



THE EXPERIMENTAL STUDY OF DRAPED GARMENTS'
TRANSFORMATION INTO FABRIC ART



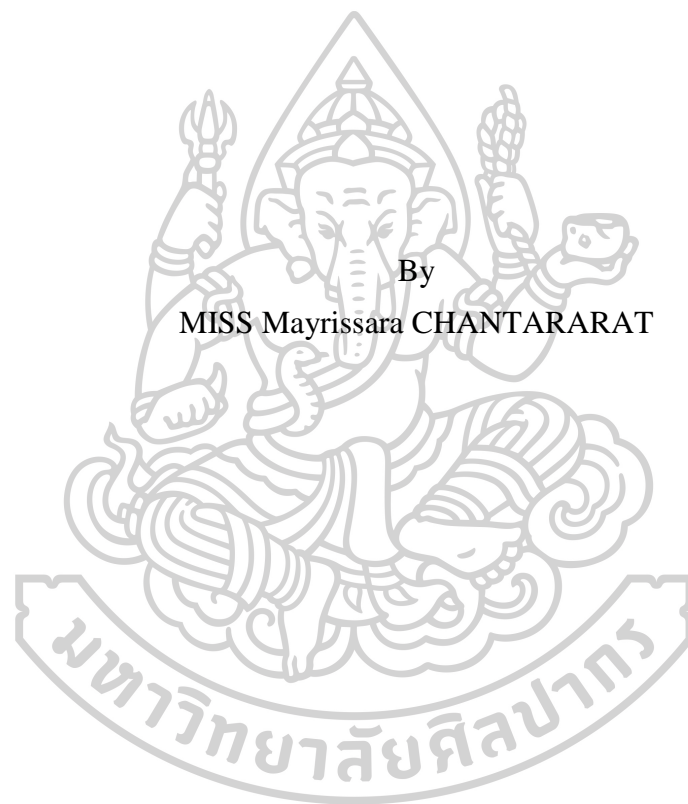
By
MISS Mayrissara CHANTARARAT

A Thesis Submitted in Partial Fulfillment of the Requirements
for Doctor of Philosophy (DESIGN ARTS) INTERNATIONAL PROGRAM
Graduate School, Silpakorn University
Academic Year 2017
Copyright of Graduate School, Silpakorn University



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาคุษฎีบัณฑิต
สาขาวิชาศิลปการออกแบบ แบบ 1.2 ปริญญาคุษฎีบัณฑิต
บัณฑิตวิทยาลัย มหาวิทยาลัยศิลปากร
ปีการศึกษา 2560
ลิขสิทธิ์ของบัณฑิตวิทยาลัย มหาวิทยาลัยศิลปากร

THE EXPERIMENTAL STUDY OF DRAPED GARMENTS'
TRANSFORMATION INTO FABRIC ART



By
MISS Mayrissara CHANTARARAT

A Thesis Submitted in Partial Fulfillment of the Requirements
for Doctor of Philosophy (DESIGN ARTS) INTERNATIONAL PROGRAM
Graduate School, Silpakorn University
Academic Year 2017
Copyright of Graduate School, Silpakorn University

Title	The Experimental Study of Draped Garments' Transformation into Fabric Art
By	Mayrissara CHANTARARAT
Field of Study	(DESIGN ARTS) INTERNATIONAL PROGRAM
Advisor	SONE SIMATRANG

Graduate School Silpakorn University in Partial Fulfillment of the
Requirements for the Doctor of Philosophy

..... Dean of graduate school
(Associate Professor Jurairat Nunthanid, Ph.D.)

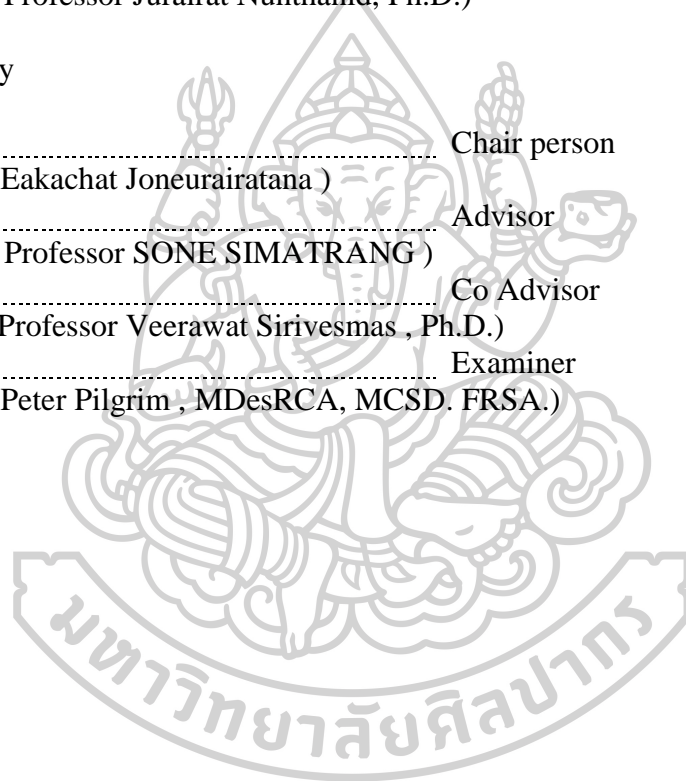
Approved by

..... Chair person
(Professor Eakachat Joneurairatana)

..... Advisor
(Associate Professor SONE SIMATRANG)

..... Co Advisor
(Assistant Professor Veerawat Sirivesmas , Ph.D.)

..... Examiner
(Professor Peter Pilgrim , MDesRCA, MCSD. FRSA.)



54155954 : Major (DESIGN ARTS) INTERNATIONAL PROGRAM

MISS MAYRISSARA CHANTARARAT : THE EXPERIMENTAL
STUDY OF DRAPED GARMENTS' TRANSFORMATION INTO FABRIC ART
THESIS ADVISOR : ASSOCIATE PROFESSOR SONE SIMATRANG

This empirical research studies draped garments that are found in Thailand – such as jongkraben, sabai, jeeb, tab and tabengmarn – and other countries, such as Indian sari, Japanese obi, Greek chiton and more. The techniques associated with the creation of these draped garments, which include tying, folding, rolling and wrapping, carry the potentials that can be further developed into a new concept design and art form.

Currently, modern machinery has taken over the scene, which then reduced the role of traditional handmade works to the point of non-existent. A fast-paced lifestyle means people now have no time for a slow craft. Soon, these crafts – with no continual development and usage – begin to fade from both contemporary usage and art scene.

Through empirical and experimental study, it has been found that these draping techniques possess both aesthetic features and historical values that shouldn't be allowed to disappear. The in-depth literature review of the history of garments, and of artists who have worked on similar projects, served to form the theoretical framework of this research. Together, they inspire the set of experiments conducted to explore the potential of draping techniques, that they can be further developed into a new concept design in a form of fabric art.

The purpose of this research is to create fabric art form as a result of the transformation of draping techniques. In completing this research, the researcher hopes that it will be able to rekindle the interest in draped garments and local wisdom that come with it, develop the potential and identity of draping techniques, and prevent them from disappearing from our culture.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to all the people who have supported and assisted me in the completion of this thesis.

I am very grateful for the guidance and support given by Assoc Prof Sone Simatrang, my supervisor, as well as Asst Prof Veerawat Sirivesmas, my second supervisor. Thank you for the invaluable assistance regardless of the time of day or occasion whenever I have a question. Their critical advices helped to steer this thesis in the right direction, and I truly appreciate having them as my supervisors.

I would also like to thank Prof Eakachat Joneurairatana, Asst Prof Namfon Laistroglai, Assoc Prof Pairoj Jamuni and Prof Peter Pilgrim for their critical input. Without them, this thesis couldn't have been successfully completed.

I also wish to acknowledge other academic staffs within the Graduate School, library staffs and all of my friends at Silpakorn University. I had a fantastic experience learning and working with you all.

Thank you, especially, to my late parents Sukho and Pua Chantararat. They were my first teachers, and have always been my main inspiration in life. They encouraged me to seek knowledge and to be the best of my potential that I can be. I am forever indebted to their kindness and love. Wherever they are, I'm sure they would be overjoyed and proud of me and our big family.

Lastly, I would like to thank my family and friends for always being by my side throughout this long journey. Special recognition goes to my daughter Melalin Mahavongtrakul whose contribution has been very helpful, and my niece Panida Chantararat for sharing her knowledge regarding Thai traditional costumes. Thanks for putting up with me through the ups and downs on this road. Everyone's encouragement has been my motivation since the first day, and for that I say "thank you" for all their kind words and support.

Mayrissara CHANTARARAT

TABLE OF CONTENTS

	Page
ABSTRACT.....	D
ACKNOWLEDGEMENTS.....	E
TABLE OF CONTENTS.....	F
List of Table.....	H
List of figures.....	J
Chapter 1 Introduction.....	1
Statement of the problem.....	2
Objectives.....	4
Research methodology, scope and design process.....	4
Hypothesis.....	5
Definition and keywords.....	5
Research outcome.....	6
Chapter 2 History of Thai draped garments.....	7
Examples of draped garments in other countries.....	21
Comparison of draped garments in different countries.....	26
The use of draped garments in modern Thailand.....	27
The role and development of draping techniques in fashion design.....	41
Theoretical framework.....	47
Chapter 3 Research Methodology.....	51
The experiment.....	71
Develop draped garments' techniques to create fabric art form.....	107
Chapter 4 Process of actual design.....	122
Visual elements and design application.....	131
Chapter 5 Conclusion.....	149
Discussion.....	164

Self critical..... 165
REFERENCES 168
VITA..... 170



List of Table

	Page
Table 1: Visual design analysis.....	53
Table 2: Visual design analysis of jeeb.....	55
Table 3: Visual design analysis of sabai	57
Table 4: Visual design analysis of tab	59
Table 5: Visual and design analysis of tabengmarn.....	61
Table 6: Summary of techniques as found in Thai draped garments.....	62
Table 7: Visual design analysis of sari	63
Table 8: Visual design analysis of Greek draped garments	65
Table 9: Visual design analysis of obi	67
Table 10: Summary of techniques of international draped garments	68
Table 11: Comparison of jongkraben and Greek draped garment.....	69
Table 12: Comparison of tabengmarn and obi.....	69
Table 13: Comparison of sabai and sari.....	70
Table 14: Comparison of jeeb and Greek draped garments.....	70
Table 15: Experiment tying on manila rope	80
Table 16: Experiment on linen and cotton.....	81
Table 17: Experiment on cotton tape and cotton	82
Table 18: Experiment on cotton and polyester	83
Table 19: Experiment on cotton and linen.....	83
Table 20: Experiment on cotton.....	84
Table 21: Experiment tying with cotton tape.....	90
Table 22: Experiment tying and folding with organdy and rayon	91
Table 23: Experiment tying with cotton tape.....	91
Table 24: Experiment folding with ribbon.....	92
Table 25: Experiment with cotton tape and ribbon.....	93
Table 26: Experiment with cotton.....	93

Table 27: Experiment with paper and cotton.....	94
Table 28: Experiment with cotton and linen.....	95
Table 29: Summary of results from Experiment 1.4.....	105
Table 30: Summary of results from Experiment 1.4.....	105
Table 31: Summary of results from Experiment 1.4.....	106
Table 32: Summary of results from Development 2.2.....	112
Table 33: Summary of results from Development 2.2.....	113
Table 34: Summary of results from Development 2.2.....	114
Table 35: Summary of techniques for actual design.....	122
Table 36 Draped garment's technique from original techniques	125
Table 37: Application of design elements	136
Table 38: Application of design elements	138
Table 39: Application of design elements	140
Table 40: Application of design elements	142
Table 41: Application of design elements	144
Table 42: Application of design elements	146
Table 43: Application of design elements	147
Table 44: Summary of conceptual ideas for the experiment	150
Table 45: Summary of inspiration for actual design.....	150
Table 46: Summary process of actual design no 1	152
Table 47: Summary process of actual design No. 2.....	154
Table 48: Summary process of actual design No. 3.....	156
Table 49: Summary process of actual design No.4.....	158
Table 50: Summary process of fashion art form No.5.....	160
Table 51: Summary process of fashion art form No.6.....	162
Table 52: Summary of results of original draped technique in fabric art form No.7	164

List of figures

	Page
Figure 1: An example of male costume in Dvaravati period (Department of Fine Arts, 1972, pp. 7)	8
Figure 2: A female costume in Dvaravati period (Kurowat, 1980, pp. 29)	8
Figure 3:A woman in Srivijaya period (Department of Fine Arts, 1972, pp. 30).....	9
Figure 4 4: A woman in Lopburi period (Ratchawet, 2000, pp. 28).....	10
Figure 5: The costumes of Chiengsan period (Kurowat, 1980, pp. 47).....	10
Figure 6: A woman of Sukhothai period (Ratchawet, 2000, pp. 46).....	11
Figure 7: Another style for Sukhothai women (pp. 48).....	11
Figure 8: Costumes of Ayudhya period (Dejwitthayaporn, 2005, pp.38)	12
Figure 9: A woman of Thonburi period (Kurowat, 1980, pp. 72)	13
Figure 10: Mixing jongkraben with Western-style blouse (National identity Office, 2004, pp. 145)	14
Figure 11: Common women during King Rama V's reign (Nawigamune, 2004, pp. 33)	15
Figure 12: A woman in King Rama VI's reign (Nawigamune, 2004, pp. 133).....	15
Figure 13: Female wardrobe in King Rama VII's era (National Identity Office, 2004, pp. 314)	16
Figure 14: Noong jeeb (National Identity Office, 2004, pp. 97)	17
Figure 15: A lady wearing a sabai (National Identity Office, 2004, pp. 90)	18
Figure 16: Sabai with royal decorations and medallions (National Identity Office, 2004, pp. 127)	19
Figure 17: Tab (National Identity Office, 2000, pp.331).....	20
Figure 18: Tabengmarn (Ratchawet, 2000, pp. 72)	21
Figure 19: An example of Greek costume (Kurowat, 1980, pp. 240)	22
Figure 20: Indian sari (Kurowat, 1980, pp. 185)	23
Figure 21: Obi (www.gojapango.com/fashion/butterfly_obi.html).....	24
Figure 22: Myanmar woman (Kurowat, 1980, pp. 125)	25

Figure 23: Costumes of Laos (Kurowat, 1980, pp. 218)	25
Figure 24: Cambodian costumes (Kurowat, 1980, pp. 130)	26
Figure 25: A couple wearing Thai costumes for their wedding.....	28
Figure 26: Brahmin during ploughing ceremony ^[1] (http://world.kapook.com/pin/5190606e38217a4c68000000).....	28
Figure 27: A khon performance	29
Figure 28: Windy Chien (http://www.windychien.com/about)	30
Figure 29: Chien's works.....	30
Figure 30: Richard Sweeney	32
Figure 31: Sweeney's pleated work	32
Figure 32: Rebecca J. Coles.....	33
Figure 33: Coles' repetition of butterflies.....	34
Figure 34: Louise McRae.....	35
Figure 35 : McRae's work	35
Figure 36: Peter Gentenaar	36
Figure 37: Gentenaar's work	37
Figure 38: Henry Moore (https://www.tes.com/lessons/aEAA8Fvtv__uSQ/henry-moore).....	38
Figure 39 :A collaboration between Burberry and Moore's foundation	39
Figure 40: Roberto Capucci (Bauzano, pp.122)	40
Figure 41: Capucci's design (Bauzano, pp.45)	40
Figure 42: Chanel's handbags	42
Figure 43: Chanel's bag strap	42
Figure 44: McQueen's work	43
Figure 45: A design by Issey Miyake.....	44
Figure 46: Dress by Issey Miyake	44
Figure 47: Van Herpen's design	45
Figure 48: Van Herpen's design	46
Figure 49: Van Herpen's Between the Lines.....	46
Figure 50: Theoretical framework	50

Figure 51: Steps in wearing jongkraben	52
Figure 52: Design analysis of steps in wearing jongkraben	52
Figure 53: Summary of technique and results of jongkraben	53
Figure 54: Steps in wearing jeeb.....	54
Figure 55: Design analysis of steps in wearing jeeb.....	55
Figure 56: Summary of techniques and results of jeeb.....	56
Figure 57: Steps in wearing sabai	56
Figure 58: Wrapping sabai.....	57
Figure 59: Summary of technique and results of sabai.....	57
Figure 60: Wrapping of tab.....	58
Figure 61: Design analysis of steps in wearing tab.....	58
Figure 62: Summary of technique and results of tab	59
Figure 63: Steps in wearing tabengmarn	60
Figure 64: Design analysis of steps in wearing tabengmarn.....	60
Figure 65: Summary of technique and results of tabengmarn.....	61
Figure 66: How to wear sari.....	62
Figure 67: Steps in wearing sari.....	63
Figure 68: Summary of technique and results of sari	64
Figure 69: Greek draped garments.....	64
Figure 70: Design and analysis of steps in wearing Greek draped garments	65
Figure 71: Summary of technique and results of Greek draped garments.....	66
Figure 72: Steps in wearing obi (www.you.be/.ybF8-iZHrDs)	66
Figure 73: Design analysis of steps in wearing obi	67
Figure 74: Summary of technique and results of obi.....	68
Figure 75: Draped garments and techniques.....	72
Figure 76: Framework of the experiment	73
Figure 77: Process of experiment	74
Figure 78: Techniques to draped garments.....	74
Figure 79: Results from experimenting with tying technique	76

Figure 80: Results from folding using cotton	77
Figure 81: Results from tying with cotton tape and cotton rope	77
Figure 82: Results from rolling and folding with cotton	78
Figure 83: Results from wrapping and tying with cotton	78
Figure 84: Results from wrapping and tying with cotton	79
Figure 85: Results from folding and rolling with cotton	79
Figure 86: Results of tying technique with rope	85
Figure 87: Results from tying and folding technique with organza and cotton.....	86
Figure 88: Results from tying and folding with cotton tape	86
Figure 89: Results from folding technique with ribbon.....	87
Figure 90: Results of tying and rolling with cotton tape, and folding technique with ribbon	87
Figure 91: Results from folding, tying and wrapping technique with cotton	88
Figure 92: Results from wrapping with paper	88
Figure 93: Results from folding and rolling with cotton	89
Figure 94: Results from folding with cotton.....	89
Figure 95: Results from rolling and folding with fabric and ribbon.....	96
Figure 96: Results from rolling and tying with cotton tape	97
Figure 97: Results from tying and rolling with cotton rope	97
Figure 98: Results from rolling and tying with yarn and tape	98
Figure 99: Result from folding and wrapping with cotton	98
Figure 100: Results from wrapping and tying, and folding with cotton.....	99
Figure 101: Results from rolling and folding with cotton	99
Figure 102: Results from folding with hard cotton.....	100
Figure 103: Results from folding and rolling, and wrapping with cotton	100
Figure 104: Results from folding and rolling, and wrapping with cotton	101
Figure 105: Result from wrapping and tying with cotton.....	102
Figure 106: Result from wrapping and tying with cotton.....	103
Figure 107: Results from wrapping and tying with cotton, and tying with rope.....	103

Figure 108: Results from wrapping and tying with cotton	104
Figure 109: Result from wrapping, tying and rolling with cotton	104
Figure 110: Development framework	108
Figure 111: Result of the development of folding and rolling technique	109
Figure 112: Results of the development of folding and rolling technique	109
Figure 113: Result of the development of folding and rolling technique	110
Figure 114: Result of the development	111
Figure 115: Silk with wrapping and tying in repetition	114
Figure 116: Hard mesh with wrapping and tying in repetition	115
Figure 117: Organdy with wrapping and tying in repetition.....	115
Figure 118: Organza with wrapping and tying in repetition.....	115
Figure 119: Soft mesh with wrapping and tying in repetition	116
Figure 120: Cotton and polyester with wrapping and tying in repetition	116
Figure 121: Summary of main ideas for the actual design	117
Figure 122: Hard mesh.....	117
Figure 123: Summary of method	118
Figure 124: Function, flexibility and transformation.....	118
Figure 125: Process and sketch of the development.....	119
Figure 126: Transformation of the form	120
Figure 127: Results of the development process	123
Figure 128: A flexible form	123
Figure 129: Transforming to a new form.....	124
Figure 130: Folding and rolling techniques	124
Figure 131: hard fabric.....	125
Figure 132: White painting by Jimmy McCullough	126
Figure 133: Marigold	126
Figure 134: Bloomed lotus (https://heartful-ly.com/category/heartfulness).....	127
Figure 135: Lotus (https://www.bloggang.com/data/p/pom-egranate/picture/1303295831.jpg)	127

Figure 136: Fern (https://www.pinterest.com/pin/303852306104342931)	127
Figure 137: Butterfly (http://www.creation7.com/product/white-butterfly-photo)... ..	128
Figure 138: Rose (https://www.blueistyleblog.com/2014/02/TheLanguageOfFlowers.html).....	128
Figure 139: Rose (https://pantip.com/topic/32564842)	129
Figure 140: Capucci's works (Bauzano, 2001).....	130
Figure 141: Sketch of lotus	131
Figure 142: Sketch of marigold	132
Figure 143: Sketch of rose	133
Figure 144: Sketch of fern	134
Figure 145: Sketch of butterfly	135
Figure 146: Draft of actual design No.1	136
Figure 147: Steps of creation	137
Figure 148: Result of actual design No.1.....	137
Figure 149: Draft of actual design No.2	138
Figure 150: Steps in creation	139
Figure 151: Results of actual design No.2	139
Figure 152: Draft of actual design No.3	140
Figure 153: Steps in creation	141
Figure 154: Result of actual design No.3.....	141
Figure 155: A draft of actual design No.4	142
Figure 156: Steps in creation	143
Figure 157: Result of actual design No.4.....	143
Figure 158: Draft of actual design No.5	144
Figure 159: Steps in creation	145
Figure 160: Result of actual design No.5.....	145
Figure 161: Draft of actual design No.6	146
Figure 162: Steps in creation	146
Figure 163: Result of actual design No.6.....	147

Figure 164: Draft of actual design No.7 148

Figure 165: Result of actual design No.7..... 148



Chapter 1 Introduction

The purpose of this research is to create fabric art form as inspired by draping techniques that can be found in draped garments.

