APPLICATION OF DECONSTRUCTIVE SCREEN PRINTING IN FASHION APPARELS AND HOME FURNISHING PRODUCTS

Sabriena Wilson

Bachelor of Applied Arts
2018

APPLICATION OF DECONSTRUCTIVE SCREEN PRINTING IN FASHION APPARELS AND HOME FURNISHING PRODUCTS

Sabriena Wilson

This project is submitted in partial fulfillment of

the requirements for the degree of Bachelor of Applied Arts with Honors

(Design Technology)

Faculty of Applied and Creative Arts
UNIVERSITI MALAYSIA SARAWAK
2018

UNIVERSITI MALAYSIA SARAWAK

Grade: _____

Please tick (√)
Final Year Project Report ☑
Masters ☐
PhD ☐

DECLARATION OF ORIGINAL WORK

This declaration is made on the 22 **day of** 06 **2018**

Student's Declaration:

I SABRIENA WILSON

(PLEASE INDICATE STUDENT'S NAME, MATRIC NO. AND FACULTY) hereby declare that the work entitled ---------- **is my original work. I have not copied from any other students' work or from any other sources except where due reference or acknowledgement is made explicitly in the text, nor has any part been written for me by another person.**

22/06/2018
Date submitted

Name of the student (Matric No.)

Supervisor's Declaration:

I, ASRUL ASSHADI ---------- **(SUPERVISOR'S NAME), hereby certify that the work entitled.** ----------**(TITLE) was prepared by the above named student, and was submitted to the "FACULTY" as a * partial/full fulfillment for the conferment of** ---------- **(PLEASE INDICATE THE DEGREE), and the aforementioned work, to the best of my knowledge, is the said student's work**

Received for examination by: Asrul Asshadi Mohamad Moris
Lecturer
Faculty of Applied and Creative Arts
UNIVERSITI MALAYSIA SARAWAK
(Name of the Supervisor)

Date: 22/06/2018

I declare this Project/Thesis is classified as (Please tick (√)):

☐ CONFIDENTIAL (Contains confidential information under the Official Secret Act 1972)*
☐ RESTRICTED (Contains restricted information as specified by the organisation where research was done)*
☒ OPEN ACCESS

Validation of Project/Thesis

I therefore duly affirmed with free consent and willingness declared that this said Project/Thesis shall be placed officially in the Centre for Academic Information Services with the abide interest and rights as follows:

- This Project/Thesis is the sole legal property of Universiti Malaysia Sarawak (UNIMAS).
- The Centre for Academic Information Services has the lawful right to make copies for the purpose of academic and research only and not for other purpose.
- The Centre for Academic Information Services has the lawful right to digitise the content to for the Local Content Database.
- The Centre for Academic Information Services has the lawful right to make copies of the Project/Thesis for academic exchange between Higher Learning Institute.
- No dispute or any claim shall arise from the student himself / herself neither third party on this Project/Thesis once it becomes sole property of UNIMAS.
- This Project/Thesis or any material, data and information related to it shall not be distributed, published or disclosed to any party by the student except with UNIMAS permission.

Student's signature _____
(Date)

Asrul Asshadi Mohamad Momi
Lecturer
Faculty of Applied and Creative Arts
UNIVERSITI MALAYSIA SARAWAK
Supervisor's signature:
(Date) 22/06/2018.

Current Address:

Notes: * If the Project/Thesis is CONFIDENTIAL or RESTRICTED, please attach together as annexure a letter from the organisation with the period and reasons of confidentiality and restriction.

[The instrument was duly prepared by The Centre for Academic Information Services]

DECLARATION

The project entitled '**Application of Deconstructive Screen Printing in Fashion Apparels And Home Furnishing Products**' was prepared by **Sabriena Wilson** and submitted to the Faculty of Applied and Creative Arts in partial fulfillment of the requirements for a Bachelor of Applied Arts with Honors **(Design Technology)**.

