Faculty Development Grant Report

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Project Description:

In Fall 2014, I received a Faculty Development Grant to fund a workshop for ‘Traditional Japanese Textile and Indigo’ in Fujino, Japan.

This workshop focused on the traditional Japanese ways of indigo dyeing, natural dyeing, several different kinds of Shibori dyeing (Mokume, Arashi, rope dyeing, resistant dyeing using mochi paste, Takano dyeing), stencil dyeing (Takazome-persimmon paper stencil) and thread making from silk cocoons. Additionally, I learned the basics of making Kumihimo (braids), arranging Ikebana (Japanese flower arrangements), conducting authentic Tea ceremonies, picking green tea leaves from a field, and making Japanese hand-made noodles for Udon.

I learned how to respect the true value of 100% handcrafted works that have been handed down from generation to generation. Furthermore, I experienced their emphasis on sustainability and up-cycling, which are well practiced in Japanese culture – the ‘Wabi-Sabi’ spirit.

Major activities during workshop:

Indigo was central to this workshop. It was a great introduction to indigo dyeing and Japanese textiles in general and was held at a 150-year-old farmhouse situated in a serene, tea-growing mountain village in Japan. The master of this workshop is originally from Canada, but has been living in Japan for the past 25 years. Ever since he fell in love with traditional Japanese textiles, he has been farming, processing indigo, and raising silkworms. Considered a very important asset to this mountain village community, he contributed substantially to the Japanese artisan community – those who have dedicated their lives to create unsigned masterpieces that observe traditional artistic disciplines. His neighbors in the village all venerate him, even though he is a blonde, blue-eyed ‘Kai-zing’ (foreigner).

Participants from all over the world receive a “homework” package from Japan, which arrives four months in advance, so participants have ample time to prepare for their arrival in Japan. It took me a full month to do 18,000 stitches for Mokume Shibori, stencil paper designing, and cutting for Takazome.
Farm house                                               Indigo vat

Inside of the farmhouse                                  Homework delivered from Japan

Homework one: stitching preps for *Mokume Shibori*
I was instructed to draw simple patterns on a half-yard of white linen cloth and fill it with stitches while I skip the areas that I want to have solid Indigo to come through. Because I decided to challenge myself, I wanted to go for a more complicated design, and it took me more than 18,000 stitches to define the patterns that I wanted to show.

Homework two: cutting persimmon papers for *Katazome* stencil
I was instructed to draw a pattern that has enough negative and positive space, and cut out the positive shapes with a X-acto knife.

Homework three: applying stitches for folding accordion *Shibori*
#1. Applied more than 18,000 stitches done for Mokume shibori

#2. Sketching and cutting out for Katazome stencils
Indigo project

About Indigo:

Indigo is one of the oldest dyes used for coloring fabrics and still used today to color blue denim. There are over 25 different plants around the world that have the indigo pigment in their leaves. Every culture has developed its own process of extracting and utilizing the pigment from indigo (indigoferin). Because the essential properties of the pigment are the same in each plant, the dyeing processes follow similar steps. This wonderful indigo dye is made from the leaves of the plant through a fermentation process. Dyeing with indigo is unique compared to other dyes. In its natural state, indigo is insoluble in water. Therefore, it must go through a process where it is reduced and converted into a liquid state with the oxygen removed. In this reduced state, the indigo dye liquid is a yellow-green color and will be able to penetrate the fiber of the fabric. Indigo binds mechanically, not chemically. When the fabric is removed from the dye vat, it is initially the same yellow-green color, but the fabric begins to turn blue as the oxygen in the air reacts with the indigo. As the indigo oxidizes, it becomes trapped within the fibers, making the dye permanent.

In Japan, indigo became important for dyeing cotton when silk was outlawed in the Edo period (1603-1868). Indigo dyes cotton particularly well, while other dyes available at that time did not. Historically, the Japanese have used indigo-dyed thread with woven patterns, stencil dyeing techniques (katazome), and shape-resistant dyeing (shibori).
These methods reached their most sophisticated heights in both the high end, samurai and merchant class textiles, as well as the domestic and local crafts traditions of the Edo period. The Japanese patterns of tied and paste resists are highly refined, detailed and complex.