This research focuses on the characteristics and identity of Thai draped garments, such as jongkraben, jeeb, sabai, tab and tabengmarn, as well as foreign draped garments such as Indian sari, Japanese obi and Greek chiton. These garments utilise the techniques of tying, folding, rolling and wrapping in order to transform a piece of fabric into functional garments with distinctive attributes that reflect on the wisdom and handicraft of the past.

Draped garments have long been a part of human civilisation, making use of handmade techniques long before machines took over the process of garments' creation. In the past, one piece of cloth can be used to wrap around a person's body to create costumes (Wongsingthong, 2004, pp.16). The designs of these garments – while making use of similar techniques – are unique to different cultures and traditions. For example, Thailand has jongkraben, which uses a piece of rectangular fabric to tie around a person's waist, with the remaining strand being folded and rolled, passing between the legs and then tied at the back. The leftover strand is inserted and hidden, thus creating a new form. Overall, the entire process results similarly to a modern pair of pants that is easy to move around in.

Jeeb is another form of garment, and Thai ladies of the olden days would fold fabric into layers, creating pleats. Another draped garment from the past is sabai, which is used to conceal women's upper body. A long, rectangular piece of fabric is wrapped around the chest, with the remaining piece passed over one shoulder. For tab, it is wrapped around the chest like sabai, but the leftover fabric is tucked at the side. For tabengmarn, the fabric is wrapped around the body, and then tied around the back of a person's neck.

Looking at foreign draped garments, it can be seen that the techniques can be quite similar. Indian sari, for example, uses a long piece of cloth to wrap repeatedly around the body with the remaining strand passed over the shoulder to the back. For draped garments of Ancient Greece, tying and wrapping techniques are used. For Japanese obi, tying, wrapping and rolling techniques are used.

In the past, these draped garments made up people's daily wear to suit different occasions and beliefs pertaining to each nation. Once machines were

established for industrial purposes, the cloth-making process was then made easier and more efficient (Wongsingthong, 2004, pp.26-27). Changing lifestyle also made it difficult to wear draped garments, as it now requires swiftness in movement to catch up with transportation and more. Draped garments then began to fade from general daily usage (Thanaprasitpattana, 1999, pp.86-88). Its popularity diminished. It is also inefficient as it requires a larger amount of fabric to make a costume.

Currently, draped garments are only seen at special occasions or rituals. The draping techniques – tying, folding, rolling and wrapping – also fade with them even though they are valuable art pieces that serve as a reminiscence of history and way of life of the past. They are local wisdom of our ancestors that shouldn't be allowed to disappear, but rather to adapt, apply, experiment and renew to suit modern lifestyle to prevent it from fading away.

In order to explore and realise the potential of draping techniques, the researcher has chosen to transform these techniques into fabric art form, through the study of the garments' history, review works of artists that have worked on similar projects, form theoretical framework based on the study, and finally to conduct experiments to test out the hypothesis.

Statement of the problem

This study is conducted to create fabric art form based on different draping methods found in traditional draped garments of our country and others. These techniques are tying, folding, rolling and wrapping, and once being worked on fabric, they bring about unique aesthetic features that serve also to retain the cultural and historical value of our local wisdom. They can be further developed to be incorporated into different lines of creative and artistic works.

Draped garments in our country such as jongkraben to jeeb, sabai, tab and tabengmarn possess artistic qualities unique to the methods used to create them. The forms, lines, pleats and silhouettes they create can be compared to an artwork that is wearable on body.

Upon closer inspection to these aesthetic qualities, the researcher felt amazed how they are created without the use of machinery or any equipment at all. The four main techniques that can be found among these draped garments – namely tying, folding, rolling and wrapping – have the potential to create a piece of art. In their original purposes, they were very beneficial to human as these techniques have been utilised to cover up one's bod, for decency, social interaction, and to shield one's

body from cold weather.

In the past, draped garments generated by these techniques were commonly worn by all from kings to commoners. These garments also served as a reflection of our society and political situation. For example, during the reign of King Rama V, the king wished to make the country more civilised to follow through with his national development plans. Clothes then became something he adapted from Western countries, taking inspirations bit by bit, while also retained some of the country's creations in a fusion of Thai and Western clothes of the era, as can be seen in a long-sleeve Western shirt worn with jongkraben by ladies.

Garments also served as a reflection of one's social status. Clothes worn by court ladies and commoners greatly varied in their value, quality, materials, and care. They also carried a symbol of identity and way of life, such as in tabengmarn, which was devised to allow women more flexibility, both during farm work and wartime.

Despite standing through its test of time in that era, the rather complex ways of putting on draped garments such as jongkraben, sabai, jeeb, tab, tabengmarn and those from other countries made people of latter generations beginning to prefer ready-to-wear clothes. The influx of Western culture also influenced this shift in our own culture and way of life, which include anything from people's role in the society to transportation that requires their movement to not be restricted by confining clothes. Draped garments like jongkraben then become something that is limited to special occasions that require Thai traditional costumes, such as in weddings, fancy parties, or as part of a costume for Thai traditional dance. Other draped garments like jeeb, sabai, tab and tabengmarn also faded through time. Many of them are no longer part of the contemporary fashion, being viewed as outdated and boring by modern youth. And when they are no longer in use, they are not being developed and adapted to suit modern lifestyle in any forms.

The aesthetic qualities of draped garments, both abstract and concrete, have historical and cultural value that is significant to our country. They shouldn't be allowed to fade away. Following an extensive study, the researcher feels that the methods and techniques related to the creation of draped garments can be transformed and adapted to suit contemporary lifestyle, and also in fine arts and fashion design that are suitable and accessible by the new generation. Bringing them back into the contemporary world will serve as a reminder for us of our own history, and it will also help fuel the educational process that will eventually ignite the development in both techniques and designs.

This research aims to bring about a new fabric art form, a transformation of draping techniques and their potential, and reinvent the identity and concept of draped

garments to create a new form to suit modern lifestyle. Furthermore, they can be adapted to suit fine arts and fashion design in order to retain the identity of draped garments from disappearing.

Objectives

The objectives of this research are as follows:

1. To study the history and different methods of fabric draping and their connections.
2. To develop techniques related to the creation of draped garments through the concept of tying, folding, rolling and wrapping.
3. To create an art form that can be used as a fabric art on body.

Research methodology, scope and design process

This research focuses on draped garments found in Thailand, such as jongkraben, jeeb, sabai, pha tab, and tabengmarn, as well as draped garments from other countries such as Indian sari, Greek chiton, and Japanese obi. Different case studies of artists who have applied similar techniques of tying, folding, rolling and wrapping into their design works are studied. The theoretical framework is also formed to design this fabric art form.

1. Study the history, social context, changes, characteristics and identity of draped garments in Thailand from past to present.
2. Study the characteristics and steps required to wear draped garments from other countries, such as India, Greece and Japan.
3. Learn how to put on each type of draped garment – such as jongkraben, jeeb, sabai, pha tab and tabengmarn, as well as Indian, Greek and Japanese draped garments – through interviews with experts, videos and photos.
4. Review artists that have infused tying, folding, rolling and wrapping techniques in their works.
5. Study the theoretical framework.
6. Collect and analyse the information acquired through literature review. Create conceptual ideas by bringing the techniques of draped garments and categorise them to seek possibilities in design.
7. Experiment, explore, and create conceptual designs with tying, folding, rolling and wrapping as the design techniques. Set goals and scope for the new designs.

Hypothesis

1. To preserve and realise the values of draped garments.
2. To develop the form and techniques pertaining to draped garments and adapt them to suit fabric art form.
3. To bring an art form that has been transformed from tying, folding, rolling and wrapping from this research and develop it to suit other fields of art and innovation.

Definition and keywords

Keywords:

Draped garments, jongkraben, jeeb, sabai, tab, tabengmarn, fabric art form, transform, tying, folding, rolling, and wrapping.

Definition:

Draped garments are garments that are used to cover up a person's body, with no aid from machinery. Some of these garments include jongkraben, jeeb, sabai, tab and tabengmarn.

Jongkraben is a voluminous pant-like apparel that is created using different techniques of folding and tying of a single piece of rectangular fabric. It has been long worn by Thai people since the olden days. About a 3-metre-long fabric is tied around the waist, the strand rolled and is taken under the legs to be inserted into the hem at the back. Now, in a period of heavy influx of Western culture, jongkraben is faded from contemporary lifestyle.

Jeeb is a type of draped garment that was used to cover a woman's lower part of the body. Its shape is a tube, with layers of folded fabric cascading down the front.

Sabai makes up of a long piece of fabric that is wrapped around the chest and abdomen of women. The long remaining strand passed over one shoulder and is left cascading down the back.

Tab, like sabai, also makes up of a long rectangular fabric wrapped around the upper part of the body. But the remaining strand is tucked under layer of fabric on top, which eventually gives an appearance of a tube top.

Tabengmarn is created by using a long piece of rectangular fabric tied around a woman's chest into an 'X' that it later tied at the back of the neck.

Fabric art form is a form of art made from fabric that is inspired by draping techniques. It is presented as a form of art on body.

To transform is to change and develop one thing to another following an in-depth analysis that inspires the new creation. The concept is built to suit the set objectives that the new creation would retain the characteristics of the old, but rather in a new form and context.

Tying is to fasten two corners of the fabric together, as can be found in the first step of making jongkraben and the last step of making tabengmarn.

Folding creates layers that form into pleats, as in the process of making jeeb that cascades down the front of the garment in the past.

Rolling turns fabric into a long tube, and this technique can be found in jongkraben.

Wrapping, in this case, uses a piece of fabric to cover something up. It is the first step in creating any draped garments from jongkraben, jeeb, sabai, tab and tabengmarn.

Research outcome

The benefits as expected from this research are as follows:

1. The history, identity, technique, and potential of draped garment techniques of Thai draped garments such as jongkraben, jeeb, sabai and tabengmarn are studied in details.
2. The form and potential of tying, folding, rolling and wrapping techniques are analysed, synthesised and developed to suit practical arts that can be used to create a fabric art technique on body in contemporary context.
3. The research will create an inspiration for younger generations to further develop the ideas in their own fields, such as in interior design, fine arts, printing and fashion design.

Chapter 2

History of Thai draped garments

Draped garments have long been a part of people's lives, culture and civilisation since ancient times. What began simply as the use of animal fur and leaves to cover up one's body was later incorporated with weaving techniques and more to create wardrobe that people can move comfortably in as they go about their daily activities.

From weaving technique then began the making of fabric and garments, and with it came the techniques of draping, which is to cover up a person's body with a piece of fabric in a strategic way for both decency and shielding oneself from harsh weather. Draping requires no use of machinery – no cutting and sewing – to make sure the fabric stays in place on a body even during movement. Only a pin, brooch, or a string may be used to hold the draped garments in place. The rest, all a person would need is a wisdom of technique and creativity which has been passed down from one generation to another to create a functional and aesthetically pleasing garment that would adorn the body.

In Thailand, different types of draped garments have long been a part of our culture. Some of the most notable garments that have been used in our country include jongkraben, sabai, jeeb, pha tab, tabengmarn, and more. Their usage can be dated back to Dvaravati period up until Rattanakosin period when their popularity eventually faded and their usage became limited to special occasions and ceremonies, and are no longer a part of contemporary wear.

In this chapter, readers will get to learn about the history of Thai and international draped garments, from its past context to contemporary use. Examples of artists who have created art forms by fabric techniques and materials are also provided. The theoretical framework as applied to in this research concludes this chapter.

Jongkraben

Dvaravati marked the first period in Thai history that incorporated the use of jongkraben in their wardrobe. Archaeological evidences suggested that its usage can be traced back to Dvaravati period, from the 11th to the 16th centuries BE. Its costumes were influenced by Indian. Some evidences have been uncovered at Chulpratoen pagoda in Nakon Prathom in a form of stone carvings depicting a male lord wearing jongkraben with his chest bare (Ratchawet, 2000, pp. 8). See Figure 1.



Figure 1: An example of male costume in Dvaravati period (Department of Fine Arts, 1972, pp. 7)

Quite similarly, women of Dvaravati made use of a single piece of fabric in rectangular shape to drape around their waist. For their torso, a long piece of fabric is draped over their breasts in an adornment fashion, not technically to conceal parts of the body (Patindhu, 1992, pp. 9). The draped garment, as can be seen in Figure 2, would fall all the way to their ankles, while their torso remains semi-naked.



Figure 2: A female costume in Dvaravati period (Kurowat, 1980, pp. 29)

From Dvaravati, we looked to Srivijaya (13th to 18th centuries BE), which was located on the Southern part of the country. Women in Srivijaya were often topless, or had a light fabric to drape around themselves (Ratchawet, 2000, pp. 14 and Patindhu, 1992, pp. 17). A garment is draped around their hip, and could be as long as a kneecap or down to cover their legs (See Figure 3). A belt was used to hold the fabric to their waist. Some also wore a shorter version of jongkraben which hung below the waistline, and dropped to above the kneecap.



Figure 3: A woman in Srivijaya period (Department of Fine Arts, 1972, pp. 30)

A diary of a Chinese clergyman Yi Jing has a detailed description of people in Srivijaya as “leaving their legs naked and wear a kumman, which is a fabric as long as 8 feet. They neither sew nor make a definite waistline out of it. The big garment is used to cover the lower part of the body” (Dharmathatpanich, 2515BE, as quoted in Chantavit, 2002, pp. 21).

In this period, the people’s costumes are quite similar to those of the preceded Malayu Kingdom, which was influenced by Java (Department of Fine Arts, 1972, pp. 21). Women’s garment goes down to the mid of their calves. The legs are wide. Some would also wear a light garment with the upper hem made into a circular shape that exposes their stomach (Kurowat, 1980, pp. 31 and Ratchawet, 2000, pp. 14). Some wore a belt and leave the hem down the right side of their body. Men would wear their garment lower on their hip using a metallic belt to hold everything in place.

In this era of the 16th to the 19th centuries BE, women still went about in an almost topless manner. This is a speculation based on artefacts found which depicted a figure wearing garment below its navel with another strip of fabric tying as a belt (Patindhu, 1992, pp. 25). The style is mostly the same for both men and women (see Figure 4). And it was evident that people at that time already began sewing.



Figure 4 1: A woman in Lopburi period (Ratchawet, 2000, pp. 28)

At the time, people were also influenced by the expansion of Khmer around 1550 BE and hence some of the costumes would carry similar trait pertaining to Khmer costumes. Ohm Ratchawet (2000, pp. 22) suggested that this could be the period when some people started to pull the lower hem of their jongkraben higher than their knees as it was a style that Khmer people wore, which allowed better mobility and comfort in moving about throughout the day.

Chiengsan era, also known as Lanna, reached its peak of prosperity in the 19th century. Due to its geographical location, which situated on the northern part of present Thailand, people may incorporate more garment to keep their body warm (Department of Fine Arts, 1972, pp. 59) as can be seen in Figure 5. The costumes also appeared to a concoction of different culture which included India and Myanmar because the people were made up of different races.



Figure 5: The costumes of Chiengsan period (Kurowat, 1980, pp. 47)

Women wore a garment that covered their legs down to the ankles. Their chests covered with a strip of fabric. For men, they may wear long-sleeve, buttoned shirt and put another piece of fabric on their shoulder. The garment they wore can be layered into pleats and held together using a belt. People wore their garment below the navel, letting the strands part down the middle into two parts (Ratchawet, 2000, pp. 40).

The Kingdom of Sukhothai grew from the remains of Khmer settlement and Lopburi Kingdom, and the people's costumes were based and developed from the style of Lopburi (Department of Fine Arts, 1972, pp. 74). Women in this period tend to wear a garment with the lower hem going down their calves. Their garment was more layered with a much more complicated pleat compare to those of past styles. It was common for people, both men and women, to wear jongkraben. Generally, the costumes in this period incorporate more intricacy and details than the past.



Figure 6: A woman of Sukhothai period (Ratchawet, 2000, pp. 46)



Figure 7: Another style for Sukhothai women (pp. 48)

In Ayudhya period, costumes received influences from Sukhothai Kingdom, Lopburi Kingdom and Khmer culture. Ratchawet described that women in Ayudhya wore jongkraben, and they can be either long or short. A leftover strand from the tying process may be left hanging out the front into a long strand. Some even left out both strands that go below the knee.



Figure 8: Costumes of Ayudhya period (Dejwitthayaporn, 2005, pp.38)

Men during this period wore a relatively short jongkraben, which stopped above their calves or even above their knee caps. Some left a strand hanging down their front. Some wore short pants underneath first before wearing their jongkraben on top.

Later in Thonburi period, a war with Myanmar at the time greatly affected the costumes. With rebuilding the city and fighting off Myanmar army, the people were focused on war, with little attention on other things. But once the war was over, the people began to trade more with other countries. One of the country's most prominent trade partners was China, and that had some effects on the way people dressed (Saekhow, pp. 26). Some even gave up the use of jongkraben altogether, and opted instead for pha thoong, which is to tie a garment around one's waist and leave the rest of the garment hanging freely.

The war has resulted in a shortage of garment, which became one of the reasons why people gave up jongkraben as it required more fabric to create. For pha thoong, it required a shorter piece of fabric, and the method used to put it on was not complicated (see Figure 9). All a wearer had to do was to wrap the fabric around their waist and roll the top part of the fabric down until everything stayed in place. Generally, the way people dressed was still mostly the same as those of Ayudhya period.



Figure 9: A woman of Thonburi period (Kurowat, 1980, pp. 72)

During early Rattanakosin period, from King Rama I to Rama III, costumes still carried the same characteristics from Ayudhya period. Later, the style of costumes began to shift to adjust to the changing way of lifestyle and social structure.

Thailand's National Identity Office gave a description in Rajapastraporn (2004, pp. 49) that "during the early reign of King Phutthayotfa Chulalok (2325-2352 BE) all the way to King Nangklao (2367-2394 BE), the characteristics of costumes couldn't have been too different from that of Ayudhya period. The war crisis made the people adjust their clothes to suit the environment to keep their own lives safe. Women and men in all classes would wear or drape garment on them. People wore jongkraben, and not many were fond of shirts."

The Ayudhya style was carried well into King Rama IV's period, though it has taken a more luxurious edge especially for women in court as they paid attention to the style, materials, and even scents of the fabric. The fabric used for high-class women consisted of smooth silk that was hand woven in Thailand. There were some intakes of foreign fabric, which were of beautiful and exotic prints, made from expensive materials. People were quite selective on where they imported the fabric, and the popular countries that people liked to order their fabrics include England and India (National Identity Office, 2004, pp. 53). Women during the time would scent their fabric with flower and spices, and these fragrances would be incorporated in almost every step of caring the fabric.

During significant royal events, the fabric selection often consists of expensive fabrics such as the ones imported from India. Some fabrics were sent from Thailand to India, in order for Indian craftsmen to put some prints on the fabrics. The designs were made by craftsmen, and when they were sent out abroad, some were copied and spread around. Some were mixed with existing Thai and Indian prints and were later sent back for sale in Thailand (pp. 54).

The period with a huge shift in the people's garments in Thailand was during the reign of King Rama V. Many changes occurred in the country's costumes during this period due to the influx of Western culture. Aspects of Western culture were incorporated into the existing Thai culture while others remained as they were. For costumes, the upper part of the body incorporated more usage of shirts and blouses. However, the lower part retained the traditional jongkraben as in Figure 10.



Figure 10: Mixing jongkraben with Western-style blouse (National identity Office, 2004, pp. 145)

Later, the change was made for the people to stop wearing pleats and instead for them to wear jongkraben. The pioneer was King Rama V himself who ordered the starting trend of wearing long-sleeve shirt underneath instead of draping only sabai around a torso. His Majesty also ordered the use of full costume which consisted of the traditional jongkraben, a long-sleeve shirt, adorning with a sabai made from shiny silk, while completing the look with stockings and boots (Nawigamune, 2004, pp. 22). Still, the traditionalism was still preserved in the form of jongkraben.



Figure 11: Common women during King Rama V's reign (Nawigamune, 2004, pp. 33)

For commoners, the people's costumes were also affected by the roles assigned to them based on their gender. Most of their clothes were made simply from cotton woven within their own community. Men would work in the farm while women would work in the house. People had to dress in a way that would enable them to work with ease. Many wore a short form of jongkraben, known as thok khmer, while baring their chest (Nawigamune, 2004, pp. 94).



