Saini et al., J Textile Sci Eng 2018, 8:2
DOI: 10.4172/2165-8064.1000343

Journal of Textile Science & Engineering

Research Article Open Access

Fabric Designing for Product Development by Combination of Weaves through CAD

Saini N*, Yadav S and Rose MN

Department of Textile and Apparel Designing, IC College of Home Science, Haryana, Haryana Agricultural University, Hisar, India

Abstract

CAD plays an important role in creation of new designs and the production processes in fast changing global trade. Computer Aided Textile Designing software is the new concept for designing in less time of today's era. Computers help to work easily in a short duration and more work with more production also. The application of Computer Aided Designing software is used in fields of weaving, fashion, embroidery, apparels, printing and knitting. Different weave patterns as well as combination of two or more weaves in development of products are created by Corel DRAW. The present study was conducted in Hisar and Panipat city. Different weave patterns were created through Corel DRAW. Total of eleven different weaves were created. Out of eleven top ranked three weaves were selected for creation of weave combination designs. Total thirty weave combination designs were created. Out of thirty designs top ranked six designs were selected on the basis of experts' preferences. These six designs were selected for preparation of fabrics with different weave combination designs and color combination suitable for the development of the products. Thus, the prepared fabric used for the development of apparels.

Keywords: Designs; Industries; Product; Textile; Weave combination

Introduction

This paper present the development of weave combination designs through Corel DRAW software-12. The best selected created designs through using this software used for the weaving of fabric using looms in industries in different colours. The development of designs is essential and continuing step in the field textile designing. Computer Aided Textile Designing (CAD) plays a vital role in facilitating the creations of new designs in short duration in fast changing global trade. It allows designers to offer more flexible and responsive service to customers and can therefore contribute to develop business Different geometrical designs, floral designs; human and animal figure designs can be created easily in less time without wastage of raw material only because of computer [1-3].

As well as designs we can also create different weave patterns by weaving of fabrics on looms. CAD is also the most common and easiest way to develop weave designs on graphs. Not only single weave patterns can be developed by Corel DRAW but in development of different weaves combination is also an important aspect of Corel DRAW software. Weave combination of designs with colour combinations enhance the beauty of end products this is possible only because of computer. Through weaving instead of apparels and textile products other products like household articles, utility articles can also be developed utilizing the designs created through Corel DRAW software [4]. Thus computer play a vital role in textile designing, fashion designing as well as textile weaving. Emphasized that designs can easily be visualized and altered on computers in less time without tedious labour [5]. So computerized designing can swap drawing the design by conventional method. The accuracy gets increased and the design can be repeated and placement can be done easily and quickly reducing the time period.

Methodology

The present study was conducted in IC College of Home Science, CCS Haryana Agricultural University, Hisar and Panipat city of Haryana state. The work done in study was based on creation of different weave combinations designs, the designs of weave combination were created with the help of Corel Draw. Corel draw used for creation of different designs and these created designs were got assessed from thirty selected expert's from IC College of Home Science. Out of thirty weave combination designs top ranked six designs were used for further work [6] (Figure 1).

Selection of Experts': Experts were selected randomly from IC College of Home Science according to their knowledge and interest in the relevant field. Total thirty experts were selected for selection of created designs.

Creation and selection designs: Total thirty weave combination designs were created through Corel DRAW software. Out of thirty designs top ranked six were selected or further work.

Results and Discussion

The data presented in Table 1 show that amongst designs of these are three categories; in each category total ten geometrical designs were created through Corel DRAW and these designs were preferred from experts'. In combination of (right hand twill weave and zig zag twill weave) the Design number 6 scoring highest mean score (2.90) and ranked Ist, design number 3 with mean score (2.86) ranked 2nd followed by design number 8 (2.73), design number 9 (2.60), design number 4 (2.56), design number 1 (2.53) design number 5 (2.46) design number 2 (2.43), design number 7 (2.33) design number 10 (2.20) got ranked 3rd, 44th, 5th, 6th, 7th, 8th, 9th and 10th, respectively. In combination of (right hand twill weave and left hand twill weave) the Design number 1 scoring highest mean score (2.76) and ranked Ist, design number 9 with mean score (2.66) ranked 2nd followed by