Indigoferin Oxidization process

Sophisticated Katazome pattern for Kimono (from Noguchi san’s archive).
Preparing indigo vat:

Different from most natural dyes, indigo is a reductive dye, which means that the indigo dye vat requires a reducing agent to take away oxygen from the indigo molecule. Thus, it reduces the indigo to a water-soluble state that can stick to the fiber. In the reduced state, the dye vat is yellowish-green, and when one lifts the fiber out of the dye vat, exposing it to the oxygen in the air, the molecule changes back to indigo, turning blue and sticking hard to the outside of the fiber. For each gallon of water, 1 tablespoon of slaked lime (calcium hydroxide) is needed to test the pH until it reaches 11.5. More lime can be added to adjust the pH to the optimal level where bacteria can thrive.

Adding hydrosulfate as a reducing agent will remove the oxygen from the indigo molecule. With the oxygen removed, indigo becomes soluble in water at room temperature. Alternatively, two tablespoons of indigo crystal, which is significantly more powerful than indigo powder and costs $500 per kilogram, can be used.

One cannot keep the indigo vat forever. When it smells rotten, add lime. Gently, but thoroughly, stir the vat in one circular motion. The top of the dye bath will be covered with a layer of foam called the ‘flower’ or ‘bloom’. Liquid under the blue layer needs to be green. The bubble needs to be blue, not clear. Move the indigo flower aside when dyeing the fabric.

About Shibori (shape resist dyeing):

Shibori, often categorized and translated as ‘Japanese tie-dye,’ is actually much more sophisticated than just the term ‘tie-dyed’ cloth. Shibori has a 1,300 year history in Japan. It is a dignified, poetic- and even humorous- family of textile surface design techniques. Due to its mercurial properties, indigo is full of endless possible outcomes, prone to many experimental, but “happy” accidents.
Project 1: Accordion Shibori

With a piece of cotton cloth, create a 2-inch wide accordion fold. After accordion folding into a strip, fold the fabric into isosceles triangles and stitch through all the layers together at each corner. Wet them thoroughly in the water and pull the thread very tightly while it is still wet. Dip the fabric in the indigo vat for 1-2 minutes, squeeze out excess water, and let it sit outside to oxidize for a while. The color will change from green to blue. Repeat this process 10 times until the fabric changes completely to deep blue and becomes fully oxidized.
Rinsing indigo in the river

Result of accordion shibori (diagonal folds and vertical folds)
Project 2: Arashi shibori

Wrap around a pole – p.v.c. pipe, about 40 inches long, 5 inches in diameter- with cotton clothes diagonally and secure it with rubber bands as you go further down. Even out the crease by rolling fingertips, wrap it around tightly with a strong nylon string, and squeeze up the fabric toward the top. For the white band effect, wrap partially with Saran plastic. For the blue band effect, leave the space blank. You can adjust space as you wish. Wet thoroughly first and dip in the indigo vat for 3 minutes and squeeze out the liquid for oxidation. Repeat this 10 times. The random thickness of the crease will create unexpected patterns (which makes the process exciting). Arashi technique could be done on a big piece of fabric using a bigger pole.
Project3: Mokume (wood grain) shibori

You need to draw lines across the cloth at two centimeters apart while following the weave of the cloth and not go diagonally. It takes long and intense preparation, because you need to fill in negative space with tiny hand stitches and skip over patterns to create shapes. What you skip is what will be the dark indigo color. What you stitch and later pull will be the ‘wood grain’ part of the pattern. For my Mokume patterns, I decided to experiment with a reversed process as well as filling in a portion of positive space with stitches. The result was quite interesting as it is shown in the picture below. When you
have delicate shapes, all stitches should be a lot closer to each row to define shapes clearly from the background. This is why I ended up doing 18,000 stitches on a small piece of fabric.

Hand-stitched pattern

Pull all threads very tight before wetting in the water

Result
Project#4: Katano Shibori

Put 3 pieces of fabric together to protect the centerpiece. Attach them together with loose running stitches. Using *aobana* ink, which will disappear in water, mark the fold points with 5-centimeter intervals. At each five centimeters, mark the point with a needle and thread. Pull the thread to create folds, and secure folds with stitches. Draw simple patterns on folded cloth and go over lines with stitches. Wet the whole thing and dip in indigo 10 times. After drying them in the air, remove all stitches and the 2 side panels.