Figure 12: A woman in King Rama VI's reign (Nawigamune, 2004, pp. 133)

During King Rama VI's reign, there were some attempts to develop the country to be on par with international standard. Costumes fell under one of the areas that have been developed, and it was apparent during royal events. Some of them

were attended by ambassadors and representatives of foreign governments. Hence, the costumes had to be adjusted accordingly for the country to appear civilized (Nawigamune, 2004, pp. 93). Later in the reign, the King gave a royal decree for women to wear sinn, while men continue to wear jongkraben.



Figure 13: Female wardrobe in King Rama VII's era (National Identity Office, 2004, pp. 314)

Under the following monarch, the change in social structure during King Rama VII's reign has greatly affected the people's costumes. Under Field Marshal Por Piboonsongkham, the status of women was lifted to be equal to that of men (pp. 96). Women were asked to stop wearing jongkraben. They instead wore pha thoong, hats and shoes.

The streak of cultural shift continued under the reign of King Rama VIII with the government encouraging its people to adjust to what they deemed a civilized society. Women started to wear ready-to-wear pha thoong, which no longer made use of the draping technique, but rather ones that came with a zipper for ease of wearing. Later, these ready-to-wear pha thoong replaced the use of jongkraben (Suan Sunandha Teachers College, 1980, pp. 62).

Anake Nawigamune (2004, pp. 174) suggested that the change was quite difficult at first on the people as they were not used to the new style of costumes. He reported that a lady decided to wear jongkraben underneath her pha thoong as she was not used to the new style. However, that got her into trouble with the civil officer who refused to serve her because she wasn't wearing costumes that conformed with nationalism.

The use of jongkraben faded during this period. Noblemen and civil officers still wore it occasionally when they attend an event, or when they need to sit for a formal photo session. For commoners, the use of jongkraben remained among those who engaged in performing arts and theatre. Not before long, the use of jongkraben in everyday life disappeared once the country became a democracy. The original style of

costumes was perceived as outdated for a democratic country, and there were orders for people to wear long pants like Westerners.

Jeeb

Aside from jongkraben, there's another sort of draped garment that has been a part of Thai traditional costumes since the past. Noong jeeb is one such method. "Noong" means to wear or to put on, and this is also a verb we use to associate with jongkraben as well. "Jeeb", according to the National Identity Office (2004, pp. 50), means a folded, layered garment. Together, "Noong jeeb" means to put on a garment around a woman's waist and fold the leftover garment into layers at the front of the body. The process required special care and intricacy to make a nice folding strand down the front of the costume.



Figure 14: Noong jeeb (National Identity Office, 2004, pp. 97)

Anake Nawigamune (2004, pp. 13) suggested that jeeb wasn't as popular as jongkraben as it took a long time to create beautiful folds. The technique wasn't popular with commoners as they found it uncomfortable and complicated. Most people during the time felt that jeeb was better left to performing artists and court ladies.

Jeeb in most eras were worn mostly by women. However, during Dvaravati period, it was the men who wore this folded strand on their waist (Dejwitthayaporn, 2005, pp. 10). Men of Dvaravati would wear jeeb with a short strand of fabric hanging on the side. Some would even leave two strands hanging. And they wore no shirts.

Court ladies during Sukhothai and Ayudhya periods started to wear jeeb (pp. 29-32). However, while women in Sukhothai would wear their blouse or sabai underneath their jeeb, the women in Ayudhya, in the early period, actually left jeeb underneath and let the hem of their blouse cover the waistline. The style was later changed back in the following eras.

Coming into early Rattanakosin period, women would wear jongkraben with either a sabai or wrap a fabric around their breasts. But court ladies would wear jeeb during formal events. And jeeb is then paired with sabai, as in Ayudhya period (Kurowat, 1980, pp. 74)

During the reign of King Rama V, court ladies would wear their Western-style blouses with either jongkraben or jeeb, especially during royal events. The garment used would be sewn with gold thread into different patterns. People would wear their jeeb in several folded layers. The folded strand is then tied with a belt or string. The layers are pulled apart slightly to create a ripple effect similar to skirts (National Identity Office, 2004, pp. 142).

Sabai

As jongkraben used to be a staple that covered Thais' lower body for hundreds of years, the garment that possessed similar significant and historical values was sabai. Sabai is a long, rectangular piece of fabric used to drape and wrap around a woman's breasts and torso a few times to conceal their body. The fabric is wrapped around a woman's chest a few times before the rest is passed over one side of the shoulder (National Identity Office, 2004, pp. 51).



Figure 15: A lady wearing a sabai (National Identity Office, 2004, pp. 90)

During Ayudhya and Rattanakosin, women would wear tabengmarn when they need to engage in works that require actions. Others would tie a strip of fabric around their bodice. But should they need to go to the temple, or to attend a more formal gathering, most opted for sabai (Nawigamune, 2004, pp.14).

Sabai can be either pleated or plain. However, pleated sabai was preferable. But to make a pleated sabai required the use of tools and equipment to make even creases and pleats throughout the entire length of the fabric. It was said some court ladies could make pleats without the use of tools, but rather used their fingernails to press on the fabric sheet and later put a heavy item on it to let the pattern sits.

During King Rama IV's reign, court ladies would wear sabai over their left shoulder, which was usually a sabai made from shiny silk that has been pleated and scented. During the late period of King Rama IV's reign up until the early part of King Rama V's reign, members of the royal family and court ladies would wear sabai on normal days where they didn't need to attend ceremonies and events (Chantavit, 2002, pp.72-73). The sabai would be paired with jongkraben and other accessories.

There are some variations in wearing sabai, which can be big enough to drape over one shoulder all the way to the wrist (pp. 101), small enough that it can be tied around a person's waist (pp.109). The way it is pleated is also different. While most sabai is pleated perpendicularly to the longer side of the fabric, some sabai can be pleated parallel to the longer side (pp. 132-133). Some are also adorned with brooches and medallions.



Figure 16: Sabai with royal decorations and medallions (National Identity Office, 2004, pp. 127)

Tab

To cover the torso, women in Dvaravati to Sukhothai period may only drape a narrow piece of cloth around their neck loosely. Some used it to drape over one shoulder. Coming into Ayudhya period, the style morphed into that of sabai. And in Rattanakosin era, sabai slowly developed into different forms to suit incoming

Western culture. There are generally two styles of garments that draped over the torso. One is sabai, and the other is tab.



Figure 17: Tab (National Identity Office, 2000, pp.331)

Tab utilises a rectangular piece of fabric to drape around the chest, which then goes around the back and comes around to the front. The strand is tucked in at the side with the remaining hangs down the front.

Tabengmarn

Back in the war torn Ayudhya period, women transformed their sabai into tabengmarn, which wrapped the fabric around the bodice and tied at the back “in a halter fashion” (pp. 26-27). One fashion element that seemed to emerge during this period was tabengmarn, which draped a long strip of fabric into an ‘X’ cross that covered both breasts while leaving the midriff and neck exposed, as shown in Figure 9. The strip is then ties at the nape of a person’s neck. This style is specifically worn in women only, especially when they entered a battlefield alongside the men. And they tended not to wear any jewelry or accessories, with an exception to some bracelets. High-class women my wear a blouse, though mostly they still wear sabai.



Figure 18: Tabengmarn (Ratchawet, 2000, pp. 72)

It can be seen that Thai draped garments indeed have a long history, and many aspects of them are worth studying about, such as the characteristics of draped garments in different eras, the related societal context, influences and adaptation from different cultures, political reasons, changing roles of women, national development towards becoming more civilised, and also the differences between classes that existed in the past. As for the garments themselves, we can also study their physical aspects such as the techniques that are used to create them, as well as the potential that these techniques could bring. Draped garments that share similar characteristics have also been used in different countries such as Greece, India, Japan, Myanmar, Laos and Cambodia.

Examples of draped garments in other countries

Greece

Greece can be considered one of the greatest civilisations in the world. And with such established culture, their costumes have influenced some of the styles in Europe and around the world. Several artefacts from their time have been discovered with depictions of how men and women dressed in their days.



Figure 19: An example of Greek costume (Kurowat, 1980, pp. 240)

People of Ancient Greece put great importance on the concept of beauty. And their wardrobe featured multiple drapery with free-flowing form (Kurowat, 1980, pp. 236-237). Some notable costumes from the period were chiton, himation and peplos.

Chiton, in Ancient Greece, was worn by both genders, though it was more popular in men. There are two type of chiton: Doric and Ionic. Doric chiton was simple. It had no sleeves and was simply pinned or buttoned at the shoulder. The garment can be fastened at the waistline while the rest was left cascading down in pleats. Ionic chiton utilised a larger piece of fabric and was pinned at both sides of the shoulder, which can go from neck to wrists.

Another piece of fabric, called himation, can be worn on top of the chiton for both men and women. It resembled a shawl and was usually draped on one shoulder or wrapped around a person's body.

Peplos, on the other hand, was specifically a woman's attire. The tubular cloth covered an entire body down to the ankle. The top part is draped over the waistline while the bottom part goes to the ankle.

Ancient Greece is one civilisation with a distinct form of draped costumes. Their costumes carry a distinct characteristic in the cascading pleats. Contrary to the Thai jongkraben and jeeb, Greeks required some accessories to hold their clothes together. For example, the ionic chiton would use brooches to pin the costume around the shoulders.

India

Another country with a long history of cultural heritage is India. Its vast civilization also had some influences on elements of Thai costumes. The country's costumes made up of garments that have been draped and wrapped around a person's body. Due to the country's geographical location and its dry climate, their clothes have to be able to shield the body from heat. And some elements of it have been influenced by Arab nations, as a result of past invasion (Kurowat, 1980, pp. 184).



Figure 20: Indian sari (Kurowat, 1980, pp. 185)

Later, it was found that women liked to wear a short blouse, similar to that of Chinese style. And this style exposed a wearer's belly, which is believed to be a response to the country's heat, while also displays a sign of wealth as a rich person would have a full figure to show off they've been living a well-to-do life.

Costumes in India can be very class-based. The country is divided into four varnas or castes: Brahmins (priests and scholars), Kshatriyas (kings and warriors), Vaishyas (agriculturists and merchants) and Shudras (laborers). Of course, those of the upper class like Kshatriyas would be adorned with high-quality fabric compare to simple cotton used by commoners.

While dothi is a common garment for men, the draped sari is common for women. The fabric is wrapped around a woman's waist. One end of it is draped over the shoulder. It is usually worn on top of a short blouse, or a petticoat. The belly and midriff is bare (pp. 185).

Japan

During summer, Japanese people wear yukata which comes in both vibrant and plain pattern. Yukata is similar to kimono. In wearing it, one needs an obi, which is a long strip of cloth that is tied around the waist to fasten the yukata robe around the body. A bow is tied at the finish (All About Japan, 2016).



Figure 21: Obi (www.gojapango.com/fashion/butterfly_obi.html)

Myanmar

Looking into our neighboring country, it is found that they still retain the use of draped garment well for both men and women. To this day, both genders still wear their traditional sarong, which can be made from either cotton or silk (Kurowat, 1980, pp. 122). Some are of checkered or flowery pattern, and they can be easily worn around the waist and adjusted during the day should it become loose.



Figure 22: Myanmar woman (Kurowat, 1980, pp. 125)

Generally, men would wear sarong with long-sleeve shirts. One strand of sarong would be left hanging out the front. For women, they would wear a short blouse with a sarong worn similar to how Thai women wear pha thoong. And most would simply wear a pair of slippers, which could be worn to both formal and informal events.

Laos

Another of Thailand's neighbor has a similar style of costumes. Jongkraben is a part of Laos' traditional costumes, especially for men (Kurowat, 1980, pp. 127). While most men now dress in Western style, there is still a usage of jongkraben during official events. And they would pair the garment with long-sleeve, buttoned shirts.



Figure 23: Costumes of Laos (Kurowat, 1980, pp. 218)

For women, they would wrap the garment around their waist with neither complicated form nor method. Their garment is usually woven in beautiful, intricate pattern.

Cambodia

Cambodia, as another of Thailand's neighboring country, possesses several similarities to that of Thailand. The way Cambodian people dress is said to be similar to Thai people in the Eastern region, as well as Thai people of the past who live in rural areas. Women would generally wear a black pha thoong with a belt and colorful blouse (Kurowat, 1980, pp.131). But those who uphold old traditions may wear jongkraben. Men in the past would wear jongkraben with a high neck shirt similar to the style in Thailand.



Figure 24: Cambodian costumes (Kurowat, 1980, pp. 130)

From the literature review, it can be seen that draped garments in Thailand and other countries do share some similarities, while also carry their own distinctive personality, identity and technique. The comparison is as follows.

Comparison of draped garments in different countries

It can be seen in this literature review that there are some similarities and differences pertaining to the style and creation of different types of draped garments from around the world.

In terms of their similarities, it was found that the techniques used in these draped garments mostly derived from the same techniques that combine some forms

of tying, folding, wrapping and rolling of fabric together to create a piece of costume. At the same time, they also carry their own differences.

For example, to compare Thai garments such as sabai and jeeb to Indian sari, both utilised the same technique of wrapping. But while sabai only covers the chest area, sari covers an entire length of the wearer's body. Sari also requires more fabric. Jeeb can also be compared to sari in that it also features layered pleats at the front of the garment. And they both carry the same straight shape that covers the lower half of a person's body.

The techniques being used to create tabengmarn and Japanese obi also derive from the similar idea of cross-tying. Both also result in a bow, despite some differences in the technique, yet the resulting bow looks similar to one another.

It is also interesting that Thai draped garments generally require no use of pin or any other equipment to hold the fabric in place, minus a few strings tied around the waist. But looking at Greek garments, with their form covering a chest area similar to sabai, they add pin and brooch in order to hold the garments together.

The research shows that draped garments have been fading away from modern lifestyle due to the aforementioned reasons. Some of them can still be seen today, such as Indian sari which is worn by local women, and Japanese obi which is popular among tourists in Japan to hire a set for a day so they can experience the culture and take photos with. As for Thailand's own, the garments can be seen during some auspicious occasions.

The use of draped garments in modern Thailand

Despite being somewhat faded in earlier time, traditional draped garments saw their revival during King Rama IX's period. Draped garments have been developed and applied into Thai national costumes, under the royal initiatives of HM Queen Sirikit. As the Queen has realized the importance of having the country's own national costumes, she ordered the designing of 7 national costumes for Thai people. (Viravaidya and Diteeyont, n.d.). Many of the Thai traditional costumes of the past have found their ways back into the Queen's initiated national costumes, which is one way of preserving such costumes from disappearing amidst the sea of modern, Western clothes.

In modern days, draped garments are still able to retain their original forms to an extent, though their usage is very limited. It is almost unfortunate that the traditional draped garments, nowadays, can mostly be found during formal ceremonies or in traditional performing arts only. The costumes are always linked

with the concept of traditionalism that people find it hard to incorporate into their daily lives. They can mostly be found at auspicious ceremonies like weddings. It is quite a trend for couples to wear Thai traditional costumes, at least during parts ceremony, before changing into suits and gowns. But while they're still being used in current events, it should be noted that these garments have been developed and modernized into sewn, ready-to-wear costumes. They are no longer traditionally draped as the process is too complicated, and not many people know how to drape them correctly.

But, despite its shift for the purpose of comforts, these ready-to-wear costumes still retain the form and silhouette of draped garment that served ever as a reminder for the glorious past.



Figure 25: A couple wearing Thai costumes for their wedding (http://my.inlovephoto.com/07/d/208134-2/JPG_570_resize.JPG)

In religious events, Brahmin still wear draped garment like jongkraben during the ploughing ceremony.



Figure 26: Brahmin during ploughing ceremony (<http://world.kapook.com/pin/5190606e38217a4c68000000>)

In performing arts, several plays still require performers to dress up in traditional costumes that involve anything from jongkraben, jeeb and sabai.



Figure 27: A khon performance
(<http://aphroditematerial.blogspot.com/2015/03/aphrodite-thai-culture-thailand-is.html>)

Still, draped garments today are being treated as only a casual interest, a flashing trend that may soon fade away. In everyday life, they are no longer a part of the people's wardrobe. Modern techniques and machinery do make it easier and more efficient at creating clothes, and today's fast-paced lifestyle and the intake of Western culture also limits the use of draped garments. The techniques used in their creation are also fading away due to discontinuation of usage. Even so, there are artists who create their work on canvas, and in sculpture forms, who realised the importance of handmade arts that they choose to incorporate these methods in their own work. Some of the techniques they've utilised included knot tying, paper folding, using wrapping technique in an art form, which is to use handmade technique for artistic purposes. This can be used as an inspiration for different fields of art. By incorporating the techniques back in our daily life, this will initiate development of both the form and potential of the techniques.

Review of artists and art form by fabric techniques and materials

Windy Chien



Figure 28: Windy Chien (<http://www.windychien.com/about>)



Figure 29: Chien's works
(<https://www.wired.com/2017/01/artist-tied-one-knot-every-day-2016-results-gorgeous>)

Chinese-American artist Windy Chien has an avid fascination for music and knot tying. After a long career at Apple/iTunes as product manager, producer, curator, and the App Store managing editor, Chien later shifted her focus to arts. She launched her studio in 2015 to dedicate to her handcraft in macrame and woodworking.

In 2016, the artist worked on her The Year of Knots project, in which she learnt a new knot every day for a year. The projects combined palm-sized knot to ones that serve as a room-sized art installation. Chien began studying from The Ashley Book of Knots to learn more about the various forms of knot tying and their history. It carries around 3,900 entries, each named and numbered. Soon, she was learning a new knot daily to expand the existing and limited form of knots available to public knowledge, all the while posting her results on Instagram which soon gained herself interested followers (Chien, n.d.).

“I was most compelled by macrame, but sometimes thought the traditional form's limitations might be a creative dead end. Most macrame comprises the same two or three types of knots repeated over and over in varying combinations. While I found the activity blissful, I soon felt constrained by the limited number of knots in common use,” wrote Chien on her website (Chien, n.d.).

“Every new knot is like learning another letter in the alphabet. Alphabets and letters form words, and words communicate. So the knots are a new form of communication, to make, as Rebecca Solnit puts it, ‘the mute material world come to life.’”

Her works in The Year of Knots served to highlight the aesthetic side of knot tying rather than just the functional aspect. They also draw mostly from the idea of simplicity. To emphasise the line, she limited the variables like colour and scale by insisting on using the same materials every day, with little additions or incorporations of other materials.

“What I’m primarily interested in is how our eyes follow a line. The line is one of the six building blocks of art, and I’m obsessed with it,” said Chien (in an interview with Wire.com, Rhodes, 2017).

Her collection of 366 pieces of art may have been completed, but that’s not where Chen plans to stop. She keeps her experiment going by trying out her knowledge of knot tying using colours of rope, and also playing with scale.

Richard Sweeney



Figure 30: Richard Sweeney
(<http://www.richardsweeney.co.uk/biography>)



Figure 31: Sweeney's pleated work
(<http://www.richardsweeney.co.uk/motion-forms>)

UK designer Richard Sweeney is specialised in transforming paper -- a two-dimensional material -- into a three-dimensional sculpture that gives a sense of free-flowing movement. Through techniques in drawing, tracing, cutting and folding, simple white paper transformed at his hands to become a complex sculpture, which range from table-top size to a grand installation that reaches the ceiling.

eVolo, a US-based architecture and design journal, gave the following comment on its website for Sweeney's works (Pacheco, 2012):

“Through the combination of repetitive geometries, curved lines, and modularity, Sweeney pushes paper into compelling quasi-architectural terrain, finding that paper, though flat and essentially limited to a two dimensional plane, can be articulated into a myriad of forms and functions. The limitless potential for variation inherent in the sheet of paper is determined by subtle changes in physical approach: the degree of each fold, location of cuts, as well as the orientation, sequencing, and execution of each manipulation.”

“Integral to the outcomes Sweeney arrives at is the relationship between the physical and the digital... That is, this project utilizes subtle, digital means, coupled with deliberate physical manipulations, to arrive at complex, iterative, and formally-compelling three dimensional shapes.”

Colossal, an art blog, also praised Sweeney’s works in pleated sculptures as “*especially impressive*”, that he was able to create and achieve the delicate modular sculptures and the three-dimensional terrain texture with little to no use of glue (Strategy, 2015).

On his own website, it is said that Sweeney “*seeks to maintain an experimental, hand-on approach, utilising the unique properties of often mundane materials to discover unique sculptural forms*” (n.d.). For his knowledge and creativity, he has given lectures at international universities, plus holding workshops for those interested in the paper craft.

Rebecca J. Coles



Figure 32: Rebecca J. Coles
 (<http://www.fondazionecoloni.it/en/interviste/ar/rebecca-j-coles>)



Figure 33: Coles' repetition of butterflies
(<http://www.fondazionecologni.it/en/interviste/ar/rebecca-j-coles>)

UK Paper artist Rebecca J. Coles received her training in textiles during her tertiary education. But while she doesn't work with textile anymore, she said she carried on some of the techniques derived from textiles and apply them to her current work with papers.

Repetition and the assemblage of shapes make up the style of her work. In a piece, she would spend a week to choose her materials, fold them, draw the stencils, then cut them into desired shapes, where they would later be arranged in a chosen pattern and composition on a display.

