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Adaptation of mandala art for development of design suitable for textile articles

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Abstract

India is a land of diverse religions; variant art flourish here, one of them is Mandala art. Mandala is patronized by the Buddhist people. Buddhist art refers to representation of religious images, sculpture, dance, visual mythology and symbols. They use this art mainly for meditation. The meaning of Mandala comes from Sanskrit meaning "circle". Even though it may be dominated by squares or triangles, a Mandala has a concentric structure. A set of eight auspicious symbols which are known as Astamangala is most popular in Tibetan Buddhism. Information was collected regarding Mandala designs and their adaptation for screen printing. Purposive sampling was done and information was gathered from the Buddhists and lamas of Uttarakhand. Data was collected from both primary and secondary sources. The motifs were adapted for development of center, all over, border and corner designs suitable for screen printing. Forty five motifs were adapted from the nine mandala motifs and were modified by using CAD. The adapted motifs were evaluated, different arrangement were done and finally seven design arrangements were selected and used in combination to print different textile product. These adapted motifs were accepted well among consumers. The developed designs were found suitable for the production of household articles, apparel as well as textile products through screen printing. This study will be helpful in providing a design bank having spiritual and auspicious meaning attached.

Keywords: Mandala, Buddhist art, screen printing, design bank

Introduction

India is a land of diverse religions; variant art flourish here, one of them is Mandala art. Mandala is patronized by the Buddhist people. Many forms of Buddhism are actually practiced around the world. All type of Buddhists don't follow the same teachings and the same texts. Buddhist art is the artistic practice which is influenced by teachings of Buddha. It includes art media which depict Buddhas, Bodhisattvas and other entities; notable Buddhist figures, both historical and mythical; narrative scenes from the lives of all of these; Mandalas and other graphic aids to practice, as well as physical objects associated with Buddhist practice, such as vajras, bells, stupas and Buddhist temple architecture. Buddhist art originated on the Indian subcontinent following the historical life of Siddharth Gautama and thereafter evolved by contact with other cultures as it spreads throughout Asia and the world. Under the Buddhist influence, Indian sculptures were made with an understanding of actual human anatomy through not much accurate in scientific terms. The Mandala is oldest Buddhist art as well as tradition involving the creation of their religious design made from coloured sand. Buddhist art refers to representation of religious images, sculpture, dance, visual mythology and symbols. They use this art mainly for meditation. The meaning of Mandala comes from Sanskrit meaning "circle". In its most common form a Mandala appears as a series of concentric circles. It depicts deities which are enclosed in the square structure situated concentricity within these circles. Drawing a Mandala is both time and effort consuming (Zhang, J. *et al.* 2019) [5]. A set of eight auspicious symbols which are known as Astamangala is most popular in Tibetan Buddhism. Historically, the Mandala was not created with natural, dyed sand but granules of crushed coloured stone. In modern times, plain white stones are ground down and dyed with opaque inks to achieve the same effect. Before laying down the sand, the monks are assigned the project to draw the geometric measurement associated with the Mandala. The sand granules are then applied using small tubes, funnels and scrapers, called chak-pur until the desired pattern over-top is achieved.

Sand Mandala traditionally take several weeks to build due to the large amount of work involved in laying down the sand in intricate details. A team of monks will work together on the project, creating one section of the diagram at a time, working from the center outwards.

The Indian arts and crafts can play an important role in fashion world. As now a day's fashion trends are fragile and consumer constantly demand innovative designs change over existing fashion trends. It is well recognized from ancient times that Indians have a rich cultural heritage, which is now a days under the verge of extinction, due to labour extensive work with lower wages. So, most professional textile designers are using some form of computer –aided design software created exclusively for designing purpose. This helps in saving time and energy. A number of software are available in global market for different purposes for example coral draw software is used exclusively for designing of various motifs. The art of Mandala can be used for the development of the designs and their application on the textiles by employing various textile printing techniques like screen printing, block printing and batik etc. This will not only help in the revival of Mandala but will also broaden the design base for textile products.



Fig 1: Mandala art showing Astamangala motifs.

Mandala designs can provide a new horizon to the designers that can be a good source of inspiration for them to be used in diversified ways in textiles. Mandala designs require a new podium to be in the fore front of fashion. These designs need adaptation including little modification in their shape, style and colour combination for their use on textiles. Due to religious significance of Mandala designs, these should be adopted to use only on apparels to be worn on upper body parts. All these designs have auspicious significance, therefore should not be used in places which might give message of non respect. The present research work has been planned to explore the possibility for adaptation of Mandala art forms to produce printed designs for textile ornamentation using the screen printing technique. The reason for using traditional motif in textiles is to keep our designs and motifs alive. The application of Mandala designs on fabric will create more impact and generate awareness about this art form among people. Preparation of textile products with the adapted Mandala designs using screen printing techniques may be new approach through which this art can be explored for textile designing. The objectives of the present study are as follows: 1. To collect information regarding religious

Mandala designs of Buddhist and their significance.2. To adapt and modify Mandala designs for screen printing and assessment of their suitability. 3. To prepare printed samples using the adapted Mandala designs, their scoring and product formation for various uses.



