

RECYCLING OF WASTE TEXTILES THROUGH FABRIC COLLAGE TECHNIQUE INTO ECO-FRIENDLY PRODUCTS OF USEFUL ACCESSORIES USING SCRAP FABRICS

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ABSTRACT: Background: Recycling is a practice of reusing items that would otherwise be discarded as waste. A recyclable product is turned back into a raw form that can be used to create a new and different product. Textiles and fashion industries have moved to become more sustainable, in the use of recycled fiber, yarn, fabric, and product content in the development and production of new products which are eco-friendly and economical in use.

Objective: The main objective of this research is to promote and represent fabric recycling and its importance for the environment and in the fashion industry. It focuses on the recycling of textiles scraps into more economical and environment-friendly products.

Materials and Methods: Different scrap fabrics are used to produce small new products, using the technique of fabric collage. Tapestry fabric including leather and scraps of curtains are used to reproduce rugs, wall hangings, table runners, and chair covers.

Conclusion: These end products are used as decorations for interiors using scrap from highly expensive materials. Those materials are leftover by manufacturing industries and their destruction creates heavy pollution in the environment, however, using the technique of Fabric collage minimizes the pollution and produce eco-friendly and a cheap product for daily use.

Keywords: recycling, sustainable environment, textiles recycling, fabric collage, eco-friendly textiles.

INTRODUCTION

Recycling is the process of collecting and processing materials that would otherwise be thrown away as trash and turning them into new products. Recycling can benefit your community and the environment. Although the level of recycling activities fluctuates over time, the underlying driving forces point to the overall increase of these activities [1]. Recycling is both an economic as well as an environmental activist. As an economic activity, recycling represents a recovery of residual value from a waste product. As an environmental activist, recycling is neither inherently positive nor negative. Life cycle assessment methodology can be applied to the recycling process just like to any other process to assess the overall impact. The environmental impact can be assessed in terms of local, regional, and global impacts [2].

Textile recycling is the process by which old clothing and other textiles are recovered for reuse or material recovery. It is the basis for the textile recycling industry. The necessary steps in the textile recycling process involve the donation, collection, sorting, and processing of textiles, and then subsequent transportation to end-users of used garments, rags, or other recovered materials [3]. In a study [4] it has been discovered that the use of consumed raw materials in the production of handicrafts based on experimentation, leads to a kind of compatibility with environmental sustainability. Textile recycling is based on three basic phenomena that are handicrafts, making use of consumed raw materials, and the rest of raw materials. The role of the material in handicraft experimentation to create some handicrafts based on consumables. The field of recycling textiles and handicrafts accepts everything new in the way

used materials are handled and that innovative handicraft can be produced by making use of experimentation with the textile capabilities of the used textile materials.

The fashion industry should be eco-friendly and contributes to a sustainable society and it can be environmentally active and contribute to society more than just economically [5]. Many companies in the textile industry give their waste (weaving, knitting, and clothing) to charities that use it for stuffing pillows, tapestry, blankets, patchwork, and other craft and needlework [6]. According to one study [7], there is an increasing amount of waste that is being generated each year from textiles (including carpets and clothing). The case of textile and apparel recycling impacts many entities and contributes significantly, in a broader sense, to the social responsibility of contemporary culture. Recycling textiles also contribute to goodwill associated with environmentalism, and the movement of used clothing to areas of the world where clothing is needed, and because textiles are nearly 100% recyclable, nothing in the textile and apparel industry should be wasted [8]. The textile industry has therefore been focused on sustainable approaches and ecological aspects for eco-friendly clothing production [9].

Scrap Fabric

A "scrap" is a leftover piece of fabric that is small and can be used in another project by itself. The size of anything that is considered "useful" may vary but in general, there are a few rules of thumb that can qualify a scrap for reuse. Scrap fabric is the one top textile recycling and reusable resource. Textile recycling picks up the scraps and then finds a home for it either to be recycled or reused by artists, students, and designers. Scrap is always looking for volunteers to help sort their fabric.

