

# Creating a New Range of One-Piece Dresses Using Draping Method



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## Abstract

Main objective of this study is to create a new range of one-piece dresses using draping method by varying the drapes, styles and design details with two fabrics only i.e. satin and textured velvet. Their stiffness and drape characteristics were tested. According to the preferences of respondents eight designs of one-piece dresses were converted into prototypes. Their evaluation was done by the fifty respondents on the basis of three point rating scale and all of them were largely accepted by respondents on the basis of design, cost and overall aesthetic appeal. It was found that the result was fulfilling the objectives of the study.

## Introduction

Textiles have always a central role in the evolution of human culture by being at the forefront of both technological and artistic development. The technical textiles were known for their performance and functionality while traditional textiles for their aesthetics.

Clothing is one of the necessities of human being, in past times the clothing was used only to cover the body and secure it from the environmental condition, but today the clothing is used for the fashion as well as decoration.

In today's world of modernization and industrialization the fashion, it change the rapidly, so need of innovation and new styles and designs in clothing are in vogue. Fashion is a platform that reflects individual and worldwide socio, economical tastes.

Designing is one of the most important aspect of fashion world, in fact everything revolves around the design. It is the most challenging area of work in fashion industry, where designing requires creating original design after studying the changing trend in market. Designing means moving from the state of randomness to the higher impression or to communicate expressive personal ideas. Design may be describe as a way of thinking, sharing the creative process of artists in different sources. Designing is the creation of new imagination and also attractive pattern and design.

Draping is one of the oldest methods used to generate a pattern. Before the invention of sewing machine and stitch craft, garments wear only draped over the body. The Indian sari is one of the finest examples of draped garment. Study of historic costumes reveals that importance of drape was known to man from the beginning.

In the traditional draping process, a garment is produced by molding, cutting and pinning fabric to a mannequin. Draping is especially helpful when developing intricate



garment styles or using unusual fabrics. Fashion draping and fitting are usually done with suitable material to resolve any design and fitting issues of a garment before cutting the pattern in real fabric. It is important to drape using a fabric that has similar drape characteristics as the real fabric of the finished garment. Inexpensive synthetic fabrics can also be used in fitting and draping for apparel designs. Fashion designers drape garments in sections i.e. front bodice, back bodice, front skirt, back skirt, etc. and only the right side of the garment is draped unless the apparel design is asymmetrical. Draping is an important part of fashion design. Without it, the designer doesn't know how a particular piece of fabric will hang, accept a seam or crease on the body. Draping also create those interesting three dimensional touches that makes garment special-pleats, gathers and flounces all come from creative draping techniques. Some talented designers can even create an entire dress from one simple, unsown length of fabric, due

to skilled draping. Garment drape has received major attention of designers from the beginning. They have exploited this property of fabric, in creating new designs and styles according to changing fashion trends. Garment either hangs down from the shoulder or from the waist and drape over the hip forming waves or waves or folds at hemline. Drape is a property of fabrics associated with the aesthetic appearance of garments and other textile structures. It is a property that allows a fabric to orient itself into graceful folds as a result of force of the gravity. Some parameters such as thickness, shear, mass per unit and surface properties (bending length) significantly affect the drape behavior. The study of yarn or fabric bending rigidity can contribute to the design process of fabric and yarn plays an important role in the handling properties and the end-use performance of textiles. Aesthetic appeal of apparel has always been important for human being.



Drape, one of the most important properties of fabric, has played significant role in providing graceful aesthetic effects in garments. The consumer is demanding more variety in apparel products. Gowns, one piece dresses and middies are more popular among women for the formal parties. Middy is the one piece garment for a women, has skirt and bodice both together, fashioned in a single whole piece called as a "one-piece garment". The silhouette of entire garment may be differ from each other i.e. tubular, A-line, bell shaped or wedge also. It is more popular among

young women especially for formal parties.

Present study is mainly based on draping which provide proper fitting in garment. In garment drapes can be varied at neckline, shoulder to waist or hem, at hip level and use of gathers ad flares can add the beauty in the garments. The main purpose of this study is to develop different designs for middies through draping.

### **Significance-**

- This study will be helpful for providing a variety of draped dresses.
- This study will be act as a source of inspiration for the apparel industry.

## Objectives-

- To develop designs for dresses through draping method.
- To evaluate the develop designs.
- To study drape characteristics of suitable materials.
- To develop most suitable 8 designs by using the material which suitable for better drape (satin and textured velvet).
- To evaluate the developed prototypes by aesthetic appeal, design and marketability.

## Delimitations-

- The study was conducted under Banasthali University premises.
- For developing the dresses only draping technique was used.
- Only two fabrics were used under this study.
- The dresses were developed only for females.

