties of the material and coordination elements.

Semi-fitted clothing, choose elastic material. Create pleats at the waist, chest, and hips of the clothing. Semi-tight clothing, choose material with less elasticity than Fitted clothing. The width of the cut is smaller than Fitted clothing. For straight clothing, prioritize fabrics with little or no elasticity and fabrics with moderate or thick thickness.

Heat and humidity factors change the shape of the block surface of the garment. To create the best shape for the garment, the designer needs to choose the right fabric to suit the style of the garment. Design the Pleats and darts, use the seams that suit the garment, and come up with the appropriate pressing method. This contributes to shortening the design time, creating a shape that matches the original design idea as quickly as possible, and increasing the value of the garment.

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