Adding stitches on folds for pattern
Project #5: Shibori dyeing with ropes

To create the special effect of a braiding pattern, various widths of chunky nylon ropes are very useful. Sandwich the chunky rope in between folded cloths for both ends, wrap around and tie them firmly with heavy nylon thread. Go through the dipping process until it reaches the color you need. The result was very exciting to see. It looked like an x-ray vision of ropes.
Project #6: Katazome

*Katazome* is a paste resist family of stencil techniques. *Kakishibugami* is a layered persimmon tannin soaked paper that was developed to use stencil paper in Japan. When wet, it is like a soft leather, flexible and strong. You need to sketch your own patterns, which will be cut out with a razor-like knife or punched out using a variety of tools. Single pattern stencils are common. Patterns using up to 40 overlapping stencils are also used for Kimono patterns. For this project, I used feather as a consistent theme motif in simple shapes. What you cut out is what you get. The holes will be white and the paper will be the indigo. The stencils will be netted with lacquer to secure delicate paper cuts and will be sun-dried until it is completely hardened. Before dyeing, you need to damp the cloth, and secure it with rice paste on a wooden board. After wetting the screen, place it on the cloth and scrap *mochi* paste with wooden scrap. The fewer the strokes, the better. Pick up the screen and sun-dry the board completely. Peel the cloth from the board and dip in the indigo vat 5 times. Scrap off dried *mochi* paste, rinse it off, and hang dry in the sun.

We visited Noguchi san’s working studio for katazome workshop in Hachi-Oji. Noguchi san is a ‘Living national Treasure’ in katazome dyeing field. He is the 9th generation within his family business. In his studio, a lot of original katazome stencils for traditional Kimono patterns were kept in archive shelves. We witnessed not only astounding techniques and skills, but also the values and aesthetics that make Japanese textiles so interesting.
Applying mochi paste

Sun-drying katazome board

Working at Noguchi san’s Indigo studio
Oxidization progress

Result of Katazome dye
**Project #7: Hand made Japanese pouch**

Learn how to make a small bag in linen with a katazome stencil on the face and added printed silk lining. Structurally, the procedure is completely done by hand sewing. Inside of the pouch will be clean finished without seam allowance exposed.

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**Project #8: Kumihimo (braiding)**

*Kumihimo* is a braided string to tie the pouch opening. You have to twist yarns in the opposite direction 3 times (Z-twist, S-twist and Z-twist) in order to make sturdy threads, which will eventually be braided into thicker strings by multiplying them. Once you have enough strings for 6 small spools, you need to pull them through the center hole of the braiding stool and add weight to all 6 strings as you tie them together on one end. The picture will explain this better. Once everything is set up, you have to cross strings in opposite directions with the two hands switching with a designated rhythm and order. This repetitive hand motion will make a *Kumihimo*. This will eventually be used as string ties for a Japanese small pouch.
Project#9: Painting with soot mixed with fresh soymilk

Fresh, hand-grinded soymilk mixed with soot will make a pigment that will go through deeper than indigo. It will create a deep grey shadow effect. You can use this for brushwork while you are adjusting the amount of water, as if you are painting with Asian ink. You have to let it dry at least one week before you dip in the indigo to make the grey shadow effective.
Applying soot mix with soymilk

Project#10: Making floss from silk cocoons

Boil about 100 cocoons in the same pot on the stove for 1 minute. Push the cocoons along the sides of the pot with a spoon. Cocoons will stand vertically and become translucent, which signifies that they are filled with water. Bubbles will form from the cocoons. As you circle your hand around them, strands of silk will tangle together, forming floss. Cool them down and drain all water. Put 10 cocoons at a time, and connect the floss to a spinning machine.
Spinning floss from silk cocoons.