## Methodology

The methodological approach followed to carry out this study has been broadly classified under the following subheads: -

### Phase 1

- **Selection of material:** The researcher selected two fabrics for the study i.e. satin and textured velvet. The both fabrics were chosen on the basis of their draping quality, weight and aesthetic appeal.
- **Equipments**
  - ∞ Mannequin was used for the draping of garment or prototype development.
  - ∞ Eureka stiffness tester was used for determine the stiffness of material.
  - ∞ Circular drape meter was used for check out the drape % coefficient of the material.
- **Locale of the study:** The place where the study has been conducted was referred to as locale of the study. The study was conducted in Banasthali Vidyapith. This locality was selected because of ease approachability for the researcher.
- **Selection of respondents:** A sample of 50 respondents were collected for the study, in which 40 respondents were adult girls and 10 were adult working females (staff) selected from Banasthali Vidhyapith.
- **Collection of study material:** The information about historical costumes and present and upcoming fashion trend has been collected through different sources like books, magazines and internet. The data includes the color, material, style and the prominent feature of the trendy garments.

### Phase 2

#### Testing of material

1. **Drape % coefficient of fabric:** It was determined by IS: 8357-1977 method. For determining drape % coefficient of fabric, a drapemeter was constructed.

2. **Determination of the stiffness of the fabric:** Stiffness was determined by measuring bending on Eureka stiffness tester following IS: 6490-1971 method.
3. **Development of design sheets:** After the study of collected data, 20 design sheets were developed for the further study. Latest trends and fashion was taken into consideration while designing.
4. **Evaluation of design sheets:** Design sheets were analyzed by a panel of 50 respondents who were selected purposively. The staff and P.G students of clothing and textile department were selected because they have good knowledge of apparel designing. Moreover, they are aware of latest fashion trends. All sheets were displayed to the respondents and grading was done on three point scale on the basis of overall aesthetic appeal.

Weighted mean score was calculated for each design and the ranking was done on the basis of weighted mean score.

$$\text{Weighted mean score} = \frac{Xx + Yy + Zz}{x + y + z}$$

Where –

X, Y, Z = Score

x, y, z = Weighted of each score

Then the top most eight design sheets were extracted for prototype development.

### Phase 3

- **Construction of prototype:** On the basis of evaluation the most preferred eight designs were constructed into prototype using draping method.
- **Draping of various designer dresses:** After the draping of basic one- piece dress, draping was done according to the selected designs.
- **Evaluation of prototype:** To check the marketability and acceptability of developed prototypes, they were displayed to respondents and evaluated in terms of aesthetic appeal, color combination and design features.

A panel of 50 respondents was selected to judge and evaluate the prototypes. The staff and P.G. students of Clothing and Textiles department who have knowledge of designing were chosen. Garments were draped on mannequin and shown to respondents to analysis their aesthetic appeal.

Three point rating scale was used as given below-

- 3 = excellent
- 2 = very good
- 1 = good

Weighted mean score was calculated for each design and the ranking was done on the basis of weighted mean score and overall aesthetic appeal of each design was determined.



## Result and Discussion

Result has been described under following subheadings: -

### Stiffness of satin and textured velvet fabric:

Stiffness of satin and textured velvet fabrics has been assessed by the bending length. More the bending length, more the stiffness and vice-versa. Bending behavior is an important factor affecting drapability. Bending length of satin and textured velvet fabrics has been shown in table 4.1.

<b>Table- 4.1: Stiffness of Satin and Textured Velvet Fabric</b>			
<b>Fabric Description</b>	<b>Bending Length (cm.)</b>		
	<b>Warp wise</b>	<b>Weft wise</b>	<b>Combined value</b>
<b>Satin</b>	<b>0.9</b>	<b>0.74</b>	<b>1.64</b>
<b>Textured velvet</b>	<b>1.07</b>	<b>0.92</b>	<b>1.99</b>

It is observed from table no. 4.1 that combined bending length of both fabrics ranged nearby to each other i.e. 1.64 and 1.99. Satin were softest as compare to the textured velvet.

### **Drape characteristics of satin and textured velvet fabric**

Drape is one of the visual components in aesthetic assessment of a garment. Drape characteristics of satin and textured velvet fabrics i.e. % drape coefficients, no. of nodes, shape of nodes, regularity of nodes etc. were assessed. Drape characteristics of satin and textured velvet fabrics has been shown in table 4.2.1.

<b>Drape Characteristics of Satin and Textured Velvet Fabrics</b>				
<b>Fabric Description</b>	<b>Drape Characteristics</b>			
	<b>% Drape coefficient</b>	<b>No. of nodes</b>	<b>Shape of nodes</b>	<b>Regularity of nodes</b>
<b>Satin</b>	<b>19.25</b>	<b>7</b>	<b>Shallow</b>	<b>Regular</b>
<b>Textured velvet</b>	<b>18.1</b>	<b>6</b>	<b>Shallow</b>	<b>Irregular</b>

It was found that % drape coefficient of satin was lowest as compare to textured velvet fabric exhibiting excellent drapability. Number of nodes were 7 in satin and 6 in velvet fabric when counted immediately after hanging the sample. It was seen that shape of nodes similar in fabrics. Both are formed regular and shallow nodes.

