

## The Development of Women's Pattern Making by the Anatomy Principle

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**Abstract:** The objective of this study was to experiment on women's pattern making by the anatomy principle using extra large size )XL( which had 4 types: inverted triangle body type )▽(, triangle body type )Δ(, oval body type )○(, and hourglass body type )∑(. Four types of fabric: satin, chiffon, silk, and tafta were used for making the pattern of dresses and tailoring long evening dresses. The standard time of making patterns of different dresses was recorded and then statistically analyzed in terms of percentage and mean. The results were that the tailoring of long evening dresses took 22 minutes each, regarding the pattern making; and the dress making from tafta took the shortest time of 351.5 minutes, regarding the sewing.

**Key Word:** Women's Pattern Making, Pattern Making by the Anatomy Principle

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## **1. Introduction**

Custom made clothes in USA has the market share of around 3.5 billion dollars of which custom tailor has the market share of around 500 million dollars and mass customization, around 3 billion dollars [2].

The main problem of custom made clothes was patternmaker shortage. "Nattakarn Sukkasam" the owner of the Lerbatong (the working uniform cutting shop) said that to achieve the aim of her business plan, there should be solutions to her current business problems: the customer base could not be expanded due to patternmaker shortages. It was also difficult to find skilled patternmakers and to make patterns that fit the customers. At Lerbatong, the main problem was that there were only elderly workers who would be retiring very soon. In addition, when the basic pattern was used and adjusted to fit individual customers, the work became complicated and resulted in unsatisfactory fitting. Since the processes of training were difficult and had never been reformed in terms of cutting process and pattern making, Textile Fiber and Fashion Design was interested more in patternmaking [3].

Due the above mentioned problems, the researcher was interested in an experiment of women's pattern making using the anatomy principles which could be useful for educational institutes, schools, instructors, interested persons. The outcome of this study could help reduce the working steps as it enhances more accurate patterns and fitting. From the researcher experience, regarding the existing text books in this particular area, it was found that these texts were not accurate, especially in terms of sizes which were obtained from disproportionate persons to be the stand for formula. From these particular problems, it has become the inspiration for the researcher to study and find the best solution for students, patternmakers, teachers and educational institutes.

Aiming for the best solution for the inaccurate pattern making, the experiment focused on trying women's pattern making by the anatomy principle for four body types and the dresses were made from four kinds of materials. The result could help solve the inaccurate pattern making and lead to further development of all involved in this profession.

## **2. The Experiment**

### **2.1 Materials**

The materials for this test are of four kinds: Satin, Chiffon, Silk, and Taffeta

### **2.2 Equipment**

Equipment for this test is an industrial sewing machine, a 24-inch ruler, a hip curve ruler, a U-CURVE, a C-Thrau Ruler, a pencil, a cutter, pattern paper, a Venus needle, a machine needle 11 and an invisible 20-inch zipper.

### **2.3 Methods**

2.3.1 Making women's pattern by the anatomy principle was employed and adapted for evening dresses of XL size for women of 4 shape types: Apple shape, Pear shape, Sphere shape, and Hourglass shape. Completely Randomized Design (CRD) was used for studying the standard time in making each piece. The

experimental group consisted of four experts of sewing staff from Pet Boutique and each expert produced women's pattern in 4 shape types and 4 times per type, resulting in the total of 16 patterns. Data were then analyzed in terms of mean.

2.3.2 From the patterns, evening dresses were cut and sewn using the following four kinds of materials: Satin, Chiffon, Silk, and Taffeta. The standard time in making each piece of work in four shape types was recorded and statistically analyzed in terms of mean.

2.3.3 The standard time of pattern and evening dress making was compared and statistically tested by using ANOVA.

### **3. Results and Discussions**

#### **3.1 Experimental Pattern Making by the Anatomy Principle and Adapting**

Results from women's pattern making by the Anatomy Principle and adapting the following 4 shape types of XL size: Apple shape, Pear shape, Sphere shape, and Hourglass shape are shown in Figures1.



**Figure1.** *Women's Pattern Making by the Anatomy Principle*

**Table 1:** Standard time of pattern making and adapt for evening dresses by Anatomy

Order of pattern maker	The amount of time )minuets(				Average of Total
	1	2	3	4	
1	25.00	24.00	22.00	20.00	22.75
2	24.00	23.00	20.00	21.00	22.00
3	24.00	23.00	21.00	20.00	22.00
4	24.00	23.00	21.00	21.00	22.25
<b>Average of Total</b>	24.50	23.25	21.00	20.50	22.25
<i>Principle</i>					

Table 1 showed that pattern making for sphere shape and pear shape women took the shortest time just in 22.00 minutes and following this were the hourglass shape which took 22.25 minutes and the apple shape which took 22.75 minutes. The average of the total time for evening dress pattern making and adapting was 22.25 minutes

### 3.2 Experiment on cutting and sewing women's evening dress for 4 shape types

Patterns were used in cutting and sewing women's evening dresses of 4 types with four kinds of fabric: Satin, Chiffon, Silk, and Taffeta. And then standard time of the sewing steps was recorded. )see Figure 2 –4 .

**Figure2.** Pleating the dress



**Figure3.** Steam iron the dress



**Figure4.** Finished evening dress

**Table 2:** *Standard time of sewing evening dresses by Anatomy Principle*

Order of sewing staff	Type of fabric				Average of Total
	Silk	Taffeta	Satin	Chiffon	
1	345.00	338.00	380.00	352.00	353.75
2	368.00	358.00	398.00	356.00	370.00
3	362.00	345.00	388.00	348.00	360.75
4	385.00	365.00	401.00	363.00	378.00
Average of Total	365.00	351.50	391.75	357.00	365.62

Table 2 showed that making evening dresses from Taffeta took the shortest average time of just 351.50 minutes and following this were from Chiffon which took 357.00 minutes, from Silk which took 365.00 minutes, and from Satin which took 391.75 minutes. The average of total time for making dresses from all kinds of fabric was 365.62 minutes.

#### 4. Conclusion

The results of the experiment on women's evening dress pattern making by Anatomy Principle, focusing on 4 different shape types and 4 different kinds of fabric indicated that pattern making, adapting and dress making from Taffeta took the shortest time of just 351.5 minutes while that from Satin took the longest time of 391.75 minutes.

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