**Project#11: Dyeing yarns**

Dyeing yarns will take the most of indigo. Before dyeing, you have soak them in water long enough to remove all unwanted dirt that clings to yarns. A couple of hours will be enough for the cotton, but wool needs to stay submersed in water for 2 days. After dipping in the indigo vat, you can hold one side and let it drip, or use short sticks to twist
spools in order to squeeze out all indigo completely. Do not open the twist while oxidizing it. Repeat this 10 times and wash them in clean water.
Project #12: Modifying accordion shibori (free style)

   I used a big linen cloth for a deeper and richer indigo effect, and folded it into a rather loose accordion shape and added tack stitches randomly to create a simple graphical motif. A simpler and easier motif will make the result simple, but modern.
Project #13: Modifying Mokume shibori

Instead of applying it to a full yardage, I made the pre-existing top and bottom out of gauze linen that had been sitting in my closet for the last 25 years. For the long top, I applied a positive bird shape on the back and on the left shoulder, and filled the negative space with stitches. I dipped only 70% of the garment in indigo for a dramatic ombre result, leaving the bottom portions white. For white full pants, I did the accordion folding on the bottom parts of the pants and tacked on simple stitches, so they don’t compete with the motif on the top. The result was surprisingly pleasant.
Project #14: Modifying Katazome with ombre

Even though it takes a lot of preparation and a nicely worked stencil design, it is the one of the most interesting methods of the shibori technique that I learned. I applied stencils to a plain grey t-shirt in several different spots at different angles and created blue gradation by partially dipping it into the indigo vat. Also, I put the stencil on the face of a cotton bag and tried to dry dip and wet dip to experiment with different surface. Dry dipping will give you a cracked, aged color as opposed to wet dipping, which will give you smooth, even gradation.
Additional Lesson for Cultural experiences

Traditional Tea Ceremony (way of tea)

Tea Ceremony Master, Sato-san came to visit us in full Japanese Kimono attire. She gave us a lecture on the Japanese traditional tea ceremony, which is a Japanese cultural activity involving the ceremonial preparation and presentation of matcha, powdered green tea (chanoyu). The manner in which it is performed, or the art of its performance, is called Otemae. Every step, from warming the tea utensils, mixing tea, serving, and tasting, follows a strict, specific procedure.

The Japanese tea ceremony was developed as a "transformative practice" and began to evolve its own aesthetic, in accordance with "sabi" and "wabi" principles. "Wabi" represents the inner, spiritual experiences of human lives. Its original meaning indicates quiet or sober refinement, or subdued taste, "characterized by humility, restraint, simplicity, naturalism, profundity, imperfection, and asymmetry;" and "emphasizes simple, unadorned objects and architectural space, and celebrates the mellow beauty that time and care impart to materials." "Sabi," on the other hand, represents the outer, or material side of life. Originally, it meant "worn," "weathered," or "decayed." Particularly among the nobility, understanding emptiness was considered the most effective means to spiritual awakening, while embracing imperfection was honored as a healthy reminder to cherish our unpolished selves, here and now, just as we are - the first step to "satori" or enlightenment. It was very serious- and quite ritualistic-experience.
Sato San, a master of Japanese traditional tea ceremony

Ikebana (flower arrangement)

Hiro-san, a flower arrangement specialist, gave us a special lecture on Ikenana and Chabana. More than simply putting flowers in a container, ikebana is a disciplined art form in which nature and humanity are brought together. Contrary to the idea of floral arrangement as a collection of particolored or multicolored arrangement of blooms,
ikebana often showcases other areas of the plant, such as its stems and leaves, and emphasizes shape, line and form. Silence is a must during practices of ikebana. It is a time to appreciate things in nature that people often overlook because of their busy lives. One becomes more patient and tolerant of differences, not only in nature, but also in general. Ikebana can inspire one to identify the beauty in all art forms. *Chabana* is a simpler, more casual way of Ikebana, using bamboo baskets or a simple vase.

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*Take Kago (bamboo basketry)*

Ishikawa-san, *Take Zaiku* (bamboo craft) specialist, demonstrated how to cut bamboo into thin splints and trim it smoothly to weave baskets. Five processes are required to make these round splints: the making of the round splints, the forming of the framing rings, the bending of the splints, the assembling and the finishing. Lacquer is used for the finish.
Visiting *Aoki* pottery studio: Yamada-san

A famous local potter, Aoki-san, passed away several years ago and left his pottery studio and Kamas with his wife. She shut down the studio out of grief for her husband’s death, until she met a young, talented potter named Yamada Ryu Taro. Yamada-san succeeded Aoki studio and created wonderful potteries honoring the artistic spirit of Aoki-san.

