

The Comparative Study of Tie-Dye Methods for Pattern Design Development of Tie-Dye Products

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Abstract

The purposes of this research were 1) To compare to the distinctly motifs of Tie-dye methods: binding technique, folding technique and stitching technique. 2) To compare the dyeing results of the characteristics of cotton, linen, and rayon in geometrics patterns design group and naturalistic patterns design group. There are 8 motifs were used; quadrangle, triangle, circle, heart form, flower, leaf, butterfly, and worm. The research Instruments were used; 1) tie-dye fabrics dyed in 3 tie-dye methods. The tie-dye methods were bind, fold, and stitch amount of 120 pieces 2) The assessment for 15 connoisseurs (connoisseurship model). Data was analyzed by the statistical package for the social science program and using mean, percentage, standard deviation, one-way ANOVA (Scheffe), and chi-square.

The results of the study were found that binding technique was at mean 4.20 including stitching technique at mean 4.10 and folding technique at mean 3.69. The best technique was binding technique because this technique could produce products in a large quantity. The stitching technique was aesthetic, elegant and valuable. The folding technique could produce many patterns in one time.

Binding technique, folding technique and stitching technique on cotton were much suitable in tie-dye method and capability of techniques. Binding technique and stitching technique on cotton were much suitable in pattern design and overall image of fabric dyed. Binding technique and stitching technique on linen were much suitable in 5 parts. Folding technique on linen were much especial suitable in tie-dye method and capability of techniques. Binding technique and stitching technique on rayon were much suitable in 5 parts. Folding technique on rayon were much especial suitable in 5 parts except overall image of fabric dyed. Comparison of three kinds of fabric and two pattern groups were that geometrics and naturalistic patterns on cotton, linen, and rayon fabrics had average the best in binding technique. To compare tie-dye techniques and fabrics and pattern groups had different for some parts statistically significant at level of .05

This study was the experimental methods of tie-dye and 3 kinds of fabrics; cotton, linen, and rayon. The method of dyed in the study was vat dye (Indigo dye), the result found that the best fabric absorption dyed was rayon, the second best fabric absorption dyed was cotton and linen. The vat

dye in different kinds of fabric were dyed at the same quantity. They were dyed in the nearly different shade. Rayon was the best dye than another kind. Cotton and linen were dyed as the same shade.

Key words : Tie-Dye Methods, fabrics, patterns design

Preface

Handicraft market in this time, Thai hand-made product are well-know in domestic and aboard. Since a few years, handicraft product, hand-made products were increase demand. To consist of this situation, we are confront with the global warming, so many people turn back to care about friendly environment products. Fabric product, which is one of human element factor, is on the top of export ranking. There were the Thai Textile & Clothing Statistics Report on September 2008, Natural Materials garment had the highest export cost. Being unfortunately, learning process fundamental of folk wisdom was learned by experience learning and observation learning. Besides, it was instructed by word to mouth. The affect of the knowledge source will disappear provided that we are not record it in text. As tie-dye method that makes motifs on the fabric by several materials to be resist. There are many techniques such as fold, bind, stitch, twist, spin, clip etc., all over called Tie-dye. In the past, tie-dye was just craft that made in family or in hamlet and community. Nowadays, it is not only in home but it is a handiwork that makes it widely. Tie-dye make people in community to have income and it become export product and have order in every month. Furthermore, last year on runway, there were a lot of designer used tie-dye technique on their design such as DOLCE & GABBANA in Collection Pre-fall 08 ,NINA RICCI in collection Resort 08, and EMMA COOK in collection London Fashion Week Autumn/Winter 08 (Online Available: www.style.com). Moreover, Thai designer who use tie-dye technique on his design is Nagara and Thakoon. As above, Tie-dye methods have many techniques, some technique was used for along time and in this time, it is still used. Some technique is not famous to use because it is very complicated, hard and spend time to make. Although, the manufacturer is trying to design many motifs for matching with buyers but the motif name is yet repeated. It makes confusion to call the name and explain the details of the motif. About the beauty of motifs depend on tie-dye techniques that makes motif have different characteristics. Though, Tie-dye methods in each technique, which uses to make motifs have identities, so it has an affect on motif to present. The Important thing is the selection fabric, it will enhance techniques and motifs, is one of main component. The researcher realize to the importance of Tie-dye methods so the researcher would like to compare Tie-dye methods; binding technique, folding technique and stitching technique. The result of this study is the knowledge to develop Tie-dye technique and pass on to public sector, privet sector and anyone would like to know about Tie-dye.