"Repetition is very apparent in my work, and the fact that my work is all hand crafted is vital. That is what my work is about," said Coles (in www.fondazionecologni.it by Roy, n.d.).

On her website, Coles (n.d.) gave the following comments about her work:

"The delineation of these forms within the ethos and methods of my work requires an absolute labour of love, where repetition has always been notable and each piece is composed of hundreds if not thousands of profiles."

"I dissect small details of colour, imagery and text into silhouettes that are then re-sculptured, pinned and encased. My aim is to transform an everyday object into a piece of work that invites the viewer to see beyond its original source."

Louise McRae



Figure 34: Louise McRae
(<https://www.saatchiart.com/louisemcrae>)

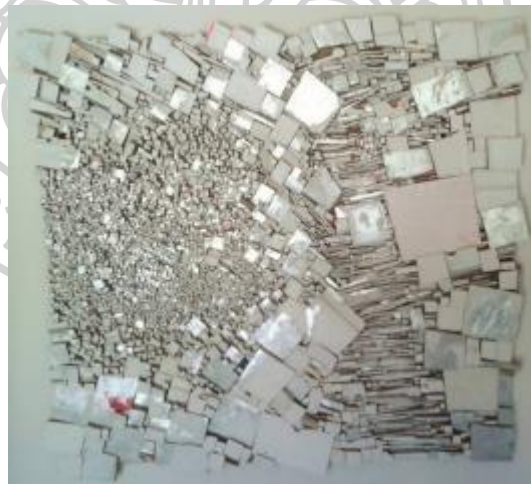


Figure 35 : McRae's work
(<https://www.saatchiart.com/art/Painting-Holes-In-The-Silence/918791/3234959/view>)

New Zealand-based artist Louise McRae likes breaking things apart and then reassembles the shards and pieces into shapes and forms. Her works are wall-based sculptures that utilised building materials and debris, which would undergo transformation at her hand to take a shape of a new form of caricature.

On Saatchi Art's website, the artist (n.d.) gave the following description about

her work:

“I cut and smash my paintings up and assembling organic grids from the pieces. I work at the edge of painting, disregarding the rules looking for another way through. Creating image from object process, using found timber discarded from building sites as canvas. I cover, apply colour, burn, use builders tools and my invented way of using them to make things that are paintings.”

McRae (n.d.) wrote on her own website regarding her tendency to break things is just a response to the seemingly perfect world. Perfection, to her, is *“a world that has been beyond my ability to master. Reassembling the broken pieces in a new way, fresh and full of hope.”*

It is about looking at things from another perspective, to reinterpret what meets the eyes now into what more it could be in another angle. Her skills transformed objects people cast aside into works of colour and movement.

Artbay Gallery (n.d.) commended that her works *“represents a beautiful collision between the detritus of a rural landscape, deconstructed representation and abstract formalism,”* and that her style and sense comes with a *“keen feeling for form, space and placement.”*

“This re-configuration of shattered images carries associations of change or flux and evokes a strange sense of space, with multiple vanishing or entry points from which all movement radiates,” described Artbay Gallery of the artist’s works.

Peter Gentenaar



Figure 36: Peter Gentenaar
(<https://eidamccoy.weebly.com/biography.html>)



Figure 37: Gentenaar's work
(https://www.flickr.com/photos/de_buurman/7592262868)

Peter Gentenaar is a paper artist based in the Netherlands. He is known for his sculptures which were made from paper. They float in a form so ethereal and delicate, suspending mid-air from the ceiling as manifestations that can be interpreted as either flower petals or otherworldly organisms.

Ever since 1970, Gentenaar has been exploring paper fibres and organic materials in papermaking. With the aid of the Royal Dutch Paper Factory, the artist built his own paper factory in order to mill and process long-fibre paper pulp to create the materials for his artwork.

His paper sculptures are reinforced with fine bamboo ribs to aid the process of manipulation of his source materials, while also exploiting paper's natural quality to take different shapes and forms.

Gentenaar described the process behind his works to inhabitat.com in the following passage:

“By beating my pulp very long, an extraordinary play of forces occurs during the drying processes of my paper sculpture. The paper will shrink considerably, up to 40%, and the forces associated with this put the non-shrinking bamboo framework under stress. The tension between the two materials transforms itself into a form reminiscent of a slowly curling autumn leaf” (Ross, 2012).

Victoria Casal-Data (2014) of Hi Fructose art magazine gave the following descriptions and comments on Gentenaar's techniques in transforming paper into sculptures:

“His sculptures start off as two-dimensional colored sheets of pulp; the waves and textures are caused by pulp drying and shrinking in unison. The simple and natural drying process develops, through time, the pieces’ unique colors, textures and forms; these characteristics, ultimately, lead the final outcome to resemble naturally-occurring forms.”

She also commended his works for breaking away from “conventional thinking regarding paper’s colloquial, everyday use.”

Kasey Edema (2013) suggested in her blog that Gentenaar’s works should be admired for their originality and vibrancy, praising that *“his works are truly remarkable in that they explore an alternative method of paper construction, offering us a different perspective of paper, and how it can be manipulated to take different forms.”*

“Through the exploration of Gentenaar’s cultural background and artworks, individuals can engage in artistic analysis, and begin to make connections between artistic intentions and the factors that influence the various forms that artworks take.”

Henry Moore



Figure 38: Henry Moore (https://www.tes.com/lessons/aEAA8Fvtv__uSQ/henry-moore)

Born in 1898, British artist Henry Moore was known for his semi-abstract monumental bronze sculptures. His works carry a symbolism for post-war modernism. He was considered to be one of the world’s most prominent modern sculptors, with his works being displayed all over the world.

In 2017, Brit fashion house Burberry collaborated with Henry Moore Foundation to bring about an exhibition of the brand’s creations as inspired by Moore’s works, as well as some of the works made by Moore himself.

Wallpaper.com explains Moore’s vision as “*feminine forms that were both classic and modern, larger-than-life, and characterised by their complex, concave surfaces with sensuously scooped-out voids*” (Jansen, 2017).



Figure 39 :A collaboration between Burberry and Moore’s foundation (www.kikascharm.com/burberry-makers-house-exhibition)

For the collection, Burberry’s CEO Christopher Bailey translated Moore’s asymmetrical forms into the hemlines of dresses and sweaters. Other inspirations include the “*series of intricately formed made-to-order capes in monochromatic white tones, reflect the sculptor’s studies of soft, sweeping shoulder lines*” and “*a nude dress with cut-outs at the waist and shoulder echoes the artist’s presentation of hollowed out silhouettes*” (Jansen, 2017).

The end-result of Burberry’s collection also features “*undulating ruffles, billowing silks and crisp cottons, and a new tropical gabardine, a lighter version of the brand’s signature fabrication*”, with inspiration coming from the shapes, forms, and construction of the artist’s works.

Roberto Capucci



Figure 40: Roberto Capucci (Bauzano, pp.122)

Born in 1930, Italian fashion designer and artist Roberto Capucci is famous for creating unusual, sculpted dresses, with a keen eye for experimentation with refreshing materials.

In 1958, Pucci created his famous Linea a Scatola (Box Line), which was considered to be a highly revolutionary work at the time. His play with line and silhouette eventually won him the Boston Fashion Award.

Philadelphia Museum of Art (2011) praised this contemporary designer for his “*innovative silhouettes and masterful use of form, color, and materials.*” Some of the materials the designer has experimented with included fabrics, stones, straws and plastics.



Figure 41: Capucci's design (Bauzano, pp.45)

In Roberto Capucci: Timeless Creation (Bauzano, 2001), it is said that Capucci is “*never imprisoned by his geometrical shapes or arrangements of materials whether they be plastic, phosphorescent rosary beads, straw, aluminum, raffia, pebbles or metaphorical images of flowers or animals.*” He is also praised for unique creation, and as a master of form and colour.

Capucci’s works are said to be a study of form that is inspired by arts, architecture and nature. The ideas behind his clothes are three-dimensional. Bauzano feels the designer’s clothes, as elaborate as they are, are designed to be “*lived in*” and that these works are “*architecture for the body*” that also focuses on the relationship between the body, the dress, and the movement.

It can be seen that these artists have created their artworks under the framework of handmade techniques. The researcher has studied their works to take some inspiration for the new design, and the art theories have been studied extensively to form the design’s theoretical framework.

The role and development of draping techniques in fashion design

Many designers have taken old handicraft of draping techniques such as tying, folding, wrapping and rolling and incorporate them into their collections of bags, shoes and clothes. They mixed draping techniques with sewing by machine. These brands include Chanel, Issey Miyake, Alexander McQueen and Iris van Herpen.

Traditional handcraft methods that are used to create contemporary items

Chanel

Chanel has chosen to create their straps by hand. Small pieces of leather were looped with metal chain instead of using an entire long piece of leather and sew it with machine. The purse itself is sewn using machines, but the detailed parts require handiwork. Overall, the piece is a perfect combination of delicate handicraft and the work of machinery.

Karl Lagerfeld designed this purse using different materials. The materials, fabric, colour and new shapes make up the design. Sewing works are detailed and neat. The strap is made by hand using leather as is a signature of Chanel that goes well with elegant sewing work (Chanel, 2018).



Figure 42: Chanel's handbags
(https://www.youtube.com/watch?v=G_Rzas1DEEQ)

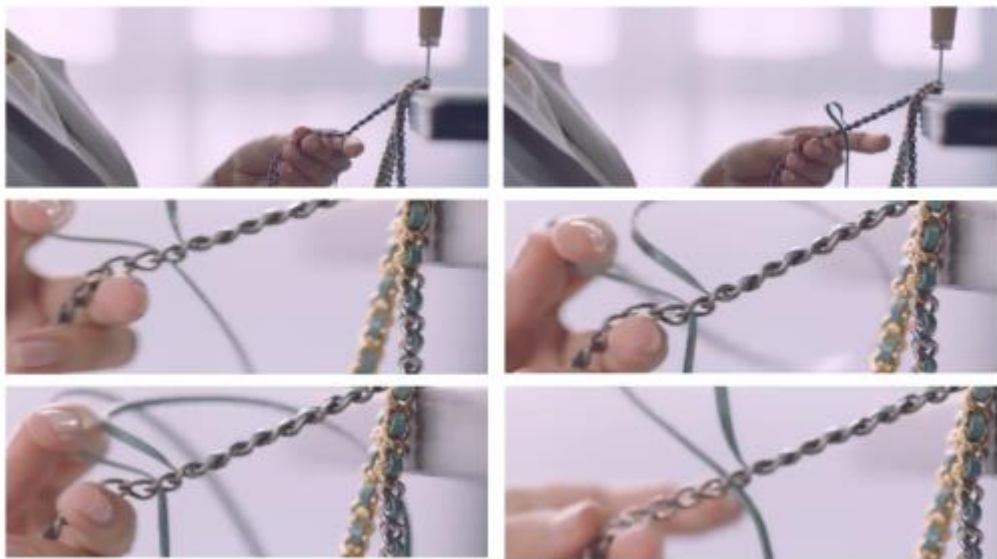


Figure 43: Chanel's bag strap
(https://www.youtube.com/watch?v=G_Rzas1DEEQ)

Alexander McQueen

McQueen is a designer that left works and inspiration within the fashion world even though he may no longer be here. He was an artist that broke all the rules of fashion. Some of his iconic creations were the Bumster pants which show the curve of female buttocks, the red costume that similar a dripping blood inspired by a sacrificial ceremony in Joan Fall/Winter 1998 collection, as well as the Horn of Plenty Autumn/Winter 2009 collection that showed models with no eyebrows and lips that were drawn out of line. He made use of wrapping and draping to create glamorous evening gowns with form, volume and pleats to show (Watjanasoonthorn, 2018).



Figure 44: McQueen's work
(www.telegraph.co.uk/culture/8450364/Alexander-McQueen-He-sewed-anger-into-his-cloths.html)

The transformation and new technology

Issey Miyake

The idea of A-POC goes well with draping techniques from *jongkraben* and *jeeb*, which is to make a single piece of cloth into a wearable costume. This idea was born from a question that asked "How can we make one piece of fabric wearable?" (iUrban, 2017). Issey Miyake researched and experimented through modern methods that eventually result in a tube-shape, seamless fabric which can be altered to suit different body size. The design accentuates a freedom in thinking and modern technology. It focuses on function and comforts, while also realising the importance of technovation to develop a piece of garment that doesn't require the use of machinery. This follows the same ideology of draped garments. Instead, it utilised Stream Stretch technique.

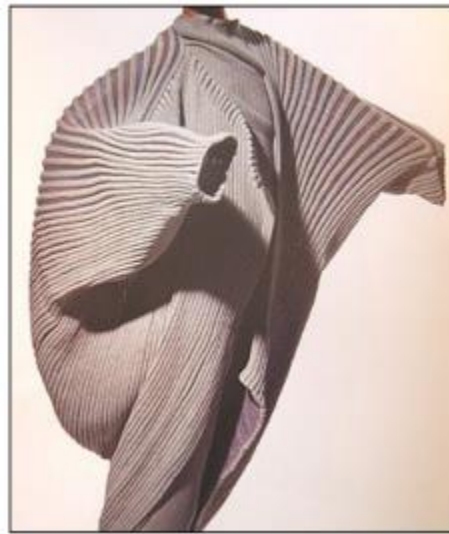


Figure 45: A design by Issey Miyake
(<http://vintagefashionguide.blogspot.com/2006/04/issey-miyake.html>)



Figure 46: Dress by Issey Miyake
(<http://peopleofshambhala.com/324/>)

Iris van Herpen

Aside from bringing handicraft techniques to change the way of creating a clothing collection, some artists create their works in the concept that resembles fashion art form more than ready-to-wear clothes. This elevates garment works into art.

One artist combines old and new ideas in creating works, and that is Iris van Herpen. Van Herpen combined weaving, tying and folding to new techniques to transform scientific works such as crystallisation in the design (Positioning, 2017).



Figure 47: Van Herpen's design
(www.irisvanherpen.com/haute-couture/crystallization)

Another of her iconic works can be found in her Fall/Winter 2009 collection, called Mummified. This collection was inspired by the belief of Ancient Egypt, that life after death is the true life while what we see now is nothing but illusion. Some of her materials included gold foiled paper, whip, leather and chain (Designer, 2009). Her works combined old and new techniques, of handicraft and out-of-the-box idea.



Figure 48: Van Herpen's design
(www.designer.co.th/861)

It can be said that her works have fully developed. From old handicraft, the works developed and encompassed transformation in scientific means such as crystallisation and three-dimensional printing to create artworks (Van Herpen, n.d.).



Figure 49: Van Herpen's Between the Lines
(www.irisvanherpen.com/home)

Theoretical framework

Constructionism

Simply put, constructionism can be referred to as learning-by-making. It is a learning process in which learners use existing information to gain more knowledge through discovery (Alesandrini and Larson, 2002). Participation and experimentation are essential. They require learners to connect ideas through facilitation of mentors in project-based works, rather than to follow strict instruction and step-by-step guide. It is believed that learning is at its most effective when learners actively engage in the act of creating tangible items from what they've learnt as opposed to learning about certain topics passively.

Seymour Papert and Idit Harel suggested that constructionism can be “much richer and more multifaceted, and very much deeper in its implications, than could be conveyed by any such formula” and that it “shares constructivism's connotation of learning as ‘building knowledge structures’ irrespective of the circumstances of the learning (1991). The idea can take off from either a likeness of physical objects, or they can be derived from abstract means as well. Both styles remain relevant to constructionism.

Likewise in the development of Thai draped garments through the ages, people slowly learnt to adapt and change as they learnt more of the world. The process succeeded in acquiring their knowledge through discovery as they built on what they know based on local wisdom that existed in the country, and were later influenced by the changes within the societal context. In the past, draped garments were used to shield human body from extreme weather before there was no machinery (Kerdharn, 2011, pp.21). Later, the garments were made to suit different professions, roles and settings within the society. At home, women used to simply wear pha tab. But once they required clothes that permitted more movement, they turned to tabengmarn (Nawigamune, 2004, pp.14). Outside of the house, when they interacted with the society, they had to think of how to dress for different occasions, and so they may change to sabai when they visited the temple, for example.

In later times, the garments changed due to war, which caused the shortage in fabric. And when Western culture started to come in, people began to accept and incorporate them, starting by wearing shirts with jongkraben (Kurowat, 1980, pp.74). The movement began in court, and later spread to commoners. In a more modern time when women began to have more roles in elevating the status of their husband, the clothes became more contemporary and fashionable when they attended social events. Draped garments were then replaced by dresses.

The changes within the social structure and the movement for the country's development meant many changes were made within the country. And one of such changes was done to clothes. Incorporating Western culture with our own lifestyle has erased the identity of draped garments. That, together with the advancement of technology and changing lifestyle, results in draped garments disappearing into the background. They may have seen several developments in terms of form, image and usage to suit contemporary context, but still the original draping garments are fading away.

Deconstructionism

Deconstructionism is a term closely related to postmodernism. Its theory was formulated by philosopher Jacques Derrida back in 1960s.

Encyclopædia Britannica (2017) gives an explanation that deconstruction is about exploring “the tensions and contradictions between the hierarchical ordering assumed [and sometimes explicitly asserted] in the text and other aspects of the text’s meaning, especially those that are indirect or implicit or that rely on figurative or performative uses of language.” It also emphasizes that deconstruction and its analysis is not simply to reverse the process of creation but rather to restructure the elements of the process.

Deconstruction also inspired deconstructivism, which is a postmodern movement in architecture that happened in 1980s. It is characterised by fragmentation and the lack of continuity and symmetry (Taschen and Taschen, 2016).

As with the idea of deconstructionism that explores the order and restructures the process of creation, several of the aforementioned artists in this research have been creating their works in a new, different way in a form of artworks such as sculpture, macrame, and fashion art form. They changed their way of thinking, creating and presenting fashion into art form, bringing the potential of fabric art into a form that can be adapted to suit daily life instead of just sticking with old methods.

Henry Moore has developed his fashion work by turning them into art. He made it in a form of a cape that suits the modern context well. Likewise, Windy Chien has elevated her knot-tying work into an art form (Chien, n.d.). And Peter Gentenaar reinvented the way of paper folding and made them into a sculpture.

Other artists that have followed the idea of deconstructionism are Rebecca J. Coles and Louise McRae, which based their works on the lack of symmetry, and instead adopted the disarray and assemblage of shapes of different sizes to create their works.

Postmodernism

Postmodernism is a term used to describe a movement across the field of arts, philosophy, architecture, and more from mid to late 20th century. Brian Duignan (2017) explained in Encyclopædia Britannica how postmodernism is characterised by “skepticism, subjectivism, or relativism; a general suspicion of reason; and an acute sensitivity to the role of ideology in asserting and maintaining political and economic power.” It challenges the assumption and values of modern Western history.

Tate.org.uk (n.d.) explains how postmodernism can be difficult to find an exact definition for as it “embraces many different approaches to art making”. The idea also gave rise to pop art, conceptual art, neo-expressionism and more.

Postmodernism challenges the idea of modernism that, while modernism is based on idealism and utopian vision of the society, postmodernism rose from skepticism and suspicions of ideology and reasons. On a contrast, modernists “championed clarity and simplicity”, but postmodernists “embraced complex and often contradictory layers of meaning” (Tate, n.d.).

The significance of draping techniques lies in both its concrete and abstract characteristics, and its constant improvement in forms relied much on the drive of people’s challenge towards existing ideology. As with the concept of postmodernism, people became skeptical of traditional ways of lifestyle and began to embrace and adapt to new ideas – such as adapting to the intake of Western style in costumes – that can be more complicated compared to what they were used to.

Further into the process of development and creation in this research, in order to create something new today, we can consider changing its image, adding value and trying to incorporate them into our daily life – not sticking to what is clear and simple, but rather challenge existing ideas and build on the complexity that comes with it. Art is one form that this can be done. By trying to bring back something traditional and old, it challenges the test of time and what the mainstream society considers to be fashionable and right. So, the new creations have to be able to incorporate themselves into a contemporary context.

Conclusion

The theoretical framework has been laid out as the concept idea to bring about the techniques and develop them to suit art form through empirical study. They are being used to develop draping techniques from jongkraben, jeeb, sabai and tabengmarn. The aim is to bring back these techniques and prevent them from disappearing. Furthermore, from simply a part of garments, these techniques will be further developed to suit an art creation process.

