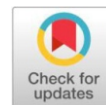


Original Research Article

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Development and Construction of Apparel and Handicrafts Using Combination of Tie-Dye and Chikankari for Consumers and Market Preferences



Sakshi¹, Nargis Fatima², Ritu Pandey¹ and Nitin Vikram^{*3}

¹Department of Textiles & Clothing, Chandra Shekhar Azad University of Agriculture and Technology, Kanpur-208002, India

²Department of Textiles & Clothing, Sam Higginbottom University of Agriculture, Technology and Sciences, Prayagraj-211007, India

³Zila Parishad Krishi Mahavidyalaya, Banda-210001, India

ABSTRACT

Escalating demands of consumers requires modification in the fashion industry with respect to design, color, style, and techniques. The beauty and charisma of Chikankari and tie and dye still rule the wardrobe. The study was framed with the view to develop a fusion design using Chikankari and tie and dye. A total of 30 designs were prepared for preparing kurtas, stoles, and hand-bags. A Total of 15 designs were selected from each category for final construction. The parameters of the selection of designs were a color combination, arrangement of design, appropriateness of designs and overall appearance. All the selected designs were applied on chiffon and cotton blend fabrics using various direct dyes. Acceptability of the prepared kurtis, stoles and hand-bags were also assessed using 5-point ranking performance. Cost of developed products was determined based on raw material cost, dyeing, and trimmings charges in the final sale cost. All the prepared articles were highly accepted due to their color combination and embroidery pattern. The study successfully introduced the preparation of apparels and handicrafts using a combination of tie-dye and Chikankari. The growing fashion consciousness and influence of media have turned the women's wear segment into a lucrative and highly evolving market. With the changing world of fashion the field of textiles demands unique, different and fresh designs. The traditional Indian embroideries and printing techniques can play an important role in creating new designs and can satisfy the ever changing demands of consumers. The key challenges faced by textile designing in India includes inadequate infrastructure, outdated technology, fluctuations in raw material prices a large unorganized sector lack of skilled workforce, environmental concerns, intense competition from global markets, and limited access to design innovation and research and development; all of which can hinder the growth and competitiveness of Indian textile designers in global market. Therefore the present study was an attempt to add new dimensions in value addition of textile products by application of a combination of Chikankari embroidery and tie-dye.

Keywords: Bandhanis, Chikankari, Indian embroidery, handicraft, textile printing, tie-dye

Introduction

India is a land of diverse cultures. The variations in physical, and climatic conditions and the extent of exposure to other cultures have greatly influenced the traditions and culture of the different regions. There is an underlying basic factor common to the whole of India, with variations in the practices based on local needs and influences. The beauty of Indian textiles spread far and wide even during the ancient trade [1;2;3;4]. *Bandhanis*, *applique*, *Kashida*, *Kantha*, and *Kasuti* were very popular for their fine quality and excellent embroidery done on them. The historic Indian literature reveals some interesting facts that Indian crafts were an integral part of religious rituals and ceremonies in the days of yore [5]. India's centuries old tradition of ornamenting fabric has survived with the ravages of time and preserved local crafts, which reflect ample testimony to this great culture. Dyeing, printing, painting, brocade, and embroidery have been traditionally used all over the world to decorate textile and apparel articles [6;7].

Textile Design as a practice has evolved to become an industry integral to other disciplines such as fashion, interior design, and fine arts. Textile designing is a creative field that includes fashion design, carpet manufacturing, and any other cloth-related field. Clothing, carpets, drapes, towels, and rugs are all functional products resulting from textile design. Within the fashion industry, textile designers have the ability to inspire collections, trends, and styles. Textile designers carry a creative vision of what a finished textile will look like with a deep understanding of the technical aspects of production and the properties of fiber, yarn, and dyes. *Chikankari* is a traditional embroidery style from Lucknow, India [8;9;10]. *Chikankari* is delicate and artfully done hand embroidery on a variety of textile fabrics like muslin, silk, chiffon, organza, net, etc. White thread is embroidered on cool, pastel shades of light muslin and cotton garments. This delicate pattern made by hand is facing tough competition from fast fashion products. Because of this it is rare to see the beauty of its fine work of motifs and stitches [11;12;13;14]. Indian *Chikan* work basically consists of a number of processes namely cutting, stitching, printing, embroidery, washing, and finishing. Cutting and stitching are done by the same person. Then printing is undertaken with wooden blocks dipped in dye. After this, embroidery is usually done by women.