Fig 2: Buddhist monk drawing geometrical shapes.

Methodology

The present study was aimed at collecting information about the traditional Mandala motifs of Buddhism, their adaptation on textile through screen printing. Two districts namely Nainital from Kumaon division and Dehradun from Garhwal were selected by using purposive sampling. Data was collected from both primary and secondary sources. Total sample size was 120 respondents. Selection of respondents was done by using snow ball sampling method. The structured interview schedule and a five point Likert scale were prepared for the collection of data. Interview, observation and key informant, focused group discussion were methods employed for data collection. Mandala designs were collected from various sources like temples, mindrolling monastery, books, cards, photographs and stickers. Individual motifs from Mandala designs were adapted without changing the originality of the basic design. The motifs were adapted for the development of center, all over, border and corner designs suitable for screen printing. The motifs were evaluated by a panel of judges. Weighted mean score was calculated for each motif. The motif which score highest weighted mean score was assigned rank I. A total of eighteen motifs were selected. Four types of arrangements were developed for each selected eighteen motifs of Mandala which made total of seventy two designs. These prepared design arrangements were also evaluated by a panel of judges. Finally one best arrangement was selected from each category of border, corner, center and all over. These selected design arrangements were used in combination to use on different textile product.

Result and Discussion

The findings of the study are as follows: The results related to respondent's family type are given in the table 1. It is evident from the table 1 that 35.2 percent of the respondents had nuclear family whereas 17 percent of respondent belongs to joint family. It was found that most of the respondent i.e.47.7 percentage were separated from their family to adopt the life of a lama or monk.

Table 1: Percent distribution of respondents according to socio demographic and socio economic status

Variables	Category	Age group			
		25-50 years		50-75 years	
		Frequency	Percentage	Frequency	Percentage
Age		88	73.3	32	26.6
Sex	Male	63	71.5	28	87.5
	Female	25	28.4	4	12.5
Marital status	Married	17	19.3	9	28.1
	Unmarried	71	80.6	23	71.8
Family Type	Nuclear	31	35.2	10	11.3
	Joint	15	17.0	2	2.2
	Separated	42	47.7	20	62.5
Educational level	Informal	17	19.3	23	71.8
	Formal	71	80.6	9	28.1
Income per month	Below 5000	44	50.0	8	25.0
	Between 5000-9000	29	32.9	11	34.3
	Between 10000-20000	15	17.0	13	40.6
Occupation	Agriculture	21	23.8	12	37.5
	Weaving	-	-	-	-
	Service	-	-	-	-
	Business	67	76.1	20	62.5

The distribution of respondent according their awareness about different design practiced by Buddhist as part of their religious activity of Buddhism is given in figure 3(i) and figure 3(ii). It is evident from the result shown in the figure

that 77.2 percent Buddhism respondent were found to be aware about the art but 22.7 percent of respondents were unaware of the art.

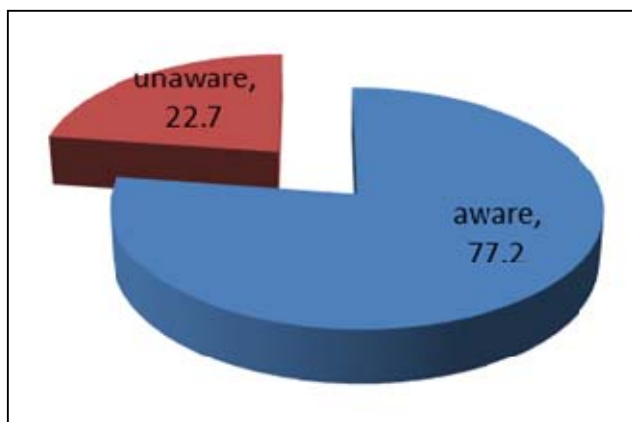


Fig 3(i): 25-50 years

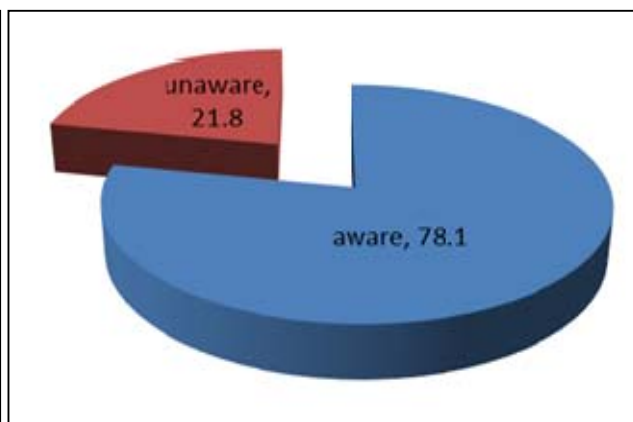


Fig 3(ii): 50-75 years

Fig 3: Percentage distribution of respondents according to their awareness regarding Mandala art

It can be seen in figure 4 that 47.7 percent respondents in the age group of 25-50 years and 71.8 percent in the age group of 50-75 years used to decorate their walls with different traditional motifs of Mandala whereas only 5.6 percent of respondents in the age group of 25-50 years and 12.5 percent

in the age group of 50-75 years decorated colourful pottery from different motifs of their tradition. Floor decoration was practiced by 17.0 and 12.5 percent of respondents in the age group of 25-50 and 50-75 years respectively.