A study did [10] suggested that textile waste is a significant contributor to landfills, yet most textiles can be recycled, allowing for the energy and fiber to be reclaimed. The fibers used within the apparel, the current mechanical and chemical methods for textile recycling. A study [11] suggested that the appropriate allocation of individual time and space becomes crucial to conducting the door-to-door activities to collecting more recyclables. While the collecting territory as the

condition of production is positively reflected by the usual extent of the collecting distance, junk buyers mostly spend time in finding sellers instead of simply expanding their collecting territory. This is a typical example of the cheapest and lowest skilled labor forces being in relatively unlimited supply in a developing country.

METHODOLOGY

The home textiles field holds experimental methods to make products related to interior designs using different forms and ideas of textiles. In this paper, the following home products related to textiles have been used to reproduce rugs, wall hangings, table runners, and covers of dining chairs.

SAMPLING

A smooth synthetic fabric designed to resist liquids and staining has been chosen for dining chairs, the color used for chairs is blue and half white. Then for table runners, the fabric base was gray (3 meters long) navy blue, and printed gray fabric patches (1/2 meter each) come in standard widths from 10 to 15 inches wide and standard lengths from 36 to 108 inches long. To make rugs, waste carpet pieces of different sizes were used and for the wall panels, canvas fabric was used of different sizes.

All the products were then made using techniques of sewing and patchwork in the field of home textiles. Students were asked to use the construction of the manual work design depends by analyzing the intellectual and formative principles of the synthesis art [12] using fabric remnants and waste from the carpets and curtain fabrics. In the field of fabric textiles, this experimental intellectual direction relies on intellectual fragmentation and an artistic constructive restructuring.

Patchwork Method:

This method involves the collection of scraps of fabrics closely together, fixed with each other by hand embroidery methods and machines. These scraps may be small, so it is called the (mosaic) method due to their small size and their close approaches to each other. In this technique, various fabrics are collected and then put on each other to produce free shapes by fixing them with embroidery, and this method depends on the compatibility and homogeneity of the chosen fabric scraps in terms of texture or color, which gives richness to the handicraft.

OUTCOMES

Wall panel

Wall panels provide a versatile canvas that can be used to change the style of rooms at any time. With any option to decorate room panels came up with a few ideas to help you with your inspiration.

The Wall panel changes the wall colors and gives it a refresh look in the room interior. Any color of choice can be used to enhance the home's appearance.

Table Runner

The table runner is a narrow length of cloth laid on top of tablecloths or on a bare table. Table runners are used in a variety of ways. To accommodate the average place setting, the table runner is approximately 14 to 17 inches wide, and the drop at the ends is about 15 inches deep. Table runners are easier to care for than a tablecloth and a little more decorative than a placemat.

Rugs

Rugs are often chosen as a floor covering based on how they look and feel but they also have a positive impact on the indoor air quality of your home and the longevity of your carpets and, rugs are an important part of the home with a large percentage of hard flooring. Rugs brighten up a room and give warmth and comfort to those who walk, sit and sometimes lie on the rug. When placed on top of the carpet they protect the carpet from spills and abrasive soil thus down the wear process and protect your carpet.

CONCLUSION

The field of textiles is a consumption area that, along with food, housing, and mobility, causes the greatest environmental impacts. By means of re-use and recycling, some of these environmental impacts may be reduced. The currently available technologies allow both government and business on the one hand, but also consumers on the other, to practice recycling in a way that makes it both environmentally sound, ethically just, and economically acceptable [13].

With the rising concern over environmental and social sustainability, energy and water consumption and pollution, scarcity of natural resources, and emission of greenhouse gases, the textile industry, which generates a substantial environmental footprint from cultivation, fabric manufacturing, to the landfill disposal of post-consumer items, is facing tremendous environmental and resource challenges. Due to the high volume of textile waste that is produced around the world, textile reuse and recycling can be a sustainable solution for a reduction in solid waste in landfills, reducing the production of virgin materials and energy consumption and environmental footprint [14].

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