Objectives

- 1) To compare to the distinctly motifs of Tie-dye methods: binding technique, folding technique and stitching technique.
- 2) To compare to the dyeing results of the characteristics of cotton, linen, and rayon in geometrics patterns design group and naturalistic patterns design group.

Limitation

- 1) To study and compare to tie-dye methods; Binding technique, folding technique and stitching technique.
- 2) Three different kinds of fabric dyed; cotton, linen, and rayon that all go through preparing fabric in scouring process.
- 3) The Colour dyeing in Vat dye (Indigo)
- 4) For this research was presented by 2 pattern design groups; geometrics and naturalistic patterns. There are 8 motifs were used; quadrangle, triangle, circle, heart form, flower, leaf, butterfly, and worm.

Procedure

- 1) Tools of experiment
 - 1.1) Materials are rubber band, C-clamps, spun thread, motif blocks, motif papers, Vat (Indigo), caustic soda, soda ash, soaping, wetting agent, sodium hydrosulphite and salt
 - 1.2) Fabrics are cotton, linen, and rayon. The tie-dye methods were bind, fold, and stitch amount of 120 pieces
 - 1.3) The suitable assessment for 15 connoisseurs
- 2) To select techniques, fabrics, and pattern groups
 - 2.1) To study and select 3 Tie-dye methods



Binding technique



folding technique



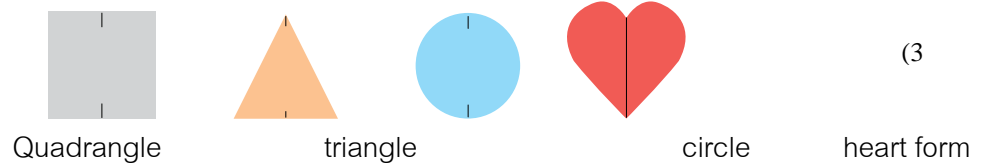
stitching technique.

2.2) To study and select three different kinds of fabrics and The scale of samples is 30 x 30 cm.

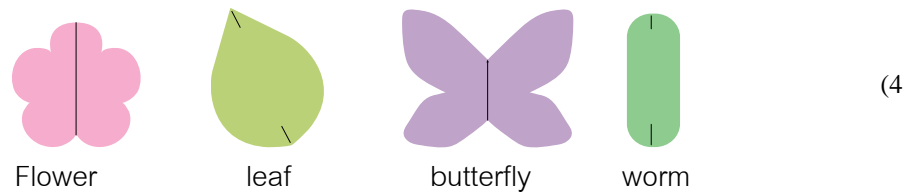


(2)

2.3) To select 2 pattern design groups; geometrics and naturalistic patterns. There are 8 motifs were used; quadrangle, triangle, circle, heart form, flower, leaf, butterfly, and worm.



(3)



(4)

3) Experiment process to compare

3.1) To experiment Tie-dye in 3 Tie-dye methods, 3 fabrics and 2 pattern design groups

3.2) Preparing fabrics in scouring process

3.3) To arrange motif blocks and motif papers

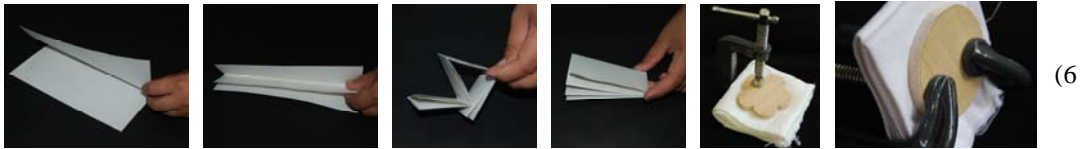
3.4 To Mark and to draw the motifs on the fabrics

3.5) To bind the fabric in fan style, bind on the line mark and bind on the area in crossed style.



(5)

3.6) To fold in quadrangle form, motif block cover like sandwich form and take the C-clamp to clamp.



3.7) To stitch in running stitch by hand, pull strings, be tied by spun thread till the ends.