Asrul Asshadi Mohamad Morni
Lecturer
Faculty of Applied and Creative Arts
UNIVERSITI MALAYSIA SARAWAK

Received for examination by:

(En. Asrul Asshadi B. Mohamad. Morni)

Date:
22/06/2018

AKNOWLEDGEMENTS

Firstly, I would like to give praise and thanksgiving to God for everything he has done that has directly and indirectly aided in the completion of this project.

Next, I would like to express my gratitude to my supervisor, En. Asrul Asshadi B. Mohamad. Morni, for his counsel and guidance throughout the duration of my final year project. Not only that, his advice and suggestions has aided in the successful completion of this research paper.

Last but not least, I would like to thank my family and friends for the support that they have given me the past one year, both emotional as well as financial support that has been a great help to me.

TABLE OF CONTENTS

LIST OF FIGURES

ABSTRACT

This research aims to determine a more simplified method of screen printing on fabric. One such method on which this research is based on is the Deconstructive Screen Printing (DSP) also known as breakdown printing. DSP utilizes various ways of applying dye onto fabric. Through this method, textile printers are to override some of the steps involved in a typical screen printing process. One major step is the process of screen exposure and the coating of photographic emulsion onto a screen prior to printing. Using DSP, printed motifs and patterns on fabric can be produced by using objects as stencil. This project is centered on using masking tape as a resist through which the motifs are produced.

ABSTRAK

Kajian ini bertujuan untuk mengenal pasti cara-cara yang boleh digunakan untuk mempermudahkan proses cetakan skrin pada fabrik. Salah satu Teknik yang yang diaplikasikan adalah teknik cetak skrin secara dekonstruktif. Dengan menggunakan teknik ini, process cetakan skrin tidak lagi memerlukan pengaplikasian *photographic emulsion* untuk process *coating*, serta pendedahan ultraviolet yang dilakukan bagi menghasilkan motif pada skrin. Bukan itu sahaja, teknik cetakan skrin secara dekonstruktif juga menjimatkan masa dari segi pengurangan terhadap langkah-langkah dalam proses tersebut. Hal ini kerana proses cetakan skrin secara dekonstruktif menggunakan pelbagai jenis bahan untuk dijadikan sebagai stensil untuk cetakan pada kain. Kajian ini akan mengkhususkan teknik cetakan dekonstuktif dengan menggunakan pita pelekat sebagai stencil untuk menghasilkan motif dia atas fabrik.

Chapter 1: Introduction

Screen printing is a type of printing technique during which a mesh is used to transfer ink or any other printing substance onto the fabric, apart from the areas that has been made impermeable to ink, by a blocking agent. This method of printing originated in China, around AD 221, as a means of transferring designs and patterns onto a fabric. Soon enough, the Japanese begin to use simple stenciling techniques to create shapes and images while using stiff brushes to push through the mesh. By the seventeenth century, the French begin using silk screens to print on fabric. Only in the twentieth century squeegees were invented and used in screen printing as a substitute for stiff brushes. Screen printing has strived ever since and to this day still used as a method of transferring designs and motifs onto various types of fabric.

Screen printing has evolved from a thousand years ago when fabric printers around the world began using stencils cut out from natural materials and paper. The Chinese and the Japanese had developed wooden frames to support the stencil which was glued onto a woven mesh. This mesh was later on developed using silk, hence the name, silk screen printing. Modern screen printing involves using a light-reacting emulsion as a stencil to hold back the excess ink. The mesh is first covered with this photo emulsion and dried. Then a clear film with the motif in it is placed on the screen and light is cast onto it (exposure). This process eventually leads to the screen with the motifs as well as the stencils on it. The areas under the dark art stay soft, and the other areas "harden." The soft parts are washed out, leaving open holes in the mesh, enabling the ink to squeeze through the mesh and

print. This process need to be done meticulously in order to prevent error in printing. Before this can be done however, the clear films with the motifs on it needs to be prepared (Forbes, 2011) All in all, manual screen printing is a process that involves a lot of elements as well as time consuming. For this reason, they are many textile artists out there who experiment on deconstructive screen printing.