*Corresponding Author: **Nitin Vikram**

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The last step in the *Chikankari* embroidery work is washing and finishing, which may take from 10 to 12 days and involves bleaching, acid treatment, stiffening, and ironing. The most common motif used in *Chikankari*'s work of Lucknow is that of creepers [15;16;17]. Floral motifs, which are used either throughout the garment or in corners, include jasmine, rose, flowering stems, and lotus [18]. Tie-dye is a modern term invented in the mid-1960s in the United States for a set of ancient resist dyeing techniques and for the products of these processes. Tie and dye is one of the most widely accepted and one of the very traditional methods of printing textiles in India [19;20]. According to the design and the motif, each pattern has its special significance. The art of tie and dye has been liberally used by dyers across the globe to render beautiful colors to the simple looking fabric. This art of coloring the fabric is more prevalent in India and especially in the North Western states of India, Rajasthan, and Gujarat. The history of *Bandhani* or tie and dye dates back to prehistoric times as countless dyers through the ages have experimented with the use of bindings to create patterns of cloth immersed in vats of dye. Ties are like laces used to secure the opening in a garment. They are adaptable to both casual and formal styles. Ties made from garment fabric are popular in ethnic garments [21]. The process of tie-dye typically consists of folding, twisting, pleating, or crumpling fabric or a garment and binding with string or rubber bands followed by the application of dye. The manipulations of the fabric prior to the application of dye are called resists as they partially or completely prevent the applied dye from coloring the fabric [22;23;24]. More sophisticated tie-dyes involve additional steps including an initial application of dye prior to the resist multiple sequential dyes and resist steps and the use of other types of resists (stitching, stencils) and discharges. Unlike regular resist-dyeing techniques, tie-dye is characterized by the use of bright, saturated primary colors and bold patterns. These patterns are spiral, mandala and peace signs. Tie-dye is emerging in the fashion industry characterized by simple motifs, monochromatic color schemes and a focus on fashionable garments and fabrics other than cotton [19;20]. The uniqueness of the tie-dyeing technique lies in dealing with the fabric by the methods of sewing, binding, wrapping, knotting, and sandwiching through "tying" and "dyeing" to produce the visual effects of color [25]. Tie-dyeing art, a simple handicraft art, has a strong visual impact to the whole world and makes people feel more about the natural beauty of traditional art [26]. However, a new interest in more 'sophisticated' tie-dye is emerging in the fashion industry, characterized by simple motifs, monochromatic color schemes, and a focus on fashionable garments and fabrics other than cotton [27;28;29]. Textiles and dress designing is considered to be a very prosperous vocational education stream not only in India but abroad as well. Textile and fashion designing is a much sought-after career. This is because of the fact that the textile and fashion industry has grown by leaps and bounds and that too within a decade [30;31;32;33]. The present study was conceptualized to create a fusion of *Chikankari* work and tie-dye fabric. The artistic expression in developed dress design will be assessed for its commercial acceptability. India is a land of diverse cultures. The variations in physical, and climatic conditions and the extent of exposure to other cultures have greatly influenced the traditions and culture of the different regions. There is an underlying basic factor common to the whole of India, despite variations in the practices based on their local needs and influences. Further, the greatness of India has been in accepting and intermingling the

new customs and styles with the existing. This is visible in all aspects such as music, dance, painting, sculptures and architecture. *Chikankari* is a traditional embroidery style from Lucknow, India. White thread is embroidered on cool, pastel shades of light muslin and cotton garments. This delicate pattern making of hand is facing tough competition from the commercialized market version of low quality products. Because of this it is rare to see the beauty of its fine work of motifs and stitches. In the present study, an attempt was made to develop a fusion design using tie dye and *Chikankari* to meet the changing demands of the fashion market.