### **Consumer Acceptance for Designed Dresses**

One piece dresses prepared by the use of interesting features and designs were evaluated by the selected respondents through 3 point scale on the basis of mainly three criteria i.e. design, costing and overall appearance.

<b>Grading For Design</b>		
<b>One piece dress</b>	<b>Weighted mean score</b>	<b>Rank</b>
<b>1</b>	<b>2.71</b>	<b>2</b>
<b>2</b>	<b>2.68</b>	<b>3</b>
<b>3</b>	<b>2.72</b>	<b>1</b>
<b>4</b>	<b>2.54</b>	<b>5</b>
<b>5</b>	<b>2.64</b>	<b>4</b>
<b>6</b>	<b>2.48</b>	<b>6</b>
<b>7</b>	<b>2.4</b>	<b>8</b>
<b>8</b>	<b>2.43</b>	<b>7</b>

Respondents were asked to given their opinion about the design of dresses. Result has been given in table no. 4.3. It is evident that design of the 3<sup>rd</sup> dress was most popular and appreciated by respondents. Designs of 1, 2, 5, 4 and 6 were also liked by respondents. These designs were looking interesting for respondents. 7<sup>th</sup> and 8<sup>th</sup> designs were last in order.

<b>Grading for Cost</b>			
<b>One piece dress</b>	<b>Cost</b>	<b>Weighted mean score</b>	<b>Rank</b>
<b>1</b>	<b>750</b>	<b>2.66</b>	<b>2</b>
<b>2</b>	<b>910</b>	<b>2.54</b>	<b>3</b>
<b>3</b>	<b>1225</b>	<b>2.67</b>	<b>1</b>
<b>4</b>	<b>699</b>	<b>2.36</b>	<b>5</b>
<b>5</b>	<b>899</b>	<b>2.44</b>	<b>4</b>
<b>6</b>	<b>1010</b>	<b>2.3</b>	<b>6</b>
<b>7</b>	<b>700</b>	<b>2.2</b>	<b>8</b>
<b>8</b>	<b>1199</b>	<b>2.25</b>	<b>7</b>

Costing of the dresses was also determined. Respondents were asked to give their opinion about the costing of dresses. Result has been given in table no. 4.4. The cost of prototype 3, 1, 2 and 5 was appreciated by the respondents. The cost of prototype 4, 6 and 7 was also acceptable for them but, the cost of prototype 7 was not acceptable by most of the respondents.

<b>Grading for Aesthetic Appeal</b>		
<b>One piece dress</b>	<b>Weighted mean score</b>	<b>Rank</b>
<b>1</b>	<b>2.66</b>	<b>3</b>
<b>2</b>	<b>2.68</b>	<b>2</b>
<b>3</b>	<b>2.85</b>	<b>1</b>
<b>4</b>	<b>2.6</b>	<b>4</b>
<b>5</b>	<b>2.54</b>	<b>5</b>
<b>6</b>	<b>2.54</b>	<b>5</b>
<b>7</b>	<b>2.33</b>	<b>6</b>
<b>8</b>	<b>2.3</b>	<b>7</b>

To find out overall aesthetic appeal of the one piece dresses weighted mean score obtained by respondents, in given criteria were added then each dress was ranked on the basis of score. Result in table shows that prototype 3 was found most appealing and beautiful by respondents. Prototype 2 and 1 were ranked next with respect to overall look of the dresses. Next preference was given to prototype 4, 5, 6 and 7 respectively. Prototype 8 was liked least by the respondents. Design of the dress was not so much liked by the respondents.

<b>Grading for All Criteria</b>		
<b>One piece dress</b>	<b>Weighted mean score</b>	<b>Rank</b>
<b>1</b>	<b>2.63</b>	<b>2</b>
<b>2</b>	<b>2.6</b>	<b>3</b>
<b>3</b>	<b>2.68</b>	<b>1</b>
<b>4</b>	<b>2.5</b>	<b>5</b>
<b>5</b>	<b>2.58</b>	<b>4</b>
<b>6</b>	<b>2.47</b>	<b>6</b>
<b>7</b>	<b>2.31</b>	<b>7</b>
<b>8</b>	<b>2.31</b>	<b>7</b>



The grading was done of the one piece dresses on the basis of all criteria, weighted mean score obtained by respondents, in each of given criteria were added then each dress was ranked on the basis of total score. Result shows that prototype 3 was found most appealing and beautiful by respondents. Prototype 1 and 2 were ranked next with respect to overall look of the dresses. Next preference was given to prototype 5, 4 and 6 respectively. Prototype 7 and 8 was liked least by the respondents. This is due to the costing of the dresses; the cost of the dress was not so acceptable by the respondents.

### **Conclusion: -**

It was concluded from the study that all the one-piece dresses were liked by respondents. After the development of selected prototypes the evaluation was done on the basis of design, cost and overall appearance of the dresses. The result was shown that the responses of the respondents were good and acceptable towards the design; costing and overall appearance and the result fulfilled the main objectives of the study.

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