1.2 BACKGROUND OF RESEARCH

Fiber artist and workshop instructor, Kerr Grabowski describes deconstructive screen printing (DSP) as a technique that allows for infinite variations in expression. It also gives designers more freedom to experiment on different ways of producing print on fabric. This method gives so many possibilities to the field of screen printing. Deconstructive screen printing utilizes numerous ways of applying dye onto fabric, one of them include thickening dye which leaves textured imprints on the fabric. The simplicity of the technique allows for different artist to express themselves in their own unique way. Some designers use printing paste for this method, others may use dye powder. In the end, creativity of the artist itself is what determines the outcome of the print. Deconstructive screen printing has been used to produce printed textile to be made into apparels as well as products. The highlight of this technique is the many textures that can be produced using various methods such as, threads, dried paint, wrinkled paper and many more.

For this research project, deconstructive screen printing was carried out using masking tape as a stencil. This has been experimented before by designers,

however their experiments remained in the discovery stage. In this research, masking tape was used as the main item for producing textures as well as the motif itself.

1.2 RESEARCH QUESTIONS

This research aims to investigate as well as experiment on the Deconstructive Screen Printing (DSP) using masking tape as a stencil. Not only that, this research is done without screen exposure therefore it is an innovative step as far as screen printing is concerned. Lastly, this research hopes to shed new light to textile screen printing and the textile craft making industry. Some of the research questions include:

1. What is the most effective method of producing printed motifs using DSP?
2. Can DSP produce textures on the printed fabric?
3. Is the usage of DSP in textile printing and textile craft-making industry and innovative step?

1.3 RESEARCH PROBLEM

Screen printing, as it is known to the textile design community, is a process that involves many steps, equipment, machines and is also known to be time consuming. Some of them include the coating stage, during which the screen is coated with a photo-emulsion fluid to aid on the exposing of the screen using UV light. This process requires a specific machine that is used to dry the screen after it coated. The drying process alone takes about thirty to forty-five minutes. Not only that, in order for a screen to fitted with its motifs and patterns, the motifs need to

be transferred onto a clear film using opaque. This stage is referred to as the color separation stage which basically means the films are separated according colors, one screen per color. This is another time-consuming stage of screen printing. The color separation is and intricate as well as a detailed process. Next, is the usage photographic emulsion for screen coating. More commonly known as photo-emulsion, is fluid is a vital process in screen printing. The typical photo-emulsion contains silver halides such as silver bromide (AgBr), silver chloride (AgCl) and silver iodide (AgI). (Goetz, 2008) These compounds in the photo-emulsion reacts with the UV light when its exposed. This is how motifs and patterns are transferred onto a screen mesh. The problem with this process is that, this emulsion radiates chemical particles which has a pungent smell and releases dangerous chemicals down into the drainage system when the screens are washed off.

For these reasons, this research aims to determine a more environmentally safe techniques of fabric screen printing that minimizes the usage of dangerous chemicals as well as time-consuming heavy machinery. Therefore, this project experiments on Deconstructive Screen Printing (DSP) and how it can be used on textile.

1.4 OBJECTIVE

The general objective of this research is to investigate the viability of fabrics printed using DSP technique. It is hoped that the implementation of deconstructive printing of fabrics will be and innovative step towards a more environmentally friendly fabric printing industry. Next, through this research, it is hoped that

fabrics printed via DSP will be suitable for both fashion apparels as well as home furnishing products.

1. To determine the effective methods of producing printed motifs using DSP.

2. To produce textured printing via DSP technique

3. Producing a range of fabrics suitable for fashion apparels as well as home furnishing products.

4. Validate the product by research and experiments.

1.5 SCOPE OF STUDY

This research is focused on deconstructive screen printing techniques on fabrics. It will be centered around the usage of printing pastes as well as the materials used for DSP. Apart from that, experiments will be carried out to identify the suitable techniques of producing printed textures. The study also aims to incorporate these fabrics into fashion apparels as well as home furnishing products.