Materials and Methods

Raw materials

Various designs for kurtis stoles and hand-bags were developed for college going girls keeping in mind their preferences. Designs were developed using *Chikankari* techniques on tie-dyed fabrics keeping in mind the latest trend in fashion. A total 10 designs each of kurtis, stoles and hand-bags were sketched on a white sheet. Figures 1 to 15 display five of the sketched designs. Chiffon and cotton blend fabric was purchased from the local market for the construction of kurtis, stoles and hand-bags, because cotton and Chiffon fabrics are suitable for tie dye and *Chikankari* both embellishments. The fabric material was tie and dyed according to the selected designs using direct dyes. Optimized dyeing recipes from elsewhere. Total of 15 designs were prepared [Figure 1 to 15]. After tie and dyeing of the fabrics motifs were traced and *Chikankari* embroidery was applied according to the design. Different types of *Chikankari* stitches used were *Jali*, *Bukhia*, *Murri*, and *Phanda*. The layout of each selected design was prepared manually. A total of 5 kurtis, 5 stoles and 5 hand-bags were prepared using selected designs. A standard medium size of 34" dress form was used for pattern making and measurements were taken.

Assessment of developed design

The prepared designs were subjected to visual evaluations by a panel of 30 Judges including students, fashion designers and teaching faculty. Designs were displayed and judges were asked to evaluate each design on the basis of color combination, arrangement of design, appropriateness of design, and overall appearance. The 5-point rating scale was used as a tool for visual evaluation viz.; Excellent, Very good, Good, Satisfactory, Poor.

Cost of the developed products

For price determination material cost (fabric cost, fastener cost, thread cost, needle cost) and labor cost were calculated. The cost of each product was calculated separately including fabric cost, dye charge, embellishment cost, thread cost, and stitching charges.

Acceptability assessment of the prepared articles

Each kurtis, stoles and hand-bags were judged by a panel of Judges. A ranking proforma was given to the panel of Judges to rank and assess the garments according to the given parameters. The parameters used for the evaluation of the prepared products were: suitability for the tying technique product, color combination, cost, suitability of surface enrichment used, and overall appearance.

Statistical Analysis

The data collected through the evaluation and acceptability of products for the research study was coded, tabulated, and

analyzed using ANOVA two way classifications to check the significant difference between the selected attributes [34].

Results and Discussion

Designing and Visual evaluation

A total of 10 Kurtis, 10 stoles and 10 hand bags designs were prepared. 15 for each kurtis, stoles and hand-bags designs were developed for the product. All the prepared designs were visually evaluated for the selection of five best designs from each category. The results are given in Tables 1 to 3. The Kurtis stoles and handbags numbered K8, S3 and respectively had maximum score.

Table 1: Scores obtained for developed Kurti designs

Design No.	Arrangement of Tie Dye and Chikankari embroidered motifs	Appropriateness of designs for particular product	Colour combination Tiedye and Chikankari	Extent of relation to Tiedye and Chikankari	Overall appearance	Average score
K1	4.8	5.0	4.8	4.8	4.9	4.73**
K2	4.75	4.4	4.5	4.5	4.35	4.1
K3	4.8	3.9	3.93	4.46	4.4	4.17
K4	4.86	4.83	4.86	4.6	4.6	4.70***
K5	4.0	4.3	4.2	4.43	4.5	4.35
K6	4.43	4.9	4.8	4.9	4.9	4.60*****
K7	4.2	4.48	4.8	4.86	4.73	4.5
K8	4.75	4.4	4.8	4.9	4.4	4.80*
K9	4.0	4.9	4.9	4.8	4.9	4.69****
K10	3.9	4.4	4.5	4.4	4.56	4.46