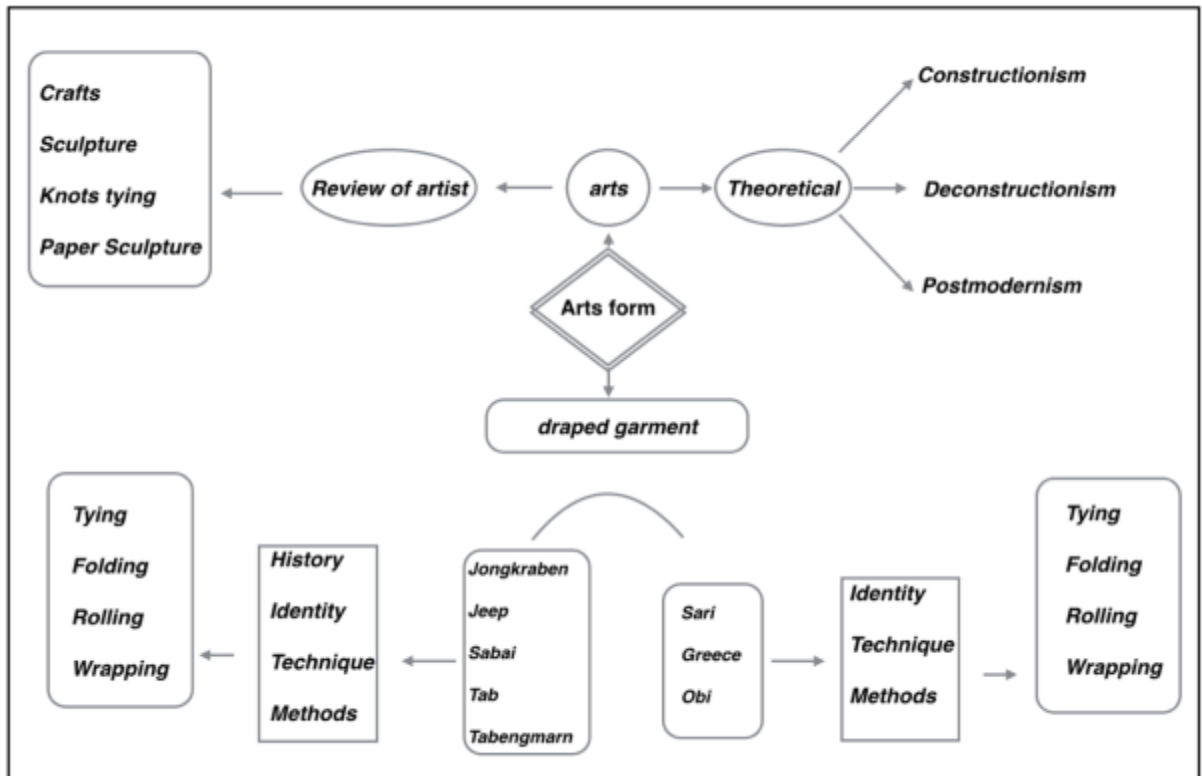


Figure 50: Theoretical framework



Chapter 3

Research Methodology

The research is a practice-based, empirical study that utilised careful planning and analysis with the theoretical framework to create fabric art form on human body. Draping techniques such as tying, folding, rolling and wrapping of garments are used to create works.

The methodology is divided into two parts. The first one is design analysis, which includes analysing the steps, visual aspects, techniques, and potential of techniques that are used within the project. The second part is the experiment through empirical study.

1. Design analysis

This part serves as an analysis of the information available from Chapter 2. Conclusion is found from literature review to select the tools to be used in the experiment. The process started from conducting further research on the related subject, and this includes learning how to put on Thai and international draped garments such as jongkraben, jeeb, sabai, tab, tabengmarn, sari, chiton and obi from videos, expert's consultation books and more to collect the data. Next, the garments are analysed for their identity, techniques and potentials. Comparisons are also made to find the similarities and differences between Thai and international draped garments.

2. Experiment

The experiments are divided into 2 sections. In each experiment, the objectives are laid out clearly to set the boundary of the experiment. Analysis and conclusion of each experiment is provided and the results are further developed in the following experiment. The problems found are countered with solutions found in order to improve upon on the following experiment. This process goes step-by-step, and the experiment is repeated several times to attain the results befitting the set objectives. Later, the results are summarised and concluded to select the results that befit the set objectives. Whether they turn out positively or negatively, the results are analysed and explored in order for the researcher to learn, both from success and mistake.

1. Design Analysis

1.1 Design analysis of Thai draped garments

Jongkraben



Figure 51: Steps in wearing jongkraben:

Jongkraben utilised a piece of cloth that is 3-3.5m long. The centre of the fabric is wrapped around the waist from the back. A knot is tied at the front. The remaining cloth is folded and rolled, with the strand going between the legs. A small piece of cloth or string is then used to tie around the waist to hold the cloth in place. The remaining strand is coiled around the string until no strand is left exposed. The knot being formed is an organic form shaped like a flower. The resulting shape is similar to modern pants.

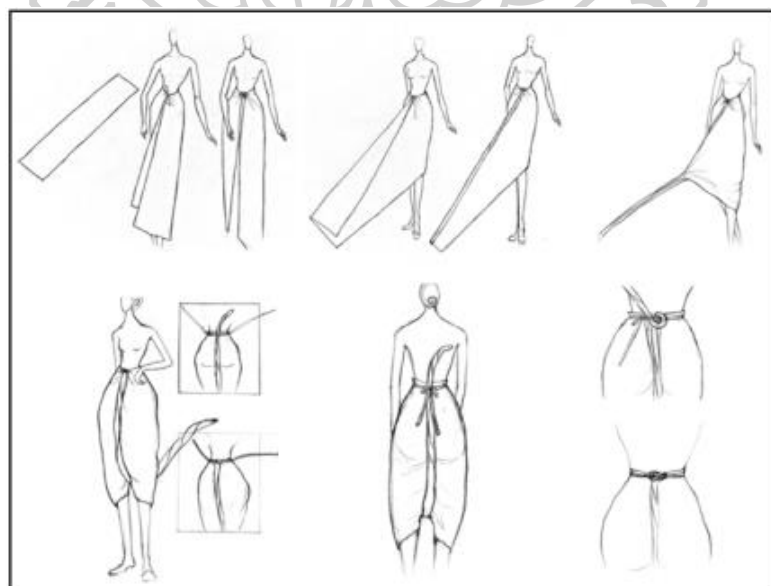


Figure 52: Design analysis of steps in wearing jongkraben

Technique: wrapping, tying, folding and rolling








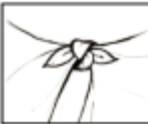





Identity	Techniques	Design analysis		
		Knot	Bow	Form & Pleat
	Tying			
	Folding			
	Rolling			
	Wrapping			

Table 1: Visual design analysis

Results: Unique knot, bow, shape, form, silhouette, and volume

Simply in its shape and form — is a marvelous creation that carries its own unique aesthetic features. Its volume and silhouette help accentuate the curvature of a female figure. It is interesting to find whether similar processes and techniques could also lead to the creation of arts form that is both practical and pleasing to the eyes.

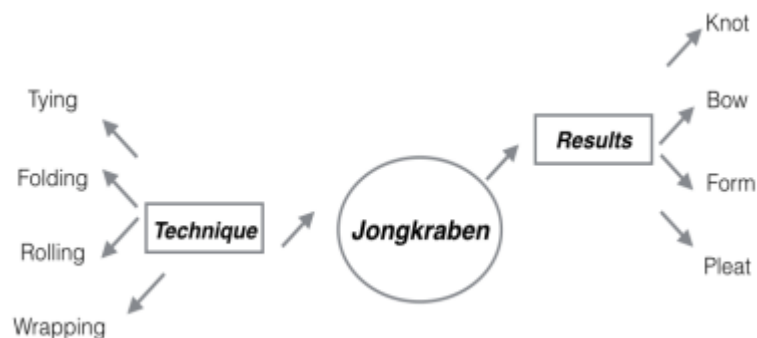


Figure 53: Summary of technique and results of jongkraben

1.2 Design analysis of jeeb

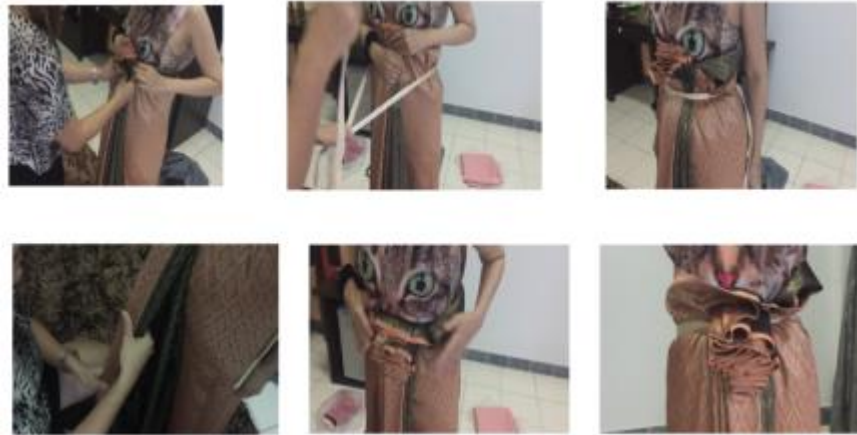
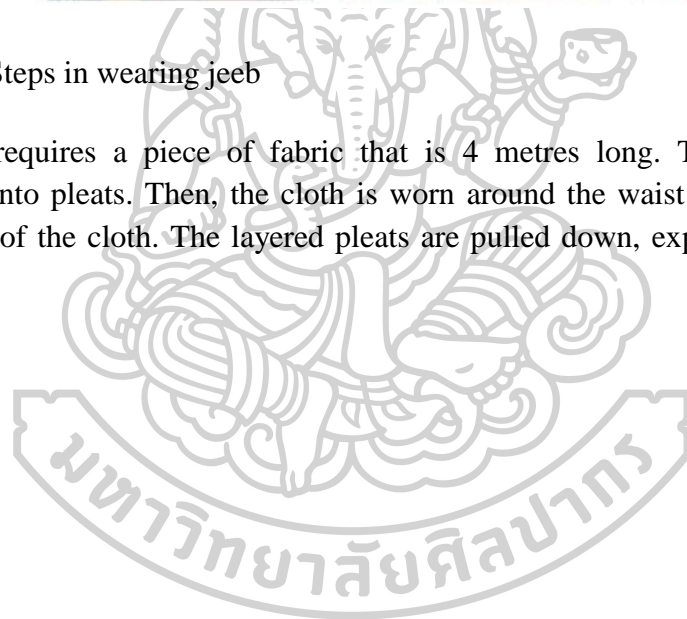


Figure 54: Steps in wearing jeeb

Jeeb requires a piece of fabric that is 4 metres long. The fabric is folded repeatedly into pleats. Then, the cloth is worn around the waist. A strip of fabric is tied on top of the cloth. The layered pleats are pulled down, exposing the cascading layers.



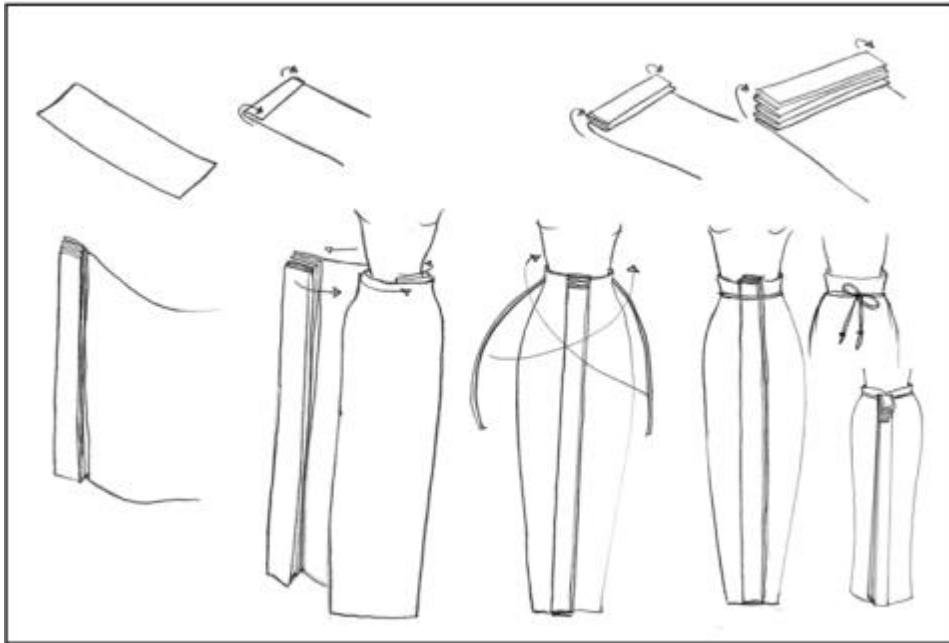


Figure 55: Design analysis of steps in wearing jeeb

Technique: Folding and wrapping





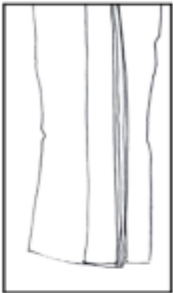
Identity	Techniques	Design analysis	
		Layer	Pleat
	Tying		
	Folding		

Table 2: Visual design analysis of jeeb

Results: pleats, layers and form

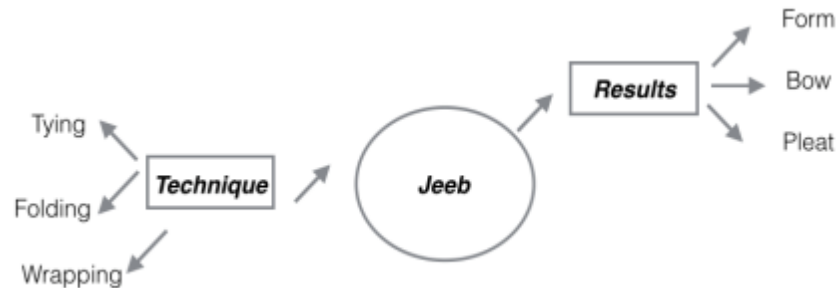


Figure 56: Summary of techniques and results of jeeb

From repeatedly folding a piece of cloth into layers, the technique creates beauty in a new form that can be further applied to fashion design and fine arts.

1.3 Design analysis of identity and technique of sabai



Figure 57: Steps in wearing sabai

To cover up a woman's upper body, a long piece of cloth known as sabai is used to wrap around the chest area with the remaining strand passing over one side of the shoulder. The technique is simple and works very well. The form is elegant, especially when done with pleated cloth.

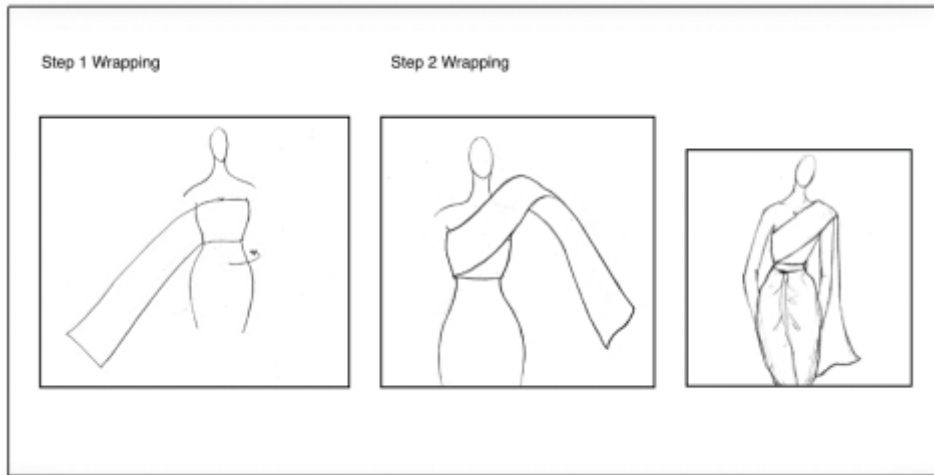


Figure 58: Wrapping sabai
Technique: Wrapping



Identity	Techniques	Design analysis
	<p>Folding</p>	<p>Form</p> 

Table 3: Visual design analysis of sabai

Results: Form

The resulting form is beautiful and formal. In the past, ladies wore sabai when they went outside of their house to go to temples. It was both polite and beautiful, a telltale sign of female behaviors and characteristics of the past.



Figure 59: Summary of technique and results of sabai

1.4 Design analysis of identity and technique of tab



Figure 60: Wrapping of tab

A single piece of cloth is wrapped around the chest area in a simple manner. The remaining strand is tucked in to prevent the cloth from unwinding and falling off. The steps are easy, fast, and comfortable to wear.

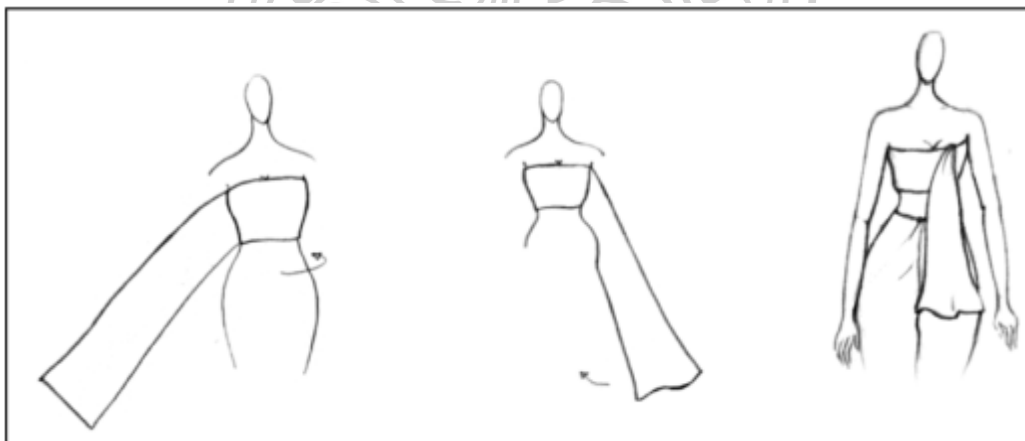


Figure 61: Design analysis of steps in wearing tab

Technique: Wrapping



Identity	Techniques	Design analysis
	<p>Folding</p>	<p style="text-align: center;">Form</p> 

Table 4: Visual design analysis of tab

Results: Form

This simple technique creates a new form that resembles a modern tube top.



Figure 62: Summary of technique and results of tab

1.5 Design analysis of identity and technique of tabengmarn



Figure 63: Steps in wearing tabengmarn

Tabengmarn is created by using a long piece of cloth to wrap from the back, cross over the breasts, and tie into a knot behind the neck. From the back, a bow is formed at the neck. In front, an X covers the breasts.

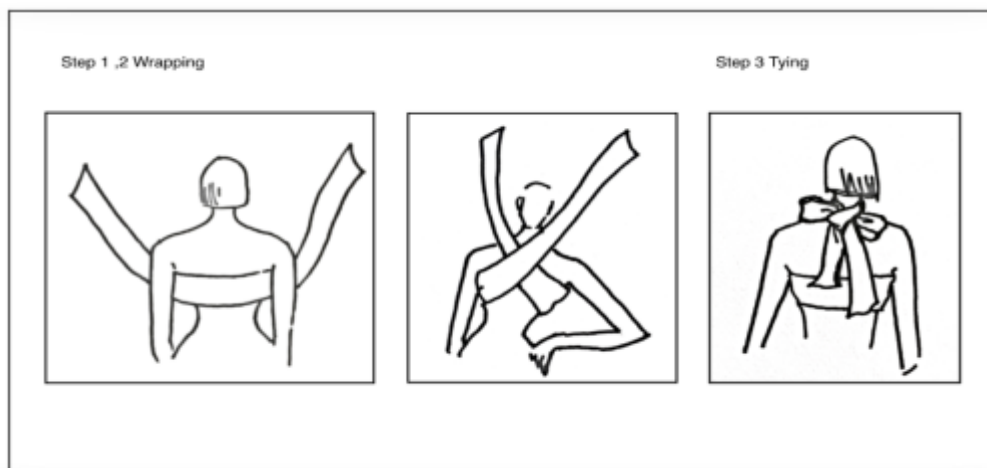






Figure 64: Design analysis of steps in wearing tabengmarn

Techniques: Wrapping and tying

Results: Bow and form

This technique creates a beautiful bow from the technique of tying. From the

Identity	Techniques	Design analysis	
		Bow	Form
 	Wrapping		
	Tying		

front, the cross wrapping forms an X. This technique can serve as an inspiration for other design works.

Table 5: Visual and design analysis of tabengmarn



Figure 65: Summary of technique and results of tabengmarn






Thai draped garment		Technique			
		Tying	Folding	Rolling	Wrapping
Jongkraben		☆	☆	☆	☆
Jeeb			☆		☆
Sabai					☆
Tab					☆
Tabengmarn		☆			☆

Table 6: Summary of techniques as found in Thai draped garments

2. Design analysis of identity and technique of other draped garments

2.1 Design analysis of identity and technique of sari



Figure 66: How to wear sari
(<https://youtu.be/ONzSpO5mNw>)

This Indian technique of draping utilises similar long piece of cloth to wrap around the waist and fold it repeatedly, tuck at the front, with the rest passing over the shoulder. The fabric is at least 5 metres long. The wrapping goes on top of a shirt that exposed a midriff, while the lower part of the body is covered with a lining that goes from below the navel to ankles. One side of the fabric is tucked underneath the lining to cover the body, while the other side is folded repeatedly and passed over the shoulder. The remaining fabric at the front is folded to fit the size of a person’s waist and later tucked inside.



Figure 67: Steps in wearing sari
Techniques: wrapping and folding

Identity	Techniques	How to wear	Design analysis
wrapping	folding		form & pleats

Table 7: Visual design analysis of sari
Results: form, layer and pleat

Multiple wrapping creates a flowing layer and pleats. Pleats are used and applied in fashion design through the ages.



