

Indigo Chrysanthemum

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Building on my previous design scholarship, this dress was a sustainable design challenge using geometric shapes to achieve a zero waste garment design. Further, my aesthetic goals for this design combine cultural and environmental sustainability by exploring the use of shibori in an apparel application, combined with the use of natural dye to color the silk.

Zero-waste design is a creative patternmaking challenge providing a holistic approach to creating garments that requires considering aesthetics and function simultaneously (Carrico & Kim, 2014). As one method of sustainable apparel design, zero waste design techniques focus on eliminating fabric waste during the design and construction process. Zero waste may include draping on the body using cuts, pleats and folds to develop a design without cutting away much fabric, manufacturing garment pieces through weaving or knitting the specific shape needed, and working with geometric shapes (Gwilt, 2014).

I have used natural dyes as an expression of sustainability in my design work for almost 15 years. I find an additional level of creativity and spontaneity is obtained by developing my own colors through use of natural dyes since there are so many variations of color and ways to control (or not control) outcomes. In the case of indigo, repeated immersion in the dye vat increases the depth of color.

Nui shibori, a stitch resist method of textile design was the technique used to develop the three-dimensional surface design effect for this garment. In *nui shibori*, after stitching is completed, the fabric is drawn into tight gathers, along the stitched thread line, and secured by knotting. Then the fabric is dyed. The fabric within the gathers is protected from the dye, resisting the penetration of the color (World Shibori Network, 2016).

To accomplish the surface design, spiral shapes were stitched (Figure 1) on three satin organza fabric lengths that would eventually form the skirt and shoulder wrap of the dress to be designed. After stitching the spirals using a running stitch, the stitches were pulled tight to form shaped resist areas scattered around the fabric. Drawing up the stitches into gathers formed cone shaped areas similar to those formed during *kumo shibori*. The released resist areas differ in appearance though because the stitched spiral shapes in this design gathered the fabric and have a petal-like appearance, while in the *kumo* technique the thread wraps around the fabric forming the cone shape and pleating the fabric as it is accomplished.

After stitching the resist areas, silk satin organza and silk organza were hand dyed in an indigo dye vat. The silk was immersed in the indigo dye several times to develop a deep blue color. The fabric was rinsed to remove dye residue, then the shibori running stitches were removed from the design areas. Usually the cone shapes are released during washing and/or ironing, however this effect imparts an interesting and unique three-dimensional surface design on the fabric. A few of the areas were ironed out, but most remain in the fabric (Figure 2).



Figure 1



Figure 2

Building on my previous design scholarship, this dress was a sustainable design challenge using geometric shapes to achieve a zero waste garment design. All garment “pattern” pieces originated as either squares or rectangles and were draped on the dressform to develop the final design. A rectangle was shaped into the strapless bodice using darts reaching from side back toward the front bust point. An extension of that rectangle is shaped into a centerback bow-like feature that hides an invisible zipper. The two skirt layers began as squares with the center slashed in an X shape large enough to accommodate the waist, rather than a circle being cut out of the middle. The cut edges of the X are turned under and stitched to the bodice in an applique-like technique. The X edges form a pointed waistline seam. The third fabric piece with spiral stitched shibori silk wraps across the shoulders attaching to the bodice at center front. The three-dimensionality of unreleased shaped resist shibori provides the additional aesthetic feature of an uneven hemline, when the fabric edges are straight.

In conclusion this design, *Indigo Chrysanthemum* contributes to the ongoing conversation regarding sustainable fashion in a unique combination of textile and apparel design techniques.

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