Table 2: Scores obtained for developed stole designs

Design No.	Arrangement of Tie Dye and Chikankari embroidered motifs	Appropriateness of designs for particular product	Colour combination Tiedye and Chikankari	Extent of relation to Tiedye and Chikankari	Overall appearance	Average score
S1	4.06	4.83	4.86	4.6	4.77	4.8**
S2	3.9	3.83	3.0	3.9	3.8	3.43
S3	4.9	4.9	4.9	4.8	4.9	4.81*
S4	4.3	4.4	4.5	4.31	4.0	4.4
S5	4.03	4.1	4.1	4.2	4.1	4.11
S6	4.8	4.8	4.8	4.9	4.8	4.8***
S7	3.8	3.9	3.9	3.8	4.4	4.1
S8	4.46	4.83	4.8	4.86	4.73	4.79****
S9	4.43	4.43	4.73	4.16	4.5	4.45
S10	4.4	3.93	4.46	4.4	4.14	4.37**

Table 3: Scores obtained for developed hand bags designs

Design No.	Arrangement of Tie Dye and Chikankari embroidered motifs	Appropriateness of designs for particular product	Colour combination Tiedye and Chikankari	Extent of relation to Tiedye and Chikankari	Overall appearance	Average score
HB1	4.0	4.4	4.9	4.8	4.8	4.9*
HB2	3.9	3.9	3.8	3.3	3.2	3.0
HB3	3.3	3.34	3.2	3.9	3.0	3.0
HB4	4.1	4.11	4.9	4.0	4.4	4.41*****
HB5	3.8	3.4	3.9	3.9	3.8	3.0
HB6	4.10	4.11	4.47	4.2	4.46	4.86**
HB7	3.34	4.4	4.4	4.6	4.2	4.4
HB8	4.8	4.9	4.9	4.8	4.9	4.81***
HB9	4.8	4.4	4.9	4.4	4.11	4.8****
HB10	4.45	3.9	3.9	4.2	4.2	4.1

Developed Designs and products

Designs were drawn for the development of kurtis, stoles, and hand bags. A total of 30 designs were made and 15 designs were selected by the judges, five each for kurtis, stoles and hand-bags. All the designs are shown in Figures 1 to 15. Designs were drawn, manually on drawing paper and then these were scanned and other details of the designs were added.

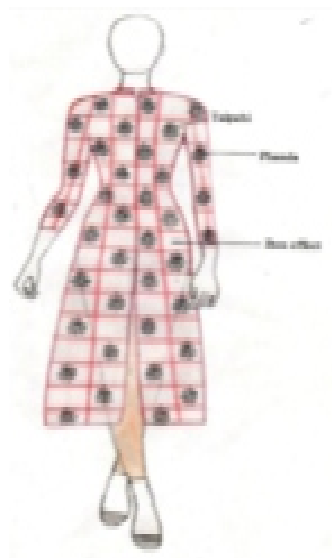


Figure 1 Developed designs for selected kurtis (K1)

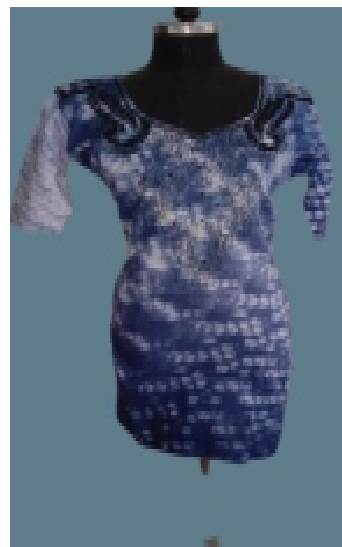


Figure 4 Developed designs for selected kurtis (K8)



Figure 2 Developed designs for selected kurtis (K4)



Figure 5 Developed designs for selected kurtis (K9)