Figure 68: Summary of technique and results of sari

2.2 Design analysis of identity and technique of Greek draped garments



Figure 69: Greek draped garments
(Wongsingthong, 2004, pp.125, 129 and 126)

There are different styles of Greek draped garments, though most of them follow the technique of wrapping, making use of just one piece of cloth to cover both the upper and lower part of the body. Their technique is not complicated as a piece of fabric is simply wrapped around the body. A pin or brooch can be used to keep the cloth from slipping off.

In wearing Doric chiton, the fabric is folded on one side, and a brooch is used to pin the fabric together at the shoulder. The remaining strand is left cascading down the side into layers. For himation, the fabric covers the entire length of the body. There are different ways that it can be worn. However, a popular way as suggested by Pornsanong Wongsingthong (2004, pp.126) is to use the fabric to cover the left shoulder and wrap the rest towards the back underneath the right arm, and the strand is passed over the left shoulder.

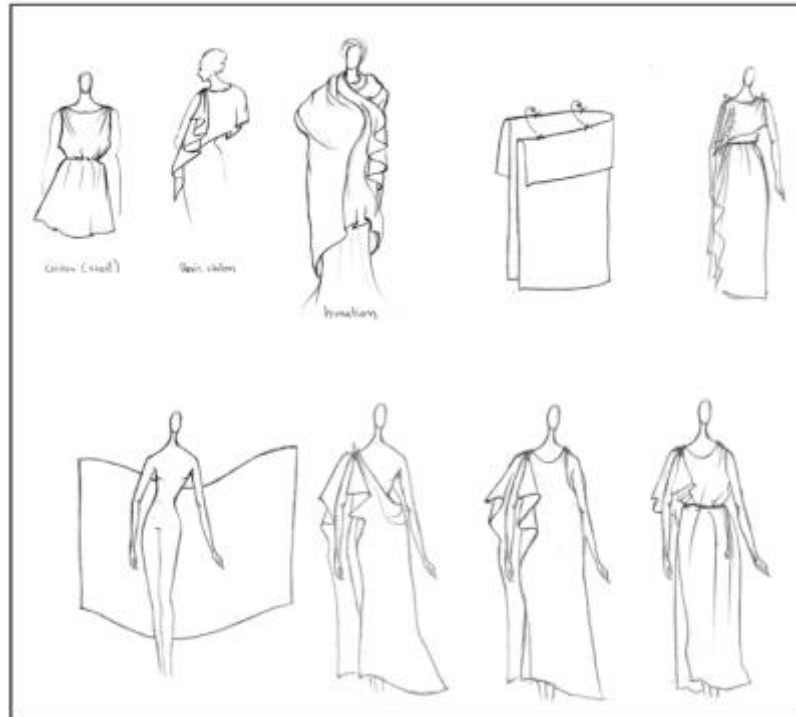


Figure 70: Design and analysis of steps in wearing Greek draped garments

Technique: wrapping, rolling and folding

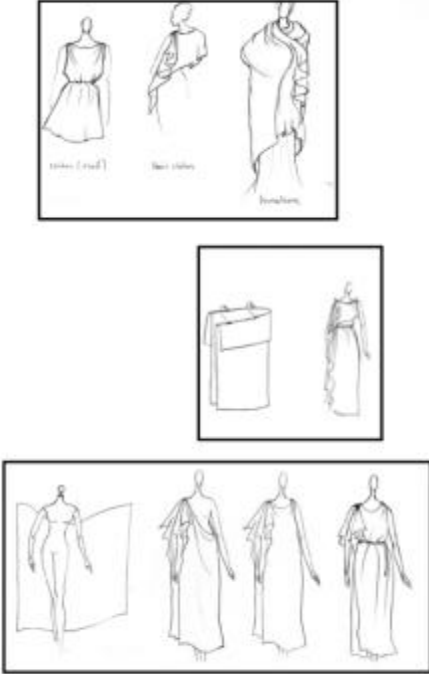
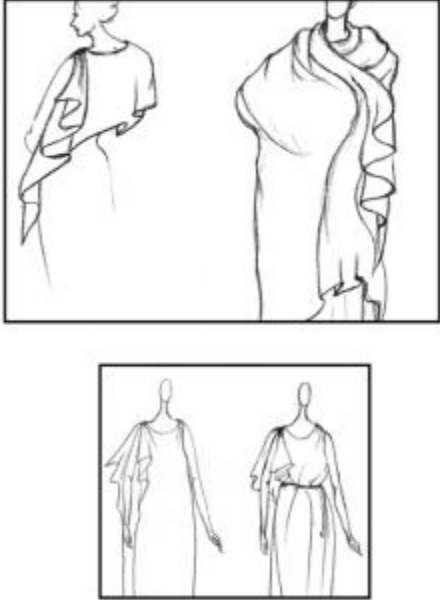
Identity Technique How to wear	Design analysis form & pleat
<p data-bbox="432 1205 616 1234">Wrapping & Tying</p> 	<p data-bbox="1043 1205 1174 1234">form & pleat</p> 

Table 8: Visual design analysis of Greek draped garments
Results: layer and pleat

This simple technique takes a short amount of time which results in flowing, pleated layers. This Greek draping technique can be further developed in design works.



Figure 71: Summary of technique and results of Greek draped garments

2.3 Design analysis of identity and technique of obi



Figure 72: Steps in wearing obi (www.you.be/.yBF8-iZHrDs)

In order to wear obi, one side of the fabric is placed on the right shoulder and the rest of the fabric is passed around the back and wrapped twice around the torso. The rest of the fabric is tucked and pulled to create a bow, which is rotated so the bow is placed at the back. The resulting form resembles a big belt.

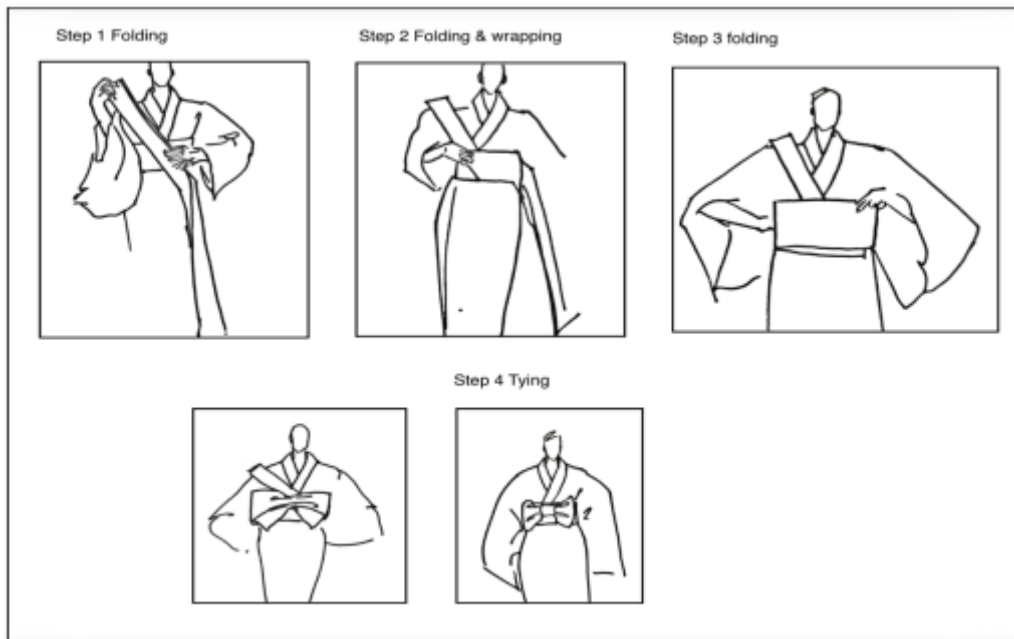


Figure 73: Design analysis of steps in wearing obi



Identity	Techniques	Design analysis
	Folding	<p data-bbox="1002 1093 1129 1115">Bow & Form</p> 
	wrapping	
	Tying	

Table 9: Visual design analysis of obi
 Techniques: wrapping, folding and tying
 Results: form and bow

The techniques are very interesting. Each step of the technique creates a different outcome that can be further applied in design.



Figure 74: Summary of technique and results of obi




Others garment		Technique			
		Tying	Folding	Rolling	Wrapping
Sari			☆	☆	☆
Greece		☆	☆		☆
Obi		☆	☆		☆

Table 10: Summary of techniques of international draped garments

3. Comparison of technique and identity of Thai and international draped garments

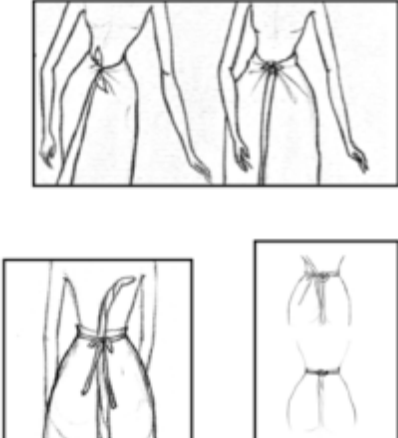
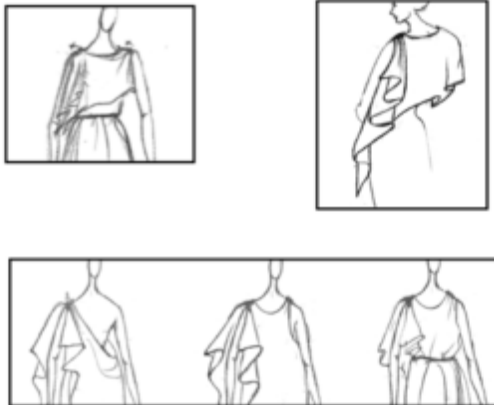
Thai draped garment	Others
tying	tying
	

Table 11: Comparison of jongkraben and Greek draped garment



Thai draped garment	Others
Tying	Tying
<p data-bbox="347 1211 464 1234">Tabengmarn</p> 	<p data-bbox="1230 1167 1273 1189">Obi</p> 

Table 12: Comparison of tabengmarn and obi

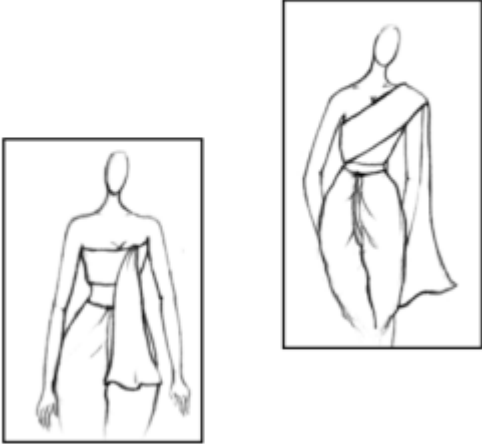

Thai draped garment	Others
wrapping	wrapping
	

Table 13: Comparison of sabai and sari

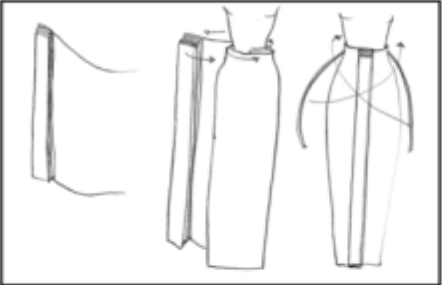
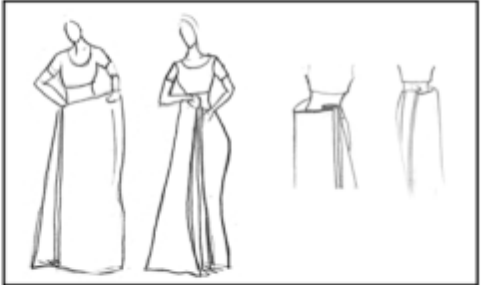
Thai draped garment	Others
folding	folding
	

Table 14: Comparison of jeeb and Greek draped garments

Summary

Following the study of the techniques, identity, design analysis and the comparison between different types of draped garments, the potential of original techniques – such as tying, folding, rolling and wrapping – are realised. Jongkraben is made up of wrapping, tying, folding and rolling. Jeeb requires folding and wrapping. Tabengmarn used wrapping and tying. Sabai and tab require simply wrapping.

The potential of the techniques has shown to be able to create a new form. In jongkraben, the tying technique is used to create volume, pleats and bow. The rolling technique creates a spiral shape. The resulting organic form is elegant and beautiful. For jeeb, repeated folding creates beautiful layers. The wrapping technique as found in sabai and tab creates a delicate form of flowing fabric from the remaining strand draped on the shoulder. The cross-tying technique in tabengmarn creates a beautiful form and bow.

Upon the analysis of the potential of techniques as can be found in Thai draped garments, the researcher has selected the techniques of tying, folding, rolling and wrapping to be further explored and experimented on in this project.

The experiment

From the design analysis, the draping techniques of tying, folding, rolling and wrapping from jongkraben, jeeb, sabai and tabangmarn were analysed and selected to be used in the experiment. The main purpose of the experiment is to explore and develop the potential of these techniques to create a new form of art that can be used in contemporary setting, especially in the form of a fabric art on body. The expected outcomes are a new unique form that possesses transforming aesthetical appeals, as well as being functional and flexible in its dimension and structure.

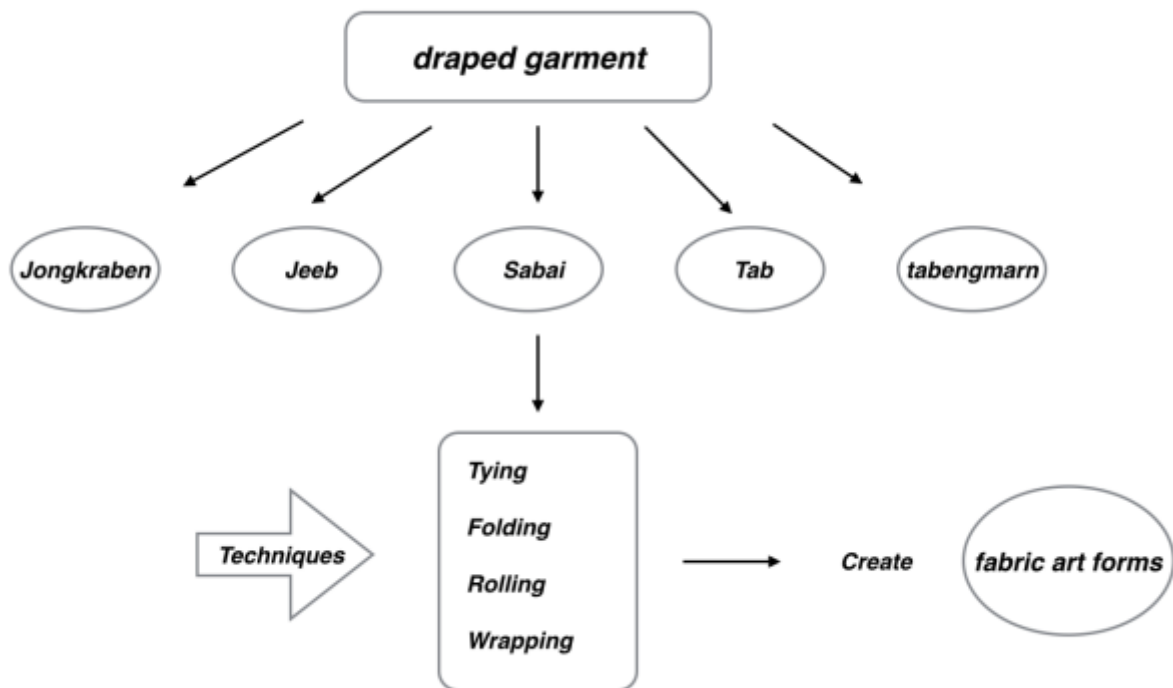


Figure 75: Draped garments and techniques

The experiment is part of an empirical study. The step-by-step experiment used the art creation process as an inspiration to create sculptures such as art on canvas and art on mannequin. The main objective is to explore and develop the potential of tying, folding, rolling and wrapping from draped garments such as jongkraben, jeeb, sabai, tab and tabengmarn to create a fabric art on body in contemporary context. The tools such as the techniques and materials have been selected to be incorporated with the inspiration taken from other artists with distinctive handmade works and composition. Following each experiment, the results are analysed to seek solution in order to further develop the works in the following experiment. Later, the results are checked whether they fit the set objective or not. The results that follow the objectives are then used to develop other experiments.

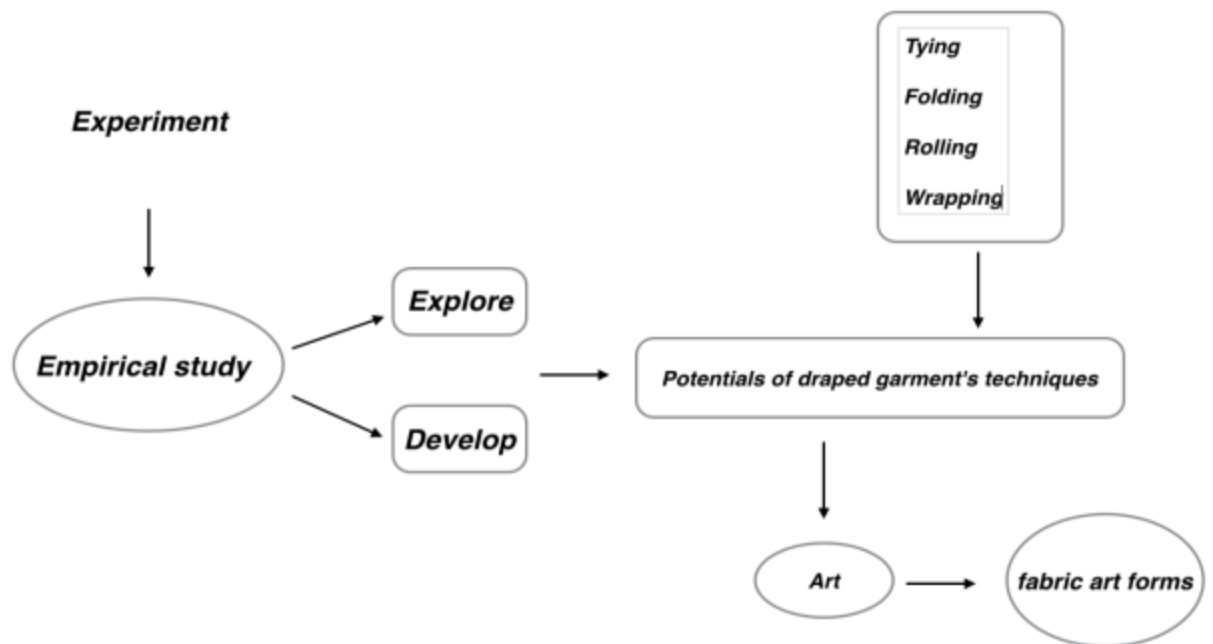


Figure 76: Framework of the experiment

Process of experiment

The process is divided into two parts. The first part of the experiment comes with an objective of exploring the potential of draped garments techniques with several methods and materials. This part of experiment is further divided into four stages. The second part of the experiment then takes the results of the first part and develops it further. The purpose of the second experiment is to develop the technique to be suitable for fabric art on body project. From the literature review, we can see the potential of draping techniques in garments such as jongkraben, jeeb, sabai, tab and tabengmarn. The purpose of this research is to bring these draping techniques and use them in a form of fabric art on body in contemporary context. In order to devise these techniques in a form of art, they have to undergo the development process to suit this form of artwork. The researcher has adopted the empirical study to explore and develop the techniques. The results are then analysed and selected to be used in a form of fabric art on body in actual designs.

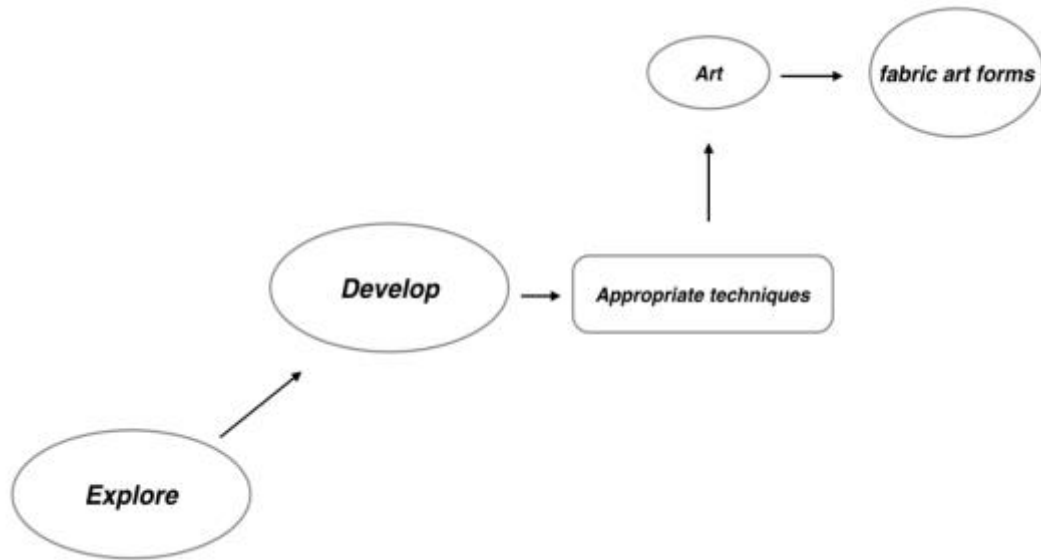


Figure 77: Process of experiment

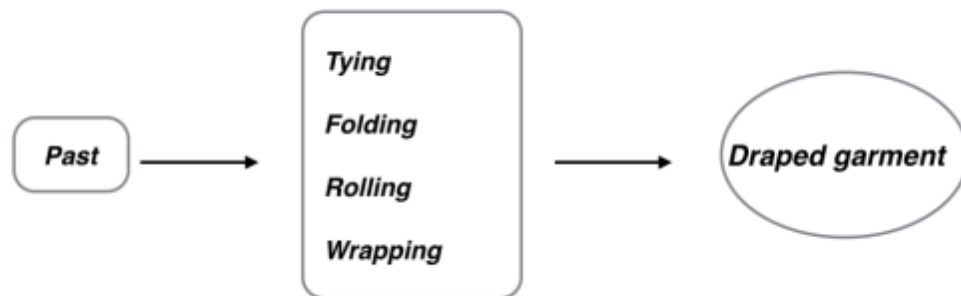


Figure 78: Techniques to draped garments

Experiment 1 – Explore the potential of draped garments’ techniques.