***Corresponding author:** Neelam Saini, Department of Textile and Apparel Designing, IC College of Home Science, Haryana Agricultural University, Hisar, India, Tel: +91-9412463898; E-mail: Sainineelam004@gmail.com

Received January 31, 2018; **Accepted** February 05, 2018; **Published** February 13, 2018

Citation: Saini N, Yadav S, Rose MN (2018) Fabric Designing for Product Development by Combination of Weaves through CAD. J Textile Sci Eng 8: 343. doi: 10.4172/2165-8064.1000343

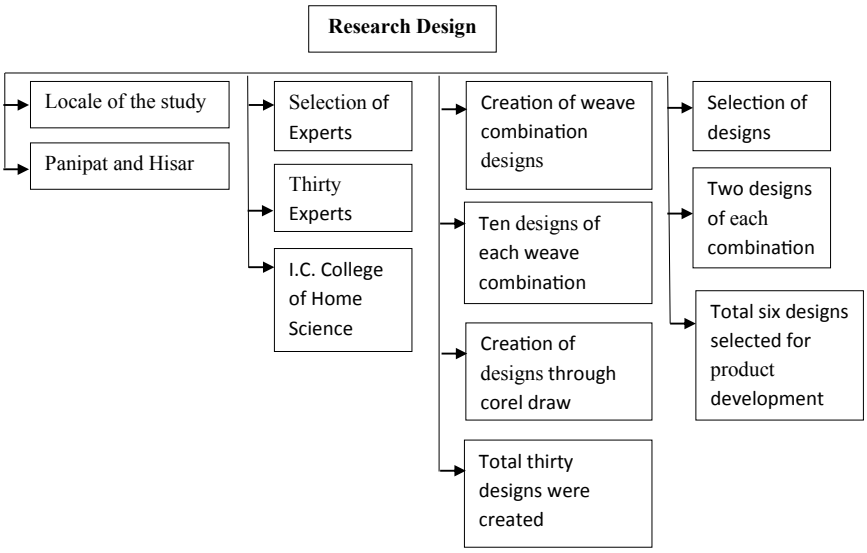


Figure 1: Research design.

design number 3 (2.50), design number 10 (2.46), design number 8 (2.40), design number 6 (2.33) design number 2 and 7 (2.30), design number 4 (2.20), design number 5 (2.00) got ranked 3rd, 44th, 5th, 6th, 7th, 8th, 9th and 10th, respectively. Whereas in Combination of (zig zag twill weave and left hand twill weave) design number 5 got Ist rank with weighted mean score (2.83), design number 1 got 2nd rank with weighted mean score (2.76) followed by design number 10 (2.73), design number 2 (2.60), design number 7 (2.40), design number 3 (2.33), design number 8 (2.30), design number 4 (2.20), design number 6 (2.16) and design number 9 (2.13) got ranked 3rd, 44th, 5th, 6th, 7th, 8th, 9th and 10th, respectively.

Top ranked six designs, two from each category were selected for further research work. Design number 5 and 3 from combination of right hand twill weave and zig zag twill weave, design number 1 and 9 from combination of right hand twill weave and left hand twill weave and design umber 5 and 1 from combination of zig zag twill weave and left hand twill weave were selected on the basis of highest score. These selected designs were used for development of shoddy woollen blended fabric with different weave combinations and these will further be used for making apparel products. These lines are supported by Sharma that the total numbers of 110 motifs i.e., floral, geometrical, animal traditional motifs were collected and screened twenty [6-11]. All twenty motifs were developed into contemporary form using CorelDraw software and top five motifs were selected. Amongst twenty developed motifs best five selected motifs may be used for creation of design and apply on saris using appliqué work (Tables 1 and 2).

Conclusion

From the study it was concluded that the geometrical designs of weave combination can be created by successfully adapted by CAD for preparation of different textured fabric. CAD software may be used for development of different weave combination designs for apparels and then selected top ranked designs may use for preparation of fabric. The prepared fabric with different weave patterns can be use for development of apparel, household articles and also for utility articles.