1.6 LIMITATIONS OF STUDY

This research is limited to the study of only one type of printing, which is the screen printing technique. The materials used for DSP in this research is limited only to the usage of masking tape as a stencil for printing. These printings will only be carried out using printing paste and mesh screens. The end usage of the

fabrics produced will only be used for fashion apparels and home furnishing products.

1.7 SIGNIFICANCE OF STUDY

This research will bring to light new and effective ways to print fabrics using less equipment as well as less harmful chemicals. Not only that, through this research, many more deconstructive printing techniques can be discovered. Apart from that, this study will also benefit or rather, improve the home furnishing trade with an innovative step in relation to the techniques used in producing the fabrics used.

1.8 CONCLUSION

Deconstructive Screen Printing is therefore an important technique in fabric screen printing. Research has to be done on the proper or effective way to utilize these techniques in the textile and fashion industry. Not only that, fabrics produced via DSP are unique and also relatively new that should not go to waste, but instead studied for its potentials. New findings are vital in this area in order to promote the industry, indirectly improving the trade of DSP fabrics in fashion apparels and home furnishing.

Chapter 2: Literature Review

2.1 Previous Studies on Deconstructive Screen Printing

Various experiments on deconstructive screen printing were conducted by Kerr Grabowski, the owner of a studio at Peters Valley Craft Center, New Jersey. Some of her printed work include using dried paint on the mesh screens to produce textures on fabric when printed. Her ideas evolved from the works of a textile artist, Joy Stockdale, who worked on polychromatic screen printing which involves obtaining multiples from one painted image on paper or fabric (Grabowski, 2011) In another workshop conducted by textile artist Judy Simmons, deconstructive screen printing was done by placing objects under the mesh screen. Among the item used include threads, real leaves and a corrugated cardboard to create textures during the printing process (Simmons, 2011) Apart from that, another technique involves using thickened or dried up dye residue on the screen itself to form interesting patterns on fabric (Happenings, 2016)

2.2 Printing Paste

Printing paste is used to produced colored patterns and motifs onto a fabric. Prior to textile printing, fabrics were colored plainly using dyes or more commonly known in the industry as dyestuff. In the past, dyestuffs were manufactured from naturally occurring elements in nature such as plants and fruits, boiling them and then immersing the fabric into the dye bath (Goetz, 2008) Printing paste was

developed and its usage peaked during the 1930s. The usage of printing paste is a vital aspect of the textile printing industry. It is one of the main components used during a screen printing process. The composition of this substance primarily consists of aqueous emulsion of resinous material. These resinous materials added into the printing paste mixture in order to bind the color pigments to the textile that it is printed on (Powers & Glarum, 1938)

2.3 Photographic Emulsion

A photographic emulsion is defined as a light-sensitive coating on paper or film, consisting of fine grains of silver bromide suspended in a gelatin. In also contains other halides such as silver bromide that darkens when exposed to light and also silver nitrate. The photographic emulsion enables creating works of great value both in artistic and photographic respect. Not only that, it is widely used in the textile printing industry as well. Before a screen can be exposed to reveal its motifs or patterns, the screen is first coated with photographic emulsion and left to dry for about thirty minutes. This step is one of the many steps in the screen printing process that is tedious as well as time-consuming. Regardless of the vitality of this substance, the continuous usage of photo emulsion has detrimental effects to the environment. It contains harmful chemicals and they are dispersed into the air when it is used. A study conducted has revealed that silver halides can serve as fog-inhibiting agents as well as stabilizers. Apart from that this emulsion is unstable as it loses its sensitivity to light and becomes spontaneously

developable without exposure to light. Due to these reasons, this photographic emulsion cannot be stored for long term and need to be replaced often.