The experiment is laid out under the framework and methods to create artwork in the form of sculpture. It is divided into four parts:

Experiment 1.1 – Trying out tying, folding, rolling and rapping techniques with different materials

In this experiment, the design analysis has yielded a discovery that the techniques of tying, folding, rolling and wrapping served to create the aesthetical features of jongkraben, jeeb, sabai and tabengmarn. The researcher was inspired by these potential to further develop them in the process of artwork creation in the form

of fabric art on body in contemporary setting. As these techniques were able to create garments, it is hypothesised that they also carry the potential to also be able to create artwork.

The experiment was designed with the sculpture-creating techniques serving as inspiration. The materials selected include string, plastic, fabric (silk, cotton, rayon, polyester and more), leather, straw, ribbon and more to see how the draping techniques work with each of them. It is also done to generate skills and proficiency of the researcher in working with these techniques, as well as finding out the potential of draping techniques in different platforms.

This experiment has taken some inspiration from the case studies as provided in Chapter 2, such as Richard Sweeney's paper-folding technique and Windy Chien's knot tying, as a guide. Chien's works made use of the tying technique, of which she worked on strings, and she also created a new piece of work daily for a period of one year. The researcher feels that regular practices would develop the techniques, their potential and form, while also generate new inspiration during the exploration.

Review of artists

1. Windy Chien is one artist who based her works around the tying technique. Her knot-tying project has an interesting process of creation, in that she would create a piece of rope tying art daily for a period of one year. The researcher is particularly interested in the characteristics and the methods she used to create her works. Repetition will soon create a development of skills, techniques and forms. And whatever obstacles are faced during the process, they will be analysed and solved repeatedly, which will speed up the development process. Hence, in recognition of the significance of this process, the researcher has taken this process as one inspiration for Experiment 1 (See Figure 35 for McRae's work).

2. Inspiration was also taken from Richard Sweeney's works of paper sculpture. He used paper folding technique to create an art form. His method creates layers and dimension, which are especially aesthetically pleasing when light hits the creases and folds, creating the effect of light and shadow (See Figure 31 for Sweeney's work).

Results of Experiment 1

The tying, folding, rolling and wrapping techniques are experimented with several materials such as silk, linen, rayon, polyester, rope, tape, ribbon, straw and plastic. The results reflect the potential of draping techniques that they can be used to create many forms. For example, strings are tied to create knots that form macrame in different forms; folding creates beautiful layers; wrapping with cotton creates an organic form that resembles a flower; tying with strings creates a bow; folding silk creates pleats and layers; and more. A conclusion is also reached that the thickness and shape of materials do generate different effects on the finishing results. A combination of two or more techniques, such as in jongkraben, also creates a new form. Other technique that also works well is repetition.



Handwritten text in a non-Latin script, possibly Hebrew or Arabic, located below the botanical specimens.



Figure 79: Results from experimenting with tying technique



Figure 80: Results from folding using cotton



Figure 81: Results from tying with cotton tape and cotton rope

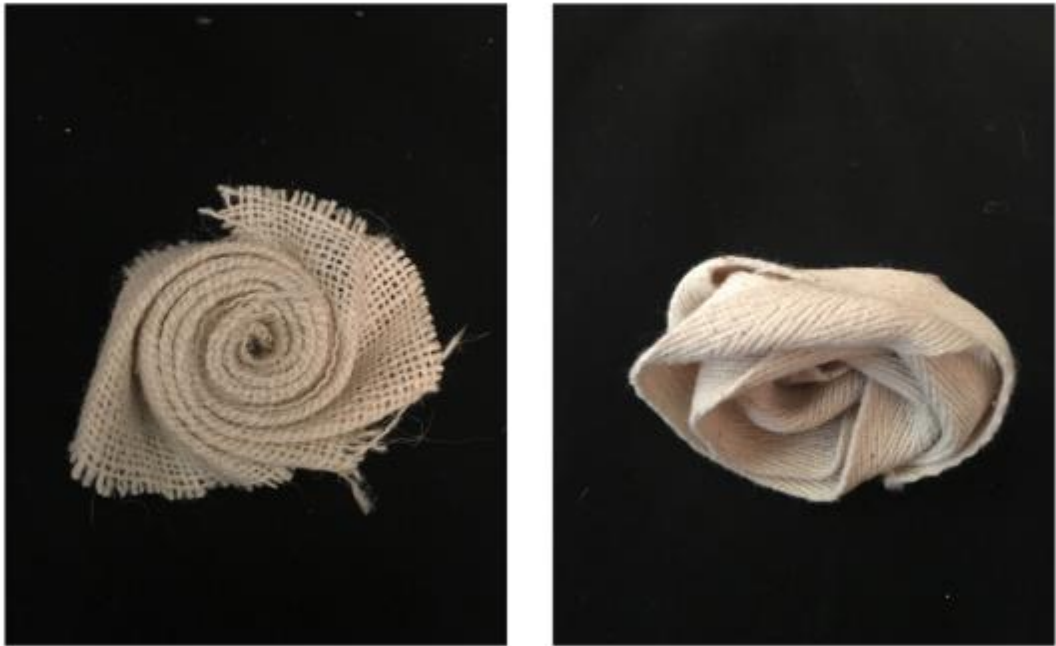


Figure 82: Results from rolling and folding with cotton



Figure 83: Results from wrapping and tying with cotton



Figure 84: Results from wrapping and tying with cotton

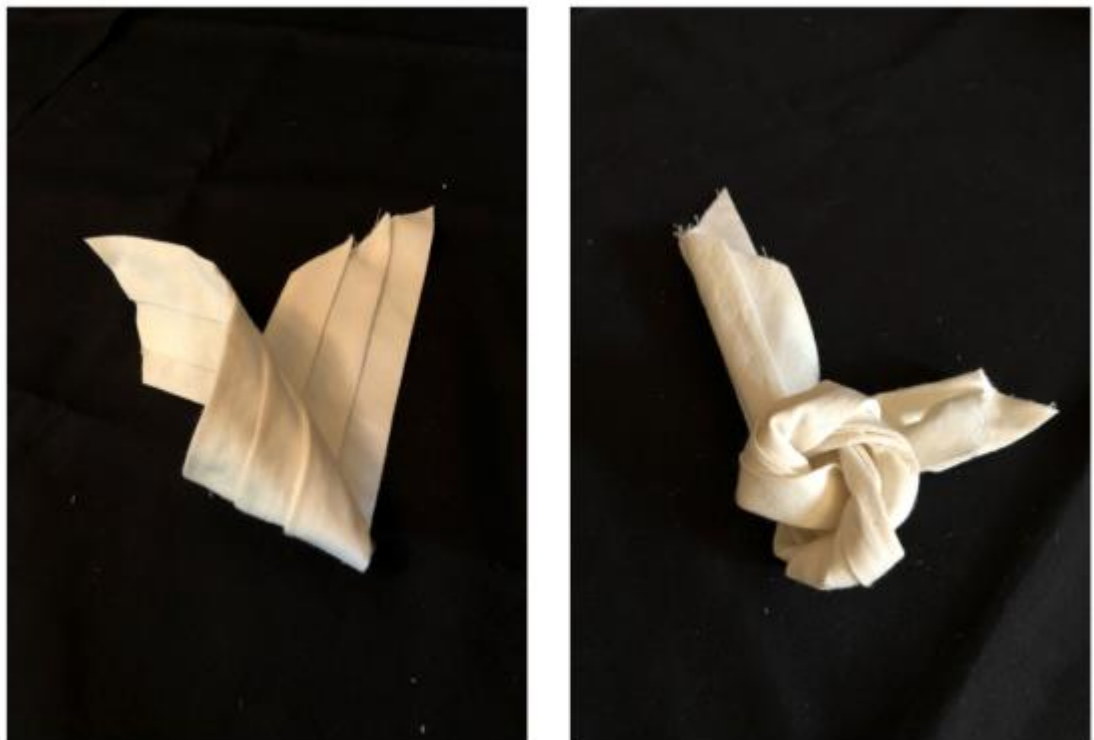
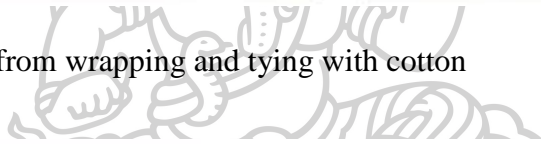


Figure 85: Results from folding and rolling with cotton

Problem: The experiment has yet to show any problem as it is done to explore general potential of the techniques. The results are then analysed and selected to be further developed to realise the set objective.

Next: The results of the experiment are further developed in the following experiment in the form of art on canvas.






Original draped garment method	Techniques	Material	Results	
<p data-bbox="308 696 440 725">Jongkraben</p>   <p data-bbox="528 898 667 927">Tabengmarn</p>		Manila rope	Knot	
	Tying	Manila rope	Form	

Table 15: Experiment tying on manila rope

Experiment on Manila rope which has a coarse texture. When it's tied, this texture prevents the rope from slipping out. The knot is also very pronounced.






Original draped garment method		Techniques	Material	Results	
Jongkraben 	Jeeb 	Tying	Linen	Layer	
Sabai & Tab 					

Table 16: Experiment on linen and cotton

Experiment on linen with the technique of tying. Linen creases easily. Its texture is coarse and non-slippery. The folding technique creates layers. But as it creases easily, the fabric can't maintain the form, which becomes deflated. However, light cotton creates a beautiful knot that doesn't untie easily, though the fabric can be too thin and so it can't support a form. Pleats can be seen, but they aren't too obvious as the fabric is too light and soft.





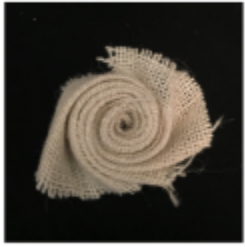
Original draped garment method		Techniques	Material	Results	
	Jeeb	Folding	Cotton tape	form	
	Sabai & Tab				
		Rolling	Cotton	form	

Table 17: Experiment on cotton tape and cotton

Cotton tape, when tied and rolled, creates a satisfying form. Cotton tape has an appropriate thickness, which makes the form and technique quite obvious. The result then resembles an organic form with pleats from inside out. Using coarse cotton in rolling creates a beautiful form. The texture is porous. The techniques of folding and rolling create a distinct form. The characteristic of fabric allows it to maintain the form.




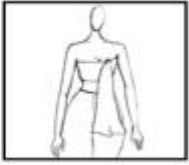
Original draped garment method		Techniques	Material	Results	
	Jeeb	Wrapping	Cotton and polyester	bow	
	Sabai & Tab				Tying
					

Table 18: Experiment on cotton and polyester

Cotton mixes with polyester results in a non-slippery fabric. Through tying, the result is quite satisfactory. The knot doesn't slip, but the pleats and layers don't really flow, as the fabric and technique don't match.

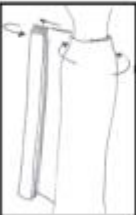



Original draped garment method		Techniques	Material	Results	
	Jeeb	Wrapping	Cotton , Linen	Bow Pleat	
	Sabai & Tab				Tying
					

Table 19: Experiment on cotton and linen

Experiment on cotton mixed with linen through the technique of wrapping. The result is not satisfactorily as the fabric is thick and coarse. The knots and pleats are not beautiful. The silhouette is messy.





Original draped garment method	Techniques	Material	Results
<p>Jongkraben</p> 	Folding	Cotton	
<p>Jeeb</p> 	Rolling	Cotton	

Table 20: Experiment on cotton

Folding and rolling cotton create nice layers and organic forms that show the details of the fabric clearly. However, the form is stiff because the fabric is too thick.

Problem: The results of Experiment 1 have no problem as it is just a general experiment to explore the potential of techniques to further on in the next experiment to satisfy the goal.

Next: The results from the experiment are further developed in tying, folding, rolling and wrapping in repetitive format and on canvas.

1.2 Tying, folding, rolling and wrapping techniques on canvas

This experiment continues from Experiment 1. The forms being explored in the last experiment are being developed to create art on canvas. The purpose is to find and develop the potential of draping techniques. For this experiment, the researcher has taken the characteristics of Louise McRae's works as studied in Chapter 2 as a case study. Her works consist of art on canvas, which is very distinctive in its composition of repetitive form. The design combines forms of different sizes and the pieces are laid out on a canvas to create dimension (See McRae's work in Figure 35).

The materials include canvas, silk, cotton, polyester, ribbon, tape, and cotton rope.

Results of Experiment 1.2

For the experiment of art on canvas, the results were satisfactory. Various new forms have been created from the techniques of tying, folding, rolling and wrapping. The technique of repetition creates different forms of art. Using cotton with folding technique from jeeb creates an organic form. By using paper with wrapping technique from sabai and pha tab, it creates a flowing art form.

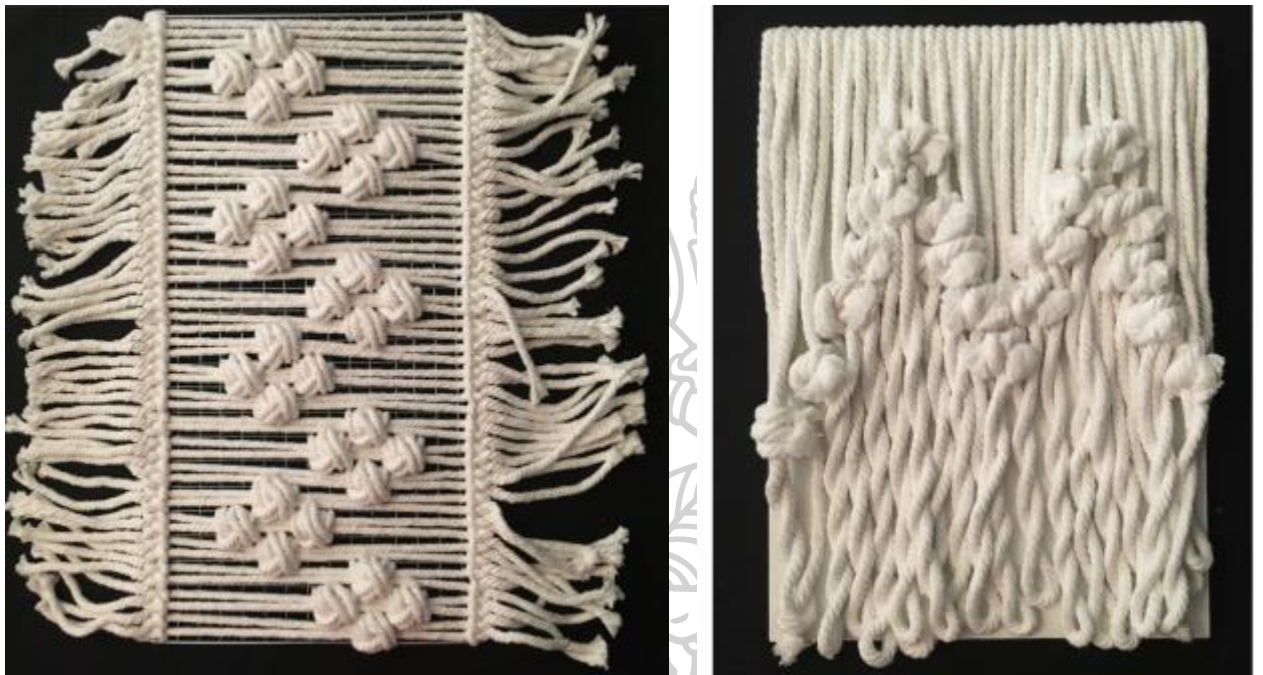


Figure 86: Results of tying technique with rope



Figure 87: Results from tying and folding technique with organza and cotton



Figure 88: Results from tying and folding with cotton tape



Figure 89: Results from folding technique with ribbon



Figure 90: Results of tying and rolling with cotton tape, and folding technique with ribbon

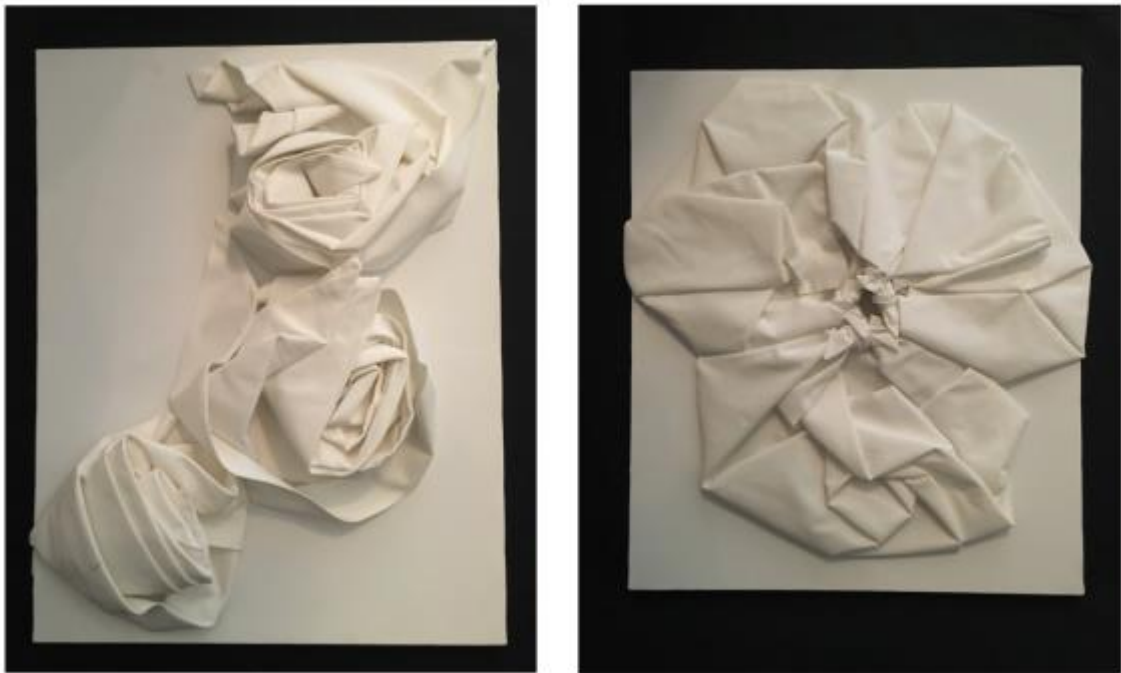


Figure 91: Results from folding, tying and wrapping technique with cotton

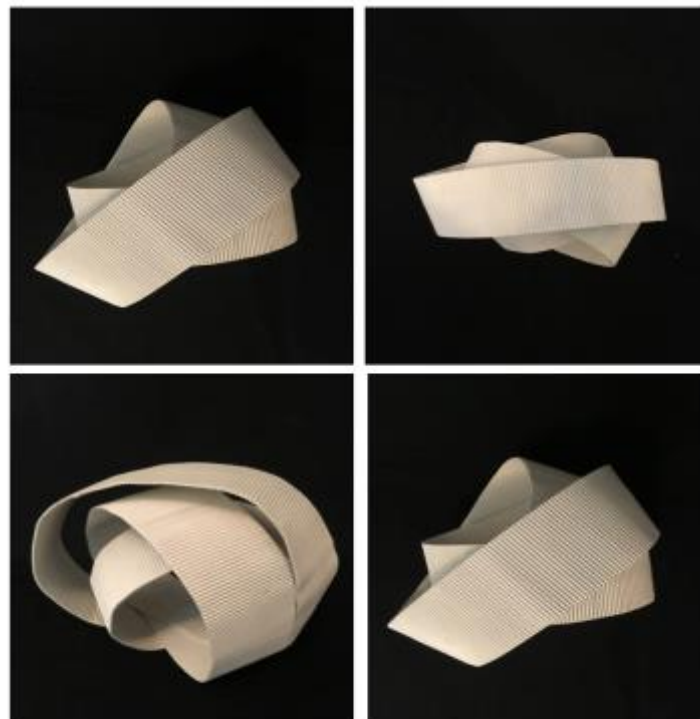


Figure 92: Results from wrapping with paper



Figure 93: Results from folding and rolling with cotton

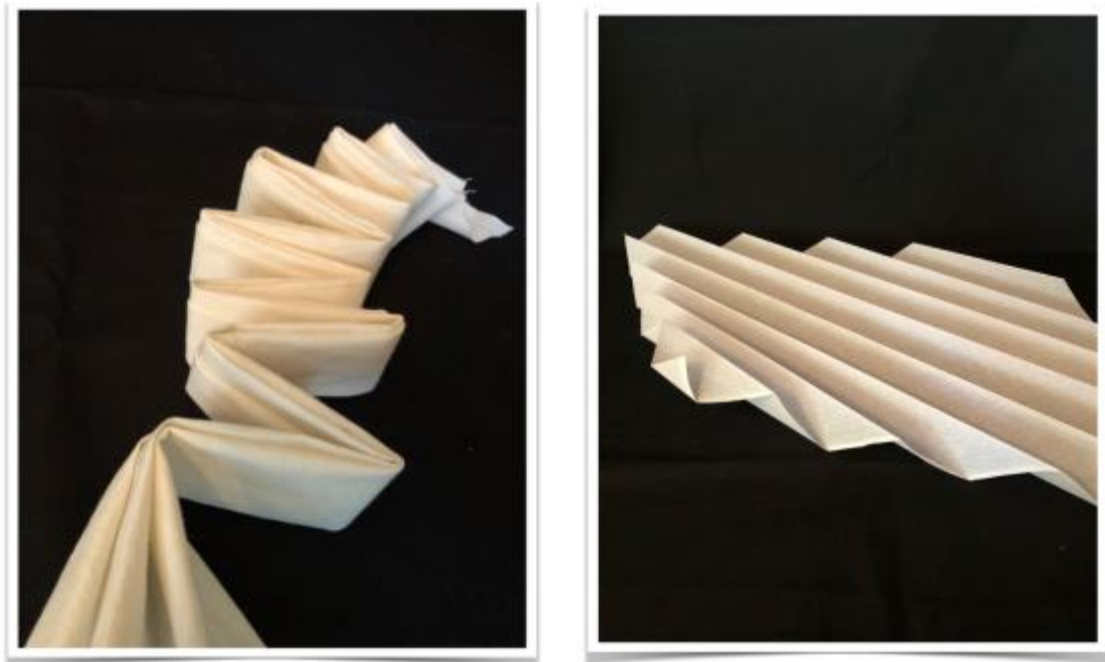


Figure 94: Results from folding with cotton

Problem: The experiment has yielded different forms, but as they are put on a canvas, they appear flat and have no relationship with space.