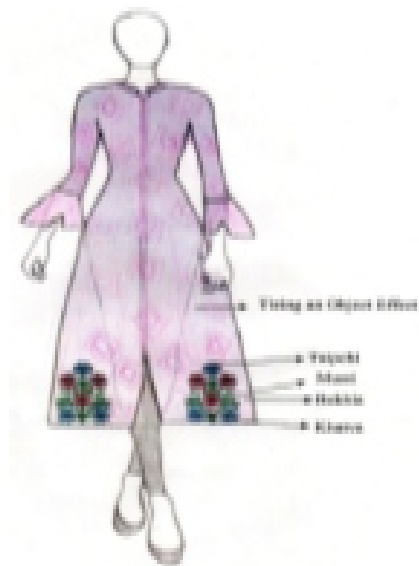


Figure 3 Developed designs for selected kurtis (K6)

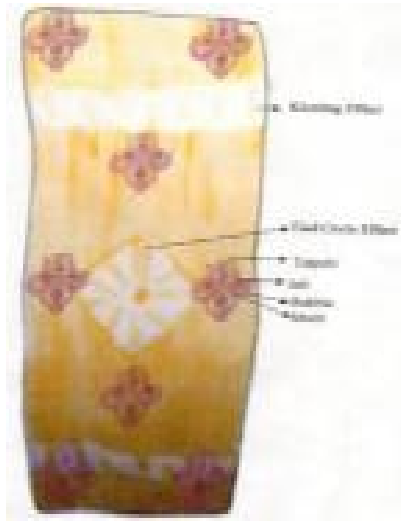


Figure 6 Developed designs for selected stoles (K9)

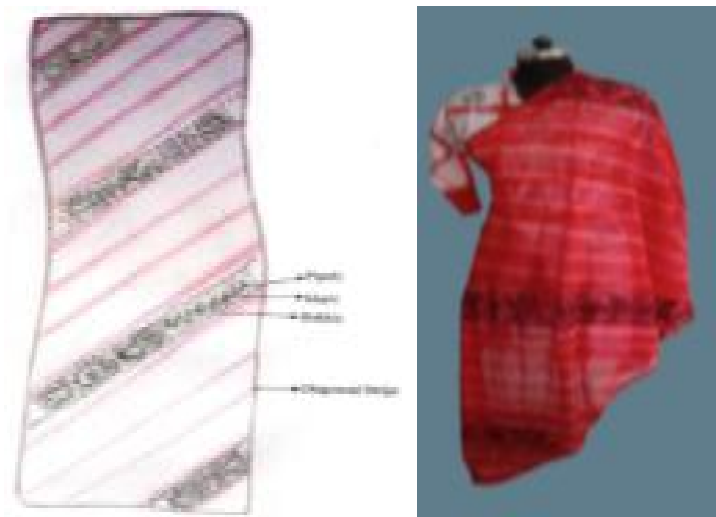


Figure 7 Developed designs for selected stoles (K9)



Figure 8 Developed designs for selected stoles (K9)



Figure 9 Developed designs for selected stoles (K9)

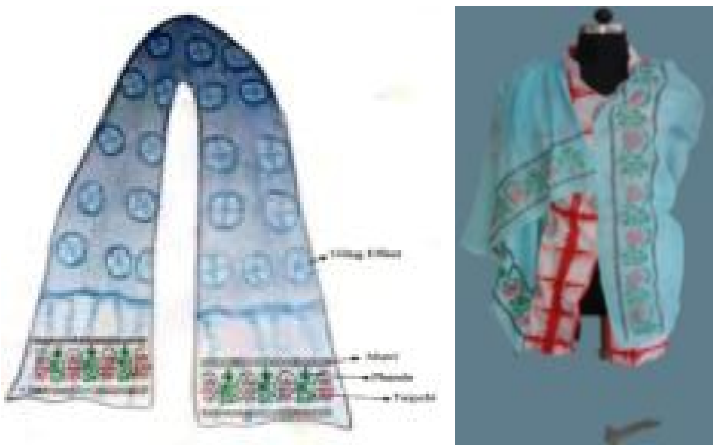


Figure 10 Developed designs for selected stoles (K9)



