

Analysis of Types of Gather Drape with Visual Evaluation

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I. Introduction

Gathering is method used to control fullness along a seam line. Gather is soft folds of fabric formed by pulling up basting stitches to make the fabric fit into a smaller space. The major influential factor of shape of the gather drape was varied by many conditions. For example, There were fabrics, stitch densities, length, ratio of gathers, grain line and using position. And the shape or the drape of gathered design when it was sewed, is determined by the gathering conditions. Nevertheless, such studies have not been performed to manifest the relationship between the gathering conditions and shape of gathered samples. So the purpose of this study is to investigate the relationship between the quantitative research and qualitative method ; the effect of gather and the types of gather drape.

II. Methodology

1. Fabric characteristics

In this study, we selected three fabrics(100% Plain Muslin) having various thickness and weight considered drape coefficient. Table 1 is Characteristics of muslin according to KS K

The experimental design consists of four factorial design ; three different kinds of weight and different thickness fabrics, three different kinds of stitch densities, five different kinds of ratio of gathers and three different kinds of grain direction.

Table 1. Characteristics of Muslin

Fabric	Fabric	Weave	Thickness (mm) KS K 0506	Weight (g/m ²) KS K 0514	Thread number (Ne's) KS K 0415		Density (filament/5cm) KS K 0511		Stiffness (mm) KS K 0539			Drape coefficient KS K 0815
					warp	weft	warp	weft	warp	weft	45° bias	
F1	cotton	Plain	0.30	84.7	33.2	35.7	116.4	117.8	17.9	16.6	15.7	0.533
F2	cotton	Plain	0.39	158.1	18.4	20.5	122.4	121.0	25.8	19.8	23.9	0.787
F3	cotton	Plain	0.44	204.4	14.5	16.4	120.4	115.2	37.3	31.4	35.6	0.939

2. Construction of gathered samples

Unit size of Gathered sample was 20cm² regular square. And draw complete line with ratio of gathers. An inseam at the top was 2cm and circumference were 1cm. A sewing machine used in experiment is industrial lock stitch sewing machine, needle number was 11 and used thread was 60's. Gathered samples were left for 24 hours to keep up the shape. All experiment had done at the same place and repeated three times. Therefore one hundred thirty five (135) samples were made.

3. Participants

The participants in this examination were seven people who have graduated school major in fashion design. And training was performed to understand purpose and method in this experiment. Observe computer screen on the front for excluding error by direction of the line of vision.

4. Photographing and measurement of section

Pictures of the gathered samples were taken using digital camera(Model name : VP-D73). A photograph was taken three times at each side ; front, back and section. Digital picture made flat pattern using Designer Program(Company : Micrografx). And measured five section of Side height, Hem line width, Node depth, Node count, Node width to find out the relationship between the effect of gather and the types of gather drape. In this study, at the front side used ranking valuation method, at the sectional diagram used semantic differential method. Table 2 shows that used statements with visual evaluation.

Table 2. Used Statements

Part	No.	Statement
Front	1	Gather shape is excellent in complete line
	2	Gather volume is proper from complete line to hem line
	3	Gather shape is Soft
	4	Gather Shape is excellent in Hem Line
	5	Entire visual is excellent
Section	1	Soft
	2	Regular
	3	Tranquil
	4	Excellent

5. Statistical analysis

For data analysis, the frequency analysis, correlation, x² analysis and the one way analysis of variance with Duncan and SchÉffe test were performed using SPSS for Window(version 10.0).

III. Results and Discussion

This study was done to manifest the relationship between the quantitative research and qualitative method ; the effect of gather and the types of gather drape.

The results of this study were as follows ;

First, after frequency analysis, side height was min 17.88, max 21.39 and mean 19.81. Hem line width was min 26.12 max 39.39 and mean 31.92. Node depth was min 0.96 max 5.52 and mean 3.26. Node count was min 1 max 7 and mean 3.38. Node width was min 1.92 max 11.26 and mean 5.25. Accorded with these result data recording.

Second, after correlation analysis, Side height relate with front statements. Side height and entire visual were (-)correlation. Hem line width, node depth and node count with section statements were (-)correlation but node width at section statements was (+)correlation.

Third, after x² analysis, parts getting excellent evaluation were 1st side height, 3rd hem line width, 4th node depth, 4th node count, 3rd node width.

Reference

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