Sr. no.	Combination of Weave with Design no.	WMS	Ranks
1	**Combination of Right hand twill weave and Zig Zag twill weave**		
	Design no. 1	2. 53	VI
	Design no. 2	2.43	VIII
	Design no. 3	2.86	II
	Design no. 4	2.56	V
	Design no. 5	2.46	VII
	Design no. 6	2.90	I
	Design no. 7	2.33	IX
	Design no. 8	2.73	III
	Design no. 9	2.60	IV
	Design no. 10	2.20	X
2	**Combination of Right hand twill Weave and Left hand twill weave**		
	Design no. 1	2.76	I
	Design no. 2	2.30	VII
	Design no. 3	2.50	III
	Design no. 4	2.20	VIII
	Design no. 5	2.00	IX
	Design no. 6	2.33	VI
	Design no. 7	2.30	VII
	Design no. 8	2.40	V
	Design no. 9	2.66	II
	Design no. 10	2.46	IV
3	**Combination of Zig Zag twill weave and Left hand twill Weave**		
	Design no. 1	2.76	II
	Design no. 2	2.60	IV
	Design no. 3	2.33	VI
	Design no. 4	2.20	VIII
	Design no. 5	2.83	I
	Design no. 6	2.16	IX
	Design no. 7	2.40	V
	Design no. 8	2.30	VII
	Design no. 9	2.13	X
	Design no. 10	2.73	III

Table 1: Selection of weave combination designs N=30.

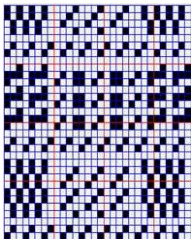
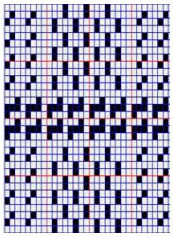
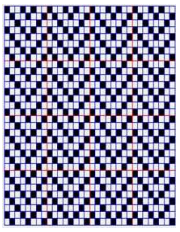
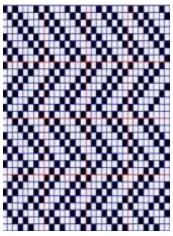
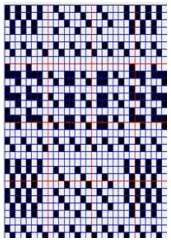
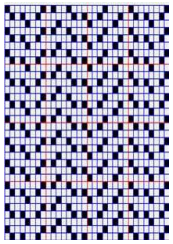
Design no.	Selected weave combination designs	Design no.	Selected weave combination designs
1	Combination of Right hand twill weave 4b and Zig Zag twill weave 5		
Design no. 3		Design no. 6	
2	Combination of Right hand twill weave 4b and Left hand twill weave 4a		
Design no. 1		Design no. 1	
3	Combination of Zig Zag twill weave 5 and Left hand twill weave 4a		
Design no. 1		Design no. 5	

Table 2: Selected weave combination designs for the development of selected products.

References

1. Rani D (2016) Adaptation and application of henna motifs for fabric painting. Unpublished Master'S Thesis. Department of textile and apparel designing I. C. college of home science, CCS Haryana Agricultural University Hisar – 125004, Haryana, India.
2. Handique M (2010) Old Clothes Spin a New Yarn in India. Live mint.
3. Noonan SD (2002) Computer-Aided Design: Training Needs in Fashion and Textile Design. Textile Research Journal 102: 50-51.
4. Sangama EM, Rani A (2012) Development of designs for textile designing. Textile Trends, 54(3), 29-34.
5. Kashyap R, Ojha S (2012) Simulation of designs of gota work of Rajasthan. Fashion and Text Tech 3: 76-78.
6. Sharma A, Singh SS , Rose NM (2016) Development of Motifs: Traditional to Contemporary for Saris. Research Journal of Recent Sciences 5: 44-46.
7. Saini N (2013) Revival of phulkari embroidery for contemporary use. M.Sc. thesis, CCS Haryana Agricultural University Hisar - 125004 (Haryana).
8. Sangama EM, Rani A (2012) Development of designs for textile designing. Textile Trends, 54: 29-34.
9. Sapra K (2015) Adaptation of traditional motifs of Gujrat to digital embroidery. M.Sc. thesis, CCS Haryana Agricultural University Hisar - 125004 (Haryana).
10. Sharma A, Singh SSJ, Rose NM (2016) Development of Motifs: Traditional to Contemporary for Saris. Research Journal of Recent Sciences 5: 44-46.
11. Sunita (2016) Development of digital embroidery designs from traditional motifs of Haryana. Ph.D. thesis, CCS Haryana Agricultural University Hisar - 125004 (Haryana).