2.4 Motifs and Symbology

Motifs are defined as a decorative image or design, especially a repeated one forming a pattern. They are important aspects of a fabric, particularly needed in the textile industry. Motifs create a more interesting outlook to printed fabric. In some cases, some motifs are elements that gives a symbolic significance, which leads to symbology. Symbology on the other hand is defined as the study of interpretation of symbols. Since ancient times, people have used motifs and patterns to represent their daily life and culture on the design of textile. Having these elements on a printed fabric give it a more aesthetic value not to mention adds to its uniqueness.

For the purpose of this research, the motifs and symbology studied pertains to the Native American. Also known as American Indians, the Native American are the indigenous people of the United States. The Native American history contains of many tribes, battles, chiefs and culture. Due to this its rich culture, they have a strong narrative in terms of symbology. Some of them are as pictured below:

Figure 1: Native American Motifs and Symbology

Further exploration into the Native American symbology revealed that the primary color scheme of these motifs is, Light Blue, Yellow, Orange and Red. Examples are as depicted below:

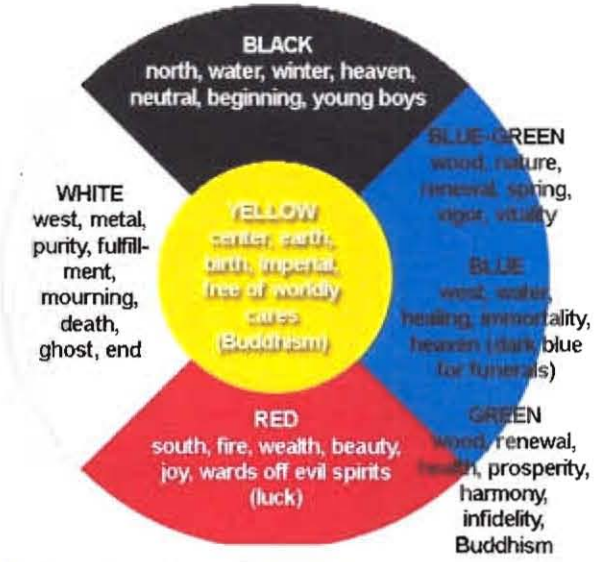

Figure 2: Native American Color Scheme and their meanings.

The motifs are often geometrical in pattern and consistent with the color scheme:

Figure 3: Native American Geometric Motifs

2.5 End Use

Printed textiles are most often seen in apparels as well as home furnishing fabrics such as table cloths, cushion covers, lamp diffusers and bedding. Textile designers who have previously experimented on deconstructive screen printing made apparels using the printed fabrics. Adoption of fashion innovators is key to uniting sustainable apparel with the fashion community. The fabrics printed using the unconventional techniques will gain more market value when they are turned into fashion apparels. Some of the examples are depicted below:

Figure 4: Apparels made from fabric printed using DSP technique

Chapter 3: Methodology

3.1 INTRODUCTION

The method used for this research mainly revolves around exploratory methods such as lab experiments in regards to the screen printing process. Extensive research was done on the theme chosen, which is Native American Symbology. This method involves the usage of a mesh screen, printing paste and masking tape as a resist. Secondly, many case studies were also done to figure out the potential end use of the printed fabrics.

Secondly, a survey was also conducted in order to determine the influence of printed fabrics in everyday life. The questions asked pertains to the public's perception towards the fabric printing process and also tests their awareness about the environmental hazards involved in the process.

3.2 LABORATORY EXPERIMENTS

The initial stages of the experiments revolved around the usage of masking tape to produce printed patterns onto fabric. The placements of the masking tape were at random, due to the fact that at this stage, the tests were still preliminary and mainly for the purpose of determining its success rate. Following a few successful results, the method was deemed successful and later on proceeded to the printing of the Native American motifs on the fabric.

Prior to this however, multiple sketches were done, inspired by Native American motifs. The sketches were for the purpose of idea development as well as