

## Connecting Yarns to the Universe

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*Contextual Review and Concept Statement.* People use various natural products, including clothing, food, and housing, in their daily living, and many design inventions inspired by nature have been created for millennia (Hunter, 2014). As we, human-being, are part of the nature, we co-exist and appreciate the nature everywhere. Every component of the universe is linked together as seeing the nature in a cycle of seasons. For example, flowers and trees are linked to the ground and interact with one another to assist their lives. Hunter (2014) states that artists create artworks inspired by the nature, and fashion designers have used the same artistic elements as fine artists (Štemberger & Pavko-Čuden, 2017). Like artists define their artistic language, fashion designers express their aesthetics and styles through their designs. Thus, this design, *Connecting Yarns to the Universe*, is the reflection of this designer's creative voice using a zero-waste design approach (Rissanen & McQuillan, 2016) and various knitting techniques, which presents the natural beauty and its interaction to every component in the universe.

*Aesthetic Properties and Visual Impact.* The design probe starts from creating multiple fabric manipulations inspired by landscape scenery views such as blooming, roots, and blossom. Like



Figure 1. Vertical weaving technique: Roots

craftspeople express their story and culture using their craftsmanship and creativity (Kapur, 2016), this designer crafted her viewpoint of the nature by knitting and weaving yarns. Using the vertical weaving technique on knitting machine, Figure 1 and Figure 2 portrays tree roots spreading the underground interacting with one another and flowers blooming in spring, respectively. This became the primary technique to create this knitted wearable art, *Connecting Yarns to the Universe*.

E-wrapped and fringed yarns portrait the interlinked universe above and below the soil and provide 3D texture to depict a painterly nature scene into this wearable textile art. For example, in the back of this design, the skirt showcases a chaotic interconnectedness to the universe, and the knitted top intentionally used less yarns to aesthetically give a place to breathe. This knitted design, applying a zero-waste approach,



Figure 2. Vertical weaving technique: Blossom

visualizes a poetic nature scene through sensible and tangible handmade textiles. Furthermore, the elastic character of the knitted fabric allows freedom of the body movement and flexibility of the design (Wilson, 2001), which resembles nature's traits. *Connecting Yarns to the Universe* is dedicated to portray the nature's scenes with the handmade 3D textured fabric.

*Process, Technique, and Execution.* This design involves multiple steps: ideation from textile manipulations, materials gathering, sample swatch creation for gauge measurement, knitting procedure development, and knitting. This knitted design was created using a standard size hand-



Figure 3. Knitting techniques

operated bulky knitting machine with Avanti yarns composed of 30% cotton and 70% viscose blend. While knitting every piece, multiple knitting techniques (e.g., vertical weaving, picot, tricot, bobble) were utilized to depict a multidimensional painterly look into the textured fabric (see Figure 3). The tricot and the bobble techniques created holes in the knitted design. Then,

the leftover yarns with different weights passed back and forth through these holes after the garment was completed, which boosts the tactile volume of the knitted wearable piece. The vertical weaving was mainly shown on the design with the intention to create a pile of roots interacting with yarns and connecting to the universe. All leftover yarns used for weaving were ones discarded from the design studio at the university.

The knitted top front started from casting on 90 stitches with e-wrap using a stitch size 6 and knitting 152 rows. Armholes started from the 116th row and the neckline started from the 125th row. Both neckline and hem were ribbed in a ratio of 3:2 and 2:2. The back of the knitted top was fabricated in the same way the front top was created. The knitted skirt started from casting on 80 stitches with stitch size 8 and knitting a total of 190 rows. The stitch decreased from both sides in every 10-row count and every 3-row count starting from the 130th row, which ended up a total of 50 stitches at the waist. The stitch size has been lowered at hip and waist to provide additional pressures for fitting. The picot and tricot techniques were frequently applied in the front skirt to emphasize a huge volume and texture of interconnected yarns through the garment shape. The same procedure applied to the back skirt, except knitting much longer than the front. Both front and back pieces of top and skirt were joined together using a knitting machine, and no closure like buttons was used. Every process to create this unique wearable art was manipulated by hand, representing the interconnectedness of materials (yarns) to the nature and its cycle of sprouting, blooming, and falling.

*Cohesion.* This design is the handcrafted wearable art, reinterpreting the nature's seasonal changes of interaction the designer has lived through everyday walks in her artistic language. The knitted design manifests the unique surface design using core materials (new and leftover

yarns) in various weights and color spectra, which lead to articulate the dimensional texture of wearable textiles. Yarn waste was reused during the design creation to align with the designer's original intention of applying a zero-waste approach. This design truly showcases the connectedness of yarns, the man-made materials, to human-being, the nature, and the universe.

*Significance, rationale, and contribution.* Using a zero-waste approach, this knitted wearable art was constructed by hand with a minimum yarn waste. The designer challenged to use all of new and used yarns sourced, which facilitate to extend the lifespan of yarns and the wearables. The yarns knitted for this design can be eventually reused for other knitted designs, promoting circularity in design.

*Originality and Innovation.* This handcrafted knitted design is original and innovative in terms of (a) connecting materials to the universe through the wearable art, (b) experimenting various knitting techniques using yarns with different weights, and (c) promoting circularity in design by using a zero-waste approach.

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