

## Salvaging the Value of Textile Waste through Scratchboard Etching

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### **Mentor Statement:**

The purpose of this mentorship relationship was to assist Apparel Production seniors explore and attain the high-level design skills required to become successful professionals in the apparel industry. A studio-type class was offered where each individual student selected a theme to develop and work on independently. Students were able to use various apparel industry technologies and recyclable resources such as donated fabrics, surplus textiles and cut and sew textile scraps, etc. in the department to enhance their design learning experience. Since sustainability is a world-wide concern, the department encouraged students to design a garment using recycled materials available in the department with the technology provided. The student designer in this study used and created a sustainable design from limited and unconventional materials while meeting aesthetic and functional purposes. Hence the sustainability goals were well met. This design was chosen to be sponsored based on its high quality of construction and technique. This design incorporates an alternative way of thinking by using various design elements cross the disciplines.

### **Design Statement:**

The environmental impact of textile waste has urged the need for sustainable alternatives to landfill disposal and increased the interest in reuse and recycling (U.S. Environmental Protection Agency, 2008). In this study, a sustainable design was created in attempts to respond to these demands by focusing on reverse logistics which is the process of maintaining value in discarded products through various activities such as redesigning or recycling (De Brito & Dekker, 2003). The inspiration for the design came from scratchboard etching which is an art technique of the process of scraping away a dark colored ink layer to reveal an underneath multicolored crayon surface (Dahood, 1973). In apparel design, this design inspiration has been shown through a textile embellishment technique called slashing. This technique creates slits by cutting layers of fabric in a garment and exposing an underneath fabric layer (Ashelford, 1983). This type of technique is often used in apparel design because of its unique texture and visual impact (Hoh & Smith, 2015; Lee, 2017). However, Claudio (2007) indicated that the execution of this technique and decoration generates more textile waste due to the multilayers used underneath. Therefore, the usage of existing textile waste in redesigning products would be valuable to reduce the concerns in using this technique as well as address the sustainability issue in the apparel industry. The purpose of this design was to create a sustainable design using textile waste by combining art techniques and textile embellishment techniques from the sixteenth and nineteenth-century to salvage the value of the materials. The strength of this design is to provide the various colors revealed underneath that are achieved through the variety of textile

scrap layers used for slashing. Reverse logistics allows this textile creation and embellishment techniques to salvage the value of textile waste in materials and garments.

The design consists of two pieces: jacket and pant. To create the garments, two bedsheets and three pillowcases made of 100% polyester were purchased at a Goodwill® store. To create the slashing interlayers in various colors, about 2.5 pounds of woven textile scraps collected from an apparel production lab were used. The textile scraps were made of synthetic or natural fibers.

To create the slashed surface using textile waste, one dark colored bedsheet was divided in half to create upper and bottom layers for the dark surface in the scratchboard etching technique. The 2.5 pounds of textile waste was laid in between the upper and bottom layers of the bedsheets fabric to strategically achieve the art color scheme. Half-inch wide vertical channels were stitched across the rectangle from top to bottom to hold all fabric layers together and to create textures from the cut slits; the upper and middle layers were cut in the middle of the channels leaving the bottom layer intact for wearer's skin comfort. After the layers were slashed, the textiles' cut edges were unraveled by rubbing the surface to achieve the fluffy textures. The completed slashed surface textiles were cut to several pieces in various sizes to create the jacket collar, cuffs, waistband, hood, and pant.

The bodice of the jacket was created using two light-colored pillowcases for contrast effects. Ruching was created by attaching elastics along the outseam, underarm and side seams of the sleeves to create a bustle shape inspired by the nineteenth-century garment design element. To provide structure and temperature control effects, the slashed surface textiles were used to create the collar and cuffs of the jacket. On top of the collar, the detachable hood inspired by the bonnets of the nineteenth-century using the same textiles was attached for functionality. Six buttonholes were created along the bottom edge of the hood and six buttons were sewn to the jacket's collar to allow the hood to be detached. The jacket and hood were fully lined with a plain bedsheets to provide skin comfort and shaping effects. A waistband using the slashed surface textile was added to the jacket to assimilate a corset look from the same era and to achieve cohesion in the design. To maintain cohesion between the jacket and pant, hem bands were added to the edges of the pant legs using leftover fabrics from the light-colored pillowcases. An exposed zipper was sewn at the center front of the jacket and center back of the pant for easy donning and doffing. The zippers and elastics donated to the apparel production lab were used for the garments.

This design provides an example combining art and textile embellishment techniques used during historical eras to encourage redesign by using textile waste to salvage the values of the materials in various ways. This approach may provide sustainable alternative ideas to the apparel industry to reduce the disposal of textile waste in landfills.

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