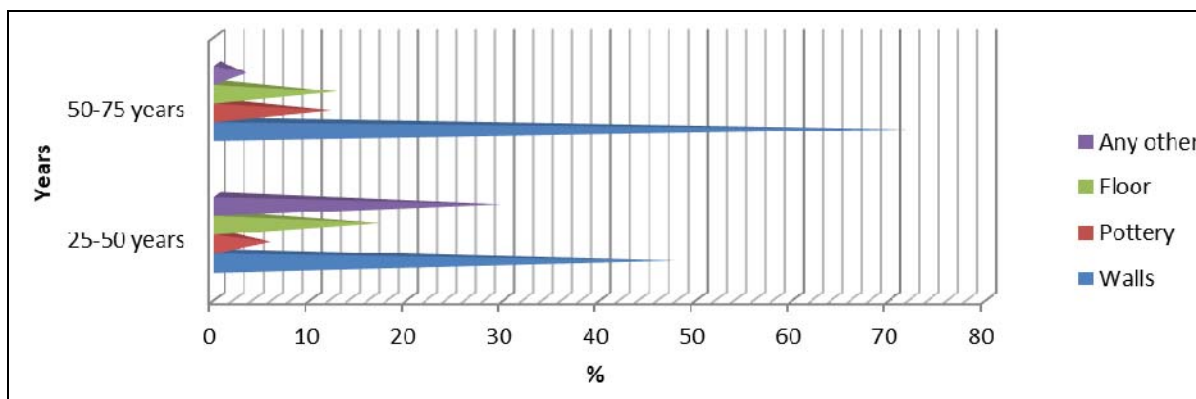


Fig 4: Distribution of respondents according to places used for decoration with their traditional designs

Ashtamangla i.e. eight religious motifs of Mandala and a vajra which make a total of nine symbol were taken for the study. In abovementioned all nine categories, five designs were developed, thus total forty five designs were developed. The developed motifs were evaluated by a panel of judges. The motifs were given rank on the basis of their weighted mean score. The first two motifs in each category of nine motifs were selected on the basis of their ranks which made a total of eighteen selected motifs. These selected motifs were used for creating four different types of design arrangement. These seventy two design arrangements were developed and evaluated by a panel of judges. The evaluation was done by two different methods. In the first method the judges were

asked to give their preference for the four design arrangements of each category. In the second method of evaluation, preference was given by comparing all the border designs of all eighteen motifs and a best border arrangement was selected according to score given. The same procedure was repeated for each of the other arrangement. In this way one best arrangement for each of the all over, border, center and corner was selected which gave variety of all the four arrangements. The selected design arrangements from both evaluations were used for product development. All the selected seven arrangements were used in making these four products by combining the suitable design arrangements.

Table 2: Weighted mean score obtained by developed products on different parameters (N=30)

Weighted mean score assessment of screen printed textile products				
Product Name	Placement of motif	Innovation in design	Overall appearance	Aesthetic
Kurti	4.85*	3.99	4.57	4.46
Stole bag	4.58	4.64*	4.23	4.34
Tote bag	4.43	4.27	4.42	4.81*
Vest	4.45	4.50	4.63*	4.26

*Highest weighted mean score

It is clear from table 2 that among all products developed, Kurti got I rank in placement of motif, stole bag got highest score in innovation in design. Overall appearance found best in case of Vest and aesthetic appearance was highest in tote bag.



Product 1: Tote Bag

Product 2: Kurti



Product 3: Vest

Product 4: Stole

Fig 5: Products developed using screen printing technique

Conclusion

It can be concluded from the results that inspiration and adaptation of motifs from religious art of Mandala, Uttarakhand, is possible. The adapted motifs were used for the development of the design and their application on fabric to prepare products using screen printing techniques. Use of adapted motifs from Mandala in the development of design arrangement for textile products was accepted well among consumers. The developed designs can be utilized for the production of household articles; apparel and accessories as well as other type of textile products through screen printing technique. The study also revealed that it is possible to integrate Mandala design on textile surface. This effort might help in fabricating textile items of greater demand in fashion market both at national and international level, as customer needs variety and change.

Recommendations

The craft and culture of India is very rich. Further study may be focus upon arts of other religions or areas. In the present study the inspired designs of Mandala were adapted for screen printing. These motifs or designs may be adapted for other techniques i.e. embroidery, stencil, digital printing, batik etc.

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