3.8) Dyeing process

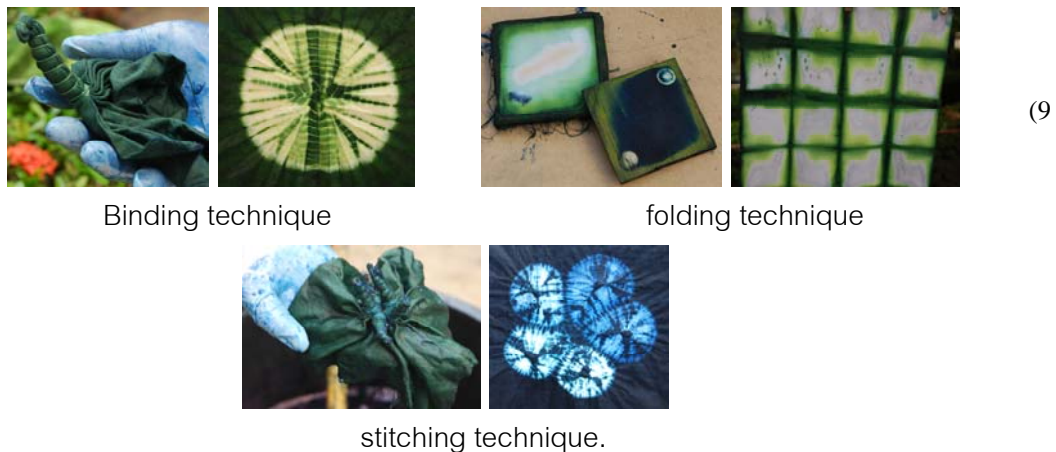
3.9) To prepare stock vat (Indigo) dye



Measure the dye powder and put it into the measuring cups. Add a small amount of measured quantity of water. Add the Caustic soda to the water. Carefully mix the sodium hydrosulphite powder slowly onto the surface of it. Last, add the Indigo to the vat and put salt into it.

3.10) To put wet-out fabrics into the vat, after that 10 minutes later carefully put salt again into the vat and mix. Mix again in every 10 minutes.

3.11) Dyeing for 2 hours, take the fabrics dyed comes into contact with the air it will start to oxidize



Binding technique

folding technique

stitching technique.

3.12) Turning the indigo dye from greenish-yellow back to its deep blue state.



(10)



(11)

Sample Product

4) Making the suitable assessment for 15 connoisseurs by connoisseurship model. In this study, there were comparative in 5 parts as follows

- 4.1) tie-dye method
- 4.2) pattern design
- 4.3) colour of fabric dyed
- 4.4) overall image of fabric dyed
- 4.5) capability of techniques

5) Data were analyzed by the statistical package for the social science program and using mean, percentage, standard deviation, one-way ANOVA, and chi-square.

Results

The results of the study were that binding technique had mean 4.20, the second, the stitching technique had mean 4.10 and the last, the folding technique had mean 3.69. For the result of the tie-dye technique suitability comparative ranking for mass-product, the best technique is binding technique because this technique was fast for made mass order. The second was stitching technique because this technique was look aesthetic, elegant and valuable, and the last was folding technique because this technique was fast for made many patterns in one time.

Tables 1 Average Mean from the suitable assessment in 5 parts

<i>Tie-dye Method</i>	<i>Max</i>	<i>Min</i>	\bar{x}	<i>S.D</i>	Suitable level
Binding Technique	5	2	4.20	.680	much
Folding Technique	5	1	3.69	.921	much
Stitching Technique	5	2	4.16	.702	much
Totel			4.02	.809	much

Tables 2 The result of Ranking Tie-dye methods that suitable for Mass Product

Value	Binding Technique	Folding Technique	Stitching Technique
Value (a)	3	2	1(b)

(a) Median

(b) All values

Binding technique, Folding technique and Stitching technique on Cotton were much suitable in tie-dye method and capability of techniques. Binding technique and Stitching technique on Cotton were much suitable in pattern design and overall image of fabric dyed. Binding technique and Stitching technique on Linen were much suitable in 5 parts. Folding technique on Linen were much suitable especial in tie-dye method and also capability of techniques. Binding technique and Stitching technique on Rayon were much suitable in 5 parts. Folding technique on Rayon were much especial suitable in 5 parts except in a part of overall image of fabric dyed. Comparison of three kinds of fabric and two pattern groups were that cotton, linen, and rayon fabrics in geometrics and naturalistic patterns in binding technique had average the best. Comparison of three kinds of fabric and two pattern groups had different and were insignificantly. To compare two pattern groups on Cotton had suitable in the high level and suitable in three tie-dye methods, To compare tie-dye techniques and fabrics and pattern groups had different for some parts statistically significant at level of .05

Recommendations for Future Research

- 1) It is recommended that Vat dyeing if you desire colour the best than capability Indigo dye, you can put the turkey red oil (as a mordant) into the vat before dyeing.
- 2) It is recommended that comparisons another Tie-dye methods which have different resist materials
- 3) It is recommended that comparisons Tie-dye methods and dyeing more 1 colour.
- 4) It is recommended that comparisons between Tie-dye method and Tie-dye method in another pattern design groups.
- 5) It is recommended that studying motivation and problem factor of another kind of dyeing
- 6) It is recommended that to study the probability of Tie-dye method developing for improvement to Industry level.

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