Figure 11 Developed designs for selected handbags (K9)

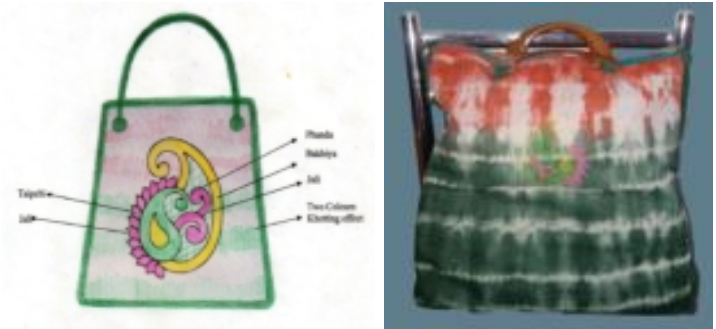


Figure 12 Developed designs for selected handbags (K9)



Figure 13 Developed designs for selected handbags (K9)



Figure 14 Developed designs for selected handbags (K9)



Figure 15 Developed designs for selected handbag (K9)

Cost of prepared products

The results are reported in Table 1. The Selected products were made after die tie and stitching process and the embroidery cost for each product was calculated on the basis of expenditure on raw materials. Fabric consumption in making the Kurtis, stoles, and handbags was 2.5m, 2.5m and 1m respectively. Stitching cost varied as per the use of establishments viz., embroidery work and dyeing. The cost for stitching a kurti was Rs. 110. The finishing (cutting, hemming) charges for preparing the stole was Rs. 10. The handbag-making charges were Rs. 50. Cotton blended fabric was used to reduce the overall cost of the prepared kurtis, stoles and handbags. Chiffon fabric was used for preparing stoles which increased the cost.

Kurtis	Raw material	Consumption	Total cost
K1	Fabric	2.5m	200
	Tie and dye colour	2 g	50
	Cotton thread	3b	30
	Anchor thread	20b	100
	Stitching charges		110
			490
K8	Fabric	2.5m	200
	Tie and dye colour	2g	50
	Cotton thread	3b	30
	Anchor thread	20b	60
	Stitching charges		110
			450
Stoles	Raw material cost	Consumption	Total cost
S1	Fabric	2.5m	200
	Cotton thread	3b	30
	Tie and dye colour	2g	50
	Anchor thread	19b	57
	Finishing charges		10
			297
S3	Fabric	2.5m	200
	Cotton thread	3b	30
	Tie and dye colour	2g	50
	Anchor thread	19b	57
	Finishing charges		10
			347
Hand bags	Raw material cost	Consumption	Total cost

HB1	Fabric	1m	80
	Cotton thread	2b	20
	Tie and dye colour	2g	50
	Anchor thread	5b	30
	Cane	1m	100
	Stitching charges		50
			330
HB8	Fabric	1m	80
	Cotton thread	2b	20
	Tie and dye colour	2g	50
	Anchor thread	5b	10
	Cane	1m	100
	Stitching charges		50
			310

Conclusion

The art of designing fabric using tie and dye and *Chikankari* technique was successfully applied on kurtis, stoles and handbags using a combination of direct dye and cotton threads. All the prepared kurtas, stoles, and hand-bags were judged by the judges for its aesthetic superiority. The prepared kurtis, stoles, and handbags with higher ranks were preferred due to their color combination, design, and embroidery pattern. The highest rank and acceptance of kurtis, stoles, and handbags was due to design, color combination, embroidery pattern and low cost. Thus it can be said that the designing technique used in this study helped in improving the aesthetic of kurti, stoles, and hand-bags. The recipes used for developing kurtis, stoles, and hand-bags using tie-dye and the *Chikankari* technique can suitably be used for producing value added environment friendly apparel and other textile products made from those fabrics. A combination or fusion of various other techniques like painting, printing and embroidery could be utilized for developing new products. This study has provided an in-depth knowledge and understanding of the designing, production of *Chikankari* and tie dye.

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