Making Japanese *Udon* from scratch

A 96-year-old grandmother, Okata-san, in the Fujino mountain village, showed us how to make handmade Japanese noodles (Udon) from scratch. She demonstrated how to mix flour, form dough, hand cut them into noodles, and make the soup broth. Occasionally, Okata-san works on indigo projects for her. It was amazing to see this elderly woman work without any of the physical hindrances associated with her age. I could appreciate the real meaning of the word ‘community’ by observing her and how she earned the respect of other community members.
Picking Green tea leaves

The first flush of tea leaves, called shincha, is the most prized of the season. In Japan, Shin means new and cha, of course means tea, so together it is the new tea of the season. Each spring, the new tea leaves are picked from about mid-April to about mid-May. Once picked, the new leaves are sent off to be steamed, kneaded, and dried. This process stops the oxidation and preserves all the beneficial qualities in green tea. They grow their own green tea in the mountain of Fujino, and I got a chance to pick green tea leaves with their traditional picking tool, the ‘scissor sack.’

Viting Ryokan (public bath house)

With my Asian background, seeing a public bath house was no surprise, but it was still interesting to see how other westerners reacted to Japanese bath culture. You have to
wash your body before you actually get into the bath. The last thing you want to do is embarrass yourself further in an already (potentially) embarrassing situation. Many foreigners are not accustomed to Japanese public baths (sento) where everyone runs around naked. However, sento is a staple of Japanese culture and should be experienced if given the chance. People felt very awkward to see each other’s naked body in the beginning, but as soon as they soaked themselves in the outdoor hot spring under the moonlight, they were relaxed and stress-free.

**Epilogue:**

8 women from all over the world –hailing from France, New Zealand, Australia, Canada, and the United States- came to this unknown mountain village in Fujino, Japan, with only one goal in mind: ‘learning indigo.’ We all have various occupations –each with our respective professions as a lawyer, art teacher, knitter, painter, art student, graphic designer, chef on a cruise boat, and landscape artist. We are of different ages, ranging from 22 to 65 years old. Nevertheless, we all worked diligently from 6:30 AM to midnight everyday throughout the entire process. Our passion and enthusiasm for the indigo project is indescribable. Indigo splattered all over our clothes and faces; our fingernails were embellished with blue stains; our hands became all rough and cracked. We were completely engaged in indigo and shibori work, free of any interruptions from the real world just over the other side of the mountain, away from all the worries from daily life. We learned how to respect 100% machine-free handiwork, the true beauty of Wabi-Sabi aesthetic, traditional Japanese culture and heritage, and the strong bond of the art community of the mountain village. Away from modern technology, away from televisions, phone calls, and emails, we were able to see true value of ourselves as human beings and artists.

It was the most amazing experience of my life. I was able to concentrate 100% on my artwork, and I had completely become myself. The experience is one that I will cherish forever.

**Value to Otis:**

I plan to put together all this valuable visual research as a teaching resource. I will give a presentation via PowerPoint with my fashion department peers. All the pictures taken during the workshop will be used when we look for Shibori techniques and ‘Wabi-Sabi’ aesthetic. After my report is posted on O-space, it will be widely shared among the Otis community. I will continue to make myself available to students, faculty and staff as a consultant with regards to indigo, shibori dyeing. Since this amazing experience is completely unique to that mountain village in Fujino, Japan, I want to share this wonderful experience with my Otis fashion family. I proposed to the master of the indigo
workshop that we put together an indigo workshop program, specifically geared to Otis fashion constituents – the kind of program I feel more of the fashion community should be exposed to. This would be an off track, special session- in addition to the master’s regular (5 times a year) workshops- that he said he is willing to do as long as I help him. We decided to run a test drive of this special workshop in June 2016, only for the fashion alumni, faculty and family to see how it works. Eventually, I want to open the door to current students who are interested after we refine this new program. I am so excited about this special workshop that I am organizing to share with the fashion alumni. It will be an unforgettable, once in a lifetime experience.

Conclusion:

I thank Otis College of Art for awarding me the faculty development grant that made it possible to be in Japan, to feel and interact with traditional Japanese artwork and the cultural heritage of ‘Wabi-Sabi,’ which had ignited a strong curiosity inside me and has earned my life-long respect. Furthermore, it gave me a valuable opportunity to look back on myself as a fashion educator, and the appreciate importance of history in a progressive industry. This grant has greatly advanced my career as a fashion designer and broadened my scope of knowledge as a fashion educator. It was both educational and inspirational. I very much appreciated the opportunity.