Next: The forms are selected to be developed further to search for their potential for fabric art.






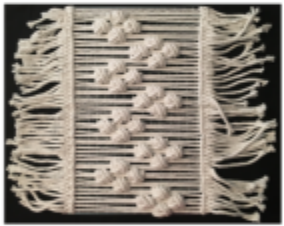

Original draped garment method	Techniques	Material	Results	
<p>Jongkraben</p>  <p>Jeeb</p>  <p>Sabai & Tab</p>  	<p>Tying</p>	<p>Cotton rope</p>	<p>Knot tying</p>	
			<p>Art form</p>	
			<p>Macramé</p>	

Table 21: Experiment tying with cotton tape

Experiment on cotton rope with tying technique and repetition. The result is a form with dimension and weight. Cotton is good as it is not slippery.





Original draped garment method	Techniques	Material	Results	
Jongkraben  Jeeb 	Tying & Folding	Organdy	Form	
		Cotton, rayon	Knot	

Table 22: Experiment tying and folding with organdy and rayon

Mixing organdy with tying doesn't really work as its texture is slippery. The original tying technique doesn't suit organdy. The fabric is thin. The resulting form is flat and has no volume.

When it comes to cotton and rayon, the fabric is quite thick and so tying and folding are used. Due to the thickness, the resulting form is stiff. Repetition creates knots that are big. Pleats are not also stiff, not flowing.




Original draped garment method	Techniques	Material	Results	
Jongkraben  Jeeb	Tying	Cotton tape	Knot tying	
		Cotton tape	Knot tying	

Table 23: Experiment tying with cotton tape

Tying cotton tape repetitively creates a clear knot. Cotton is also non-slippery.




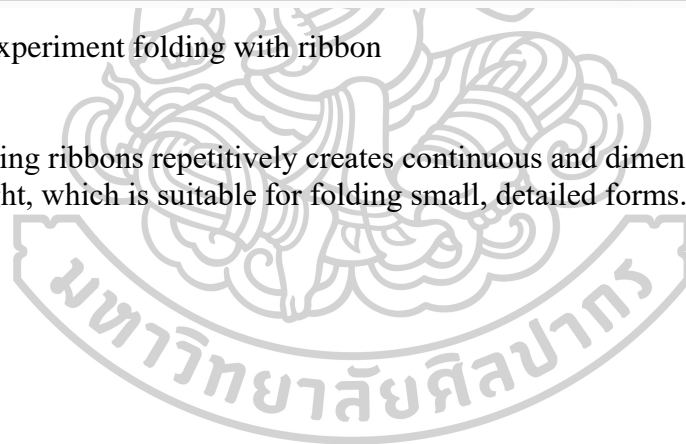
Original draped garment method	Techniques	Material	Results	
<p data-bbox="341 533 400 562">Jeeb</p> 	<p data-bbox="687 741 772 770">Folding</p>	<p data-bbox="871 577 956 607">Ribbon</p>	<p data-bbox="1046 577 1106 607">Form</p>	
		<p data-bbox="871 893 956 922">Ribbon</p>	<p data-bbox="1046 893 1106 922">Form</p>	

Table 24: Experiment folding with ribbon

Folding ribbons repetitively creates continuous and dimensional form. The ribbon is light, which is suitable for folding small, detailed forms.




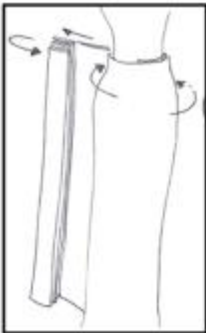


Original draped garment method	Techniques	Material	Results	
<p>Jongkraben</p>  <p>Jeeb</p> 	<p>Tying</p> <p>&</p> <p>Folding</p>	<p>Cotton tape</p> <p>Ribbon</p>	<p>Art</p> <p>Art form</p>	 

Table 25: Experiment with cotton tape and ribbon

Tying cotton tape causes no slippery as cotton fibre suits tying which creates repetitive form. As for ribbon, folding creates a dimensional form as the material is light.




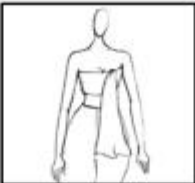


Original draped garment method	Techniques	Material	Results	
<p>Jongkraben</p>  <p>Jeeb</p>  <p>Sabai & Tab</p>  	<p>Folding</p> <p>Tying</p> <p>Wrapping</p>	<p>Cotton</p> <p>Cotton</p>	<p>Organic form</p> <p>Organic form</p>	 

Table 26: Experiment with cotton

Trying out folding, tying and wrapping on cotton creates natural form. But since the fabric is thick, the resulting form is flat and has no volume.


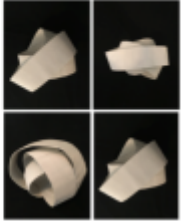

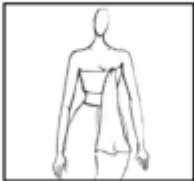

Original draped garment method	Techniques	Material	Results	
<p>Jongkraben</p> 	<p>Folding</p> <p>&</p> <p>Tying</p>	Paper	Form	
<p>Jeeb</p> 		Cotton		Organic form
<p>Sabai & tab</p> 		Cotton		

Table 27: Experiment with paper and cotton

Trying folding and rolling on paper results in a hard form. Paper suits folding, but it doesn't work with tying. To combine folding and tying together, the results are hard creases. The form doesn't flow freely. With cotton, folding and tying makes a natural form, but since the fabric is too thick and hard, the form is not soft and flowing.




Original draped garment method	Techniques	Material	Results	
 <p data-bbox="592 510 647 539">Jeeb</p>	Folding	Cotton	Pleat	
		Linen	Pleat	

Table 28: Experiment with cotton and linen

Folding thick cotton results in a stiff form with no dimension. With linen, the form doesn't fit the objective set to create a fabric art with handmade technique only.

Problem: The work on canvas results in many forms, but they are flat and have no relationship with their space.

Next: From experimenting on different types of fabric, it is concluded that cotton suits wrapping and tying as it is not shiny or slippery. The resulting forms from folding and rolling are not bad, though not perfect. They can be further developed to find the right fabric that correlates with the techniques and is able to maintain its shape. The draping techniques are evident in the results and will be further in the next experiment to develop an actual design.

1.3 Tying, folding, rolling and wrapping as sculpture

The experiment continues to build on the exploration of the potential of techniques. The results of Experiment 1.2 are developed further. As the technique wasn't able to reach its full potential as a two-dimensional work on canvas, this time the experiment is performed in a form of a sculpture. A small mannequin is used in this experiment. Henry Moore's works, taken as a case study for this experiment, draws analogies between the human body and the landscape (The Art Story, n.d.). One of his famous works includes a collection with Burberry, of which he used the tying technique to create and present his design in a form of a cape. The researcher

has found out during a study in Chapter 2 that Moore's works present the tying technique in a contemporary fashion art form. His works lean more towards an art rather than fashion, which is related to the objective of the experiment. So, the researcher has taken on this inspiration to explore the technique and method in creating work with enough potential to create fabric art form (See Moore's work in Figure 39).

Results of Experiment 1.3

The results from Experiment 1.1 and 1.2 are further developed here in a form of sculpture. The draping techniques are worked on using different materials such as cotton, cotton rope and tape. The results are satisfactory, with a unique art form on mannequin being created.



Figure 95: Results from rolling and folding with fabric and ribbon



Figure 96: Results from rolling and tying with cotton tape



Figure 97: Results from tying and rolling with cotton rope



Figure 98: Results from rolling and tying with yarn and tape



Figure 99: Result from folding and wrapping with cotton



Figure 100: Results from wrapping and tying, and folding with cotton



Figure 101: Results from rolling and folding with cotton



Figure 102: Results from folding with hard cotton



Figure 103: Results from folding and rolling, and wrapping with cotton



Figure 104: Results from folding and rolling, and wrapping with cotton

Problem: As the experiment was conducted on a mannequin, the potential of form was developed to a certain extent. The end results, while detailed, didn't generate a new form overall. It focused more on composition and repetition, not on silhouette.

Next: Take the problems found and improve the next experiment to focus on creating a structure instead of looking at fine details.

Experiment 1.4

The purpose of this experiment is to explore the potential of draping techniques that can be developed as a fabric art form. It builds on Experiment 1.3, which continues the work in the sculpture format, but now the works are translated to a life-sized mannequin in order to learn of the effectiveness of the technique in relation to an actual size of a human body. In this experiment, we focus on the overall silhouette and outline. The materials used include cotton, rope and metal wire. Some inspirations are taken from Henry Moore's fashion art form, as well as Peter Gentenaar's sculptures which are made up of paper sculpture done on a bamboo structure. His works create an organic form that uses paper as a material, but the end result is flowing and delicate. Hence, his works were taken as one inspiration in this experiment.

Results of Experiment 1.4

The results of folding and rolling techniques create an art form in a spiral shape, in which the rolling technique was originally inspired by jongkraben. The layers are created from the folding technique as found in jeeb. The tying technique creates an organic form. The works are created through the repetition and combination of techniques. The material being used is cotton. The result is satisfactory. An art form with volume is created. The wrapping and tying techniques have shown their potential in creating a structure of a strong line, which the researcher feels the results fit the objective set.



Figure 105: Result from wrapping and tying with cotton



Figure 106: Result from wrapping and tying with cotton



Figure 107: Results from wrapping and tying with cotton, and tying with rope



Figure 108: Results from wrapping and tying with cotton



Figure 109: Result from wrapping, tying and rolling with cotton





Original draped garment method	Techniques	Material	Results
<p>Jongkraben</p> 	<p>Folding & Rolling</p>	<p>Fabric (cotton)</p>	
<p>Jeeb</p> 		<p>Fabric (cotton)</p>	

Table 29: Summary of results from Experiment 1.4





Original draped garment method	Techniques	Material	Results
<p>Jongkraben</p> 	<p>Wrapping & Tying</p>	<p>Fabric (polyester)</p>	
<p>Jeeb</p> 		<p>Fabric (cotton)</p>	

Table 30: Summary of results from Experiment 1.4


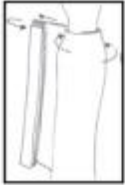




Original draped garment method	Techniques	Material	Results
<p data-bbox="245 315 357 338">Jongkraben</p>  <p data-bbox="461 517 512 539">Jeeb</p>  <p data-bbox="233 768 344 790">Sabai & Tab</p>  	<p data-bbox="624 450 719 472">Wrapping,</p> <p data-bbox="644 551 699 573">Tying</p> <p data-bbox="660 663 683 685">&</p> <p data-bbox="644 808 699 831">rolling</p>	<p data-bbox="815 376 922 398">cotton rope</p> <p data-bbox="836 510 901 555">Fabric (cotton)</p> <p data-bbox="836 846 916 891">Fabric (cotton)</p>	 

Table 31: Summary of results from Experiment 1.4

Summary of materials

Cotton with folding and wrapping

From Experiment 1.4, use cotton with folding and rolling techniques. The results weren't satisfactory as cotton is thick and coarse. The pleats look stiff, not flowing and soft. When put on body with curves, the form doesn't flow with the curve. With rolling technique, again, the resulting form looks stiff and hard, not beautiful (See Figure 105 and 106).

Cotton with wrapping and tying

Cotton is good for wrapping and tying as its texture is not slippery due to its thickness and coarseness. The resulting form, through repetition, creates volume, line, silhouette and pleats that can be further experimented on in the next step. It can be used to create a structure's frame and it's appropriate as a fabric art on body (See Figure 108).

Wrapping, tying, folding and rolling with cotton

Combining tying, folding, rolling and wrapping on cotton fabric doesn't yield quite a satisfactory result. The form is far from being delicate and flowing as the fabric doesn't correspond well to the techniques. Hence, it is concluded that cotton doesn't possess the right characteristics that suit the techniques. The potential of the technique can't be maximised. These problems will be analysed and improved on to find the right material in the next experiment, in which more materials will be used (See Figure 109).

Problem: The results of Experiment 1.4 are satisfactory for the most part. Repetition of wrapping and tying techniques create a structure that can be further explored in the process of development. However, upon analysis, it is found that the structure is rather caused by the object that is used as its base, and hence not a standalone structure that can support itself. Perhaps this is caused by either the technique or the type of fabric, or maybe the techniques used and the material do not relate well to one another.

Next: From Experiment 1.4, the researcher has analysed the end results and found that the wrapping technique and repetition of tying creates a form similar to a backbone. The results from folding and rolling techniques are also selected and explored on whether which one would have the most potential to be used as a main technique in the actual design. It is expected that the draping technique would be developed to reach its highest potential, which is to use the technique in creating a structure without any mannequin on support underneath.

Experiment 2 – Develop draped garments' techniques to create fabric art form

The results of Experiment 1.1, 1.2, 1.3 and 1.4 are analysed for their techniques and forms. They are then selected from Experiment 1.3 and 1.4 to further develop the techniques to benefit the use in the field of art. Originally, these techniques were used to create jongkraben, jeeb, sabai and tabengmarn, which can be seen in the literature review in Chapter 2. This experiment is done to develop the techniques so they can be used to design fabric art form. Following an analysis, the techniques that fit the objective the most will be selected as the primary and secondary techniques for the design. The experiment is divided according to the chosen results of the techniques, such as wrapping and tying, and folding with rolling.

Develop the technique for actual design

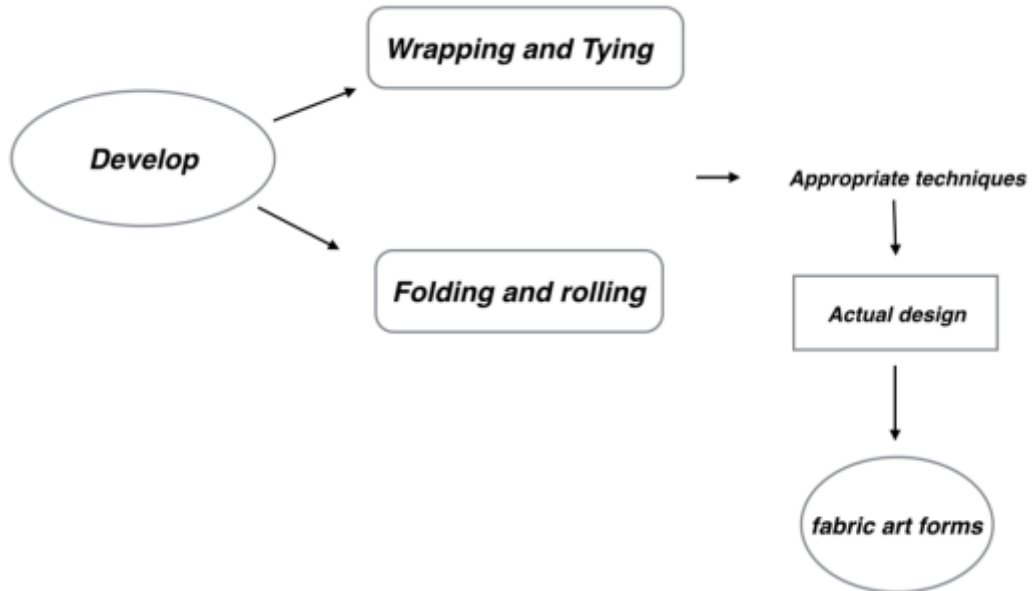


Figure 110: Development framework

2.1 Develop folding and rolling technique

The purpose of this experiment is to develop the technique that's appropriate for actual design in order to create fabric art form. The folding and rolling techniques were conducted throughout Experiment 1.1-1.4. Now, the experiment continues to develop the techniques as follows.



Figure 111: Result of the development of folding and rolling technique



Figure 112: Results of the development of folding and rolling technique



Figure 113: Result of the development of folding and rolling technique

2.2 Develop wrapping and tying technique

The development of wrapping and tying techniques continues here with more materials such as cotton, rayon, polyester, organza, organdy, mesh, and soft mesh based on the hypothesis set in Experiment 1.4 that creating a standalone structure could be possible if the technique or fabric is changed, or that the two have to match one another. To clarify this point, and to reach the objective, the wrapping and tying techniques are experimented on here in a repetitive style to search for a technique that can be used in an actual design.

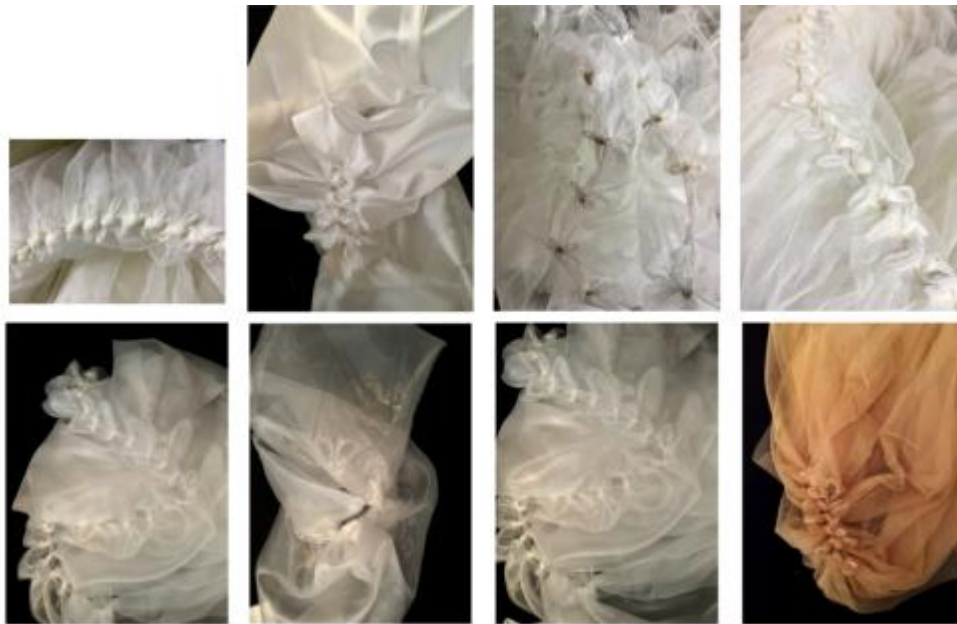


Figure 114: Result of the development

From experimenting with different types of fabric in a repetitive form of wrapping and tying to test out their potential as a technique, the results yield that organdy gives a flat and soft form as the fabric itself is soft and silky; silk creates a weak structure as it is light and thin; organza results in a soft and flat form with unclear structure; hard mesh gives the best results as they are able to form and hold the shape of the structure, which fits the set objective. Hence, hard mesh will be used in the following development processes.





Original draped garment method	Technique	Material	Results
	Wrapping & Tying	Silk	
	Wrapping & Tying	Hard mesh	

Table 32: Summary of results from Development 2.2











Original draped garment method	Technique	Material	Results
	Wrapping & Tying	Organza	
	Wrapping & Tying	Organdy	
	Wrapping & Tying	Polyester	
	Wrapping & Tying	Cotton & Polyester	

Table 33: Summary of results from Development 2.2





Original draped garment method	Technique	Material	Results
	Wrapping & Tying	Light mesh	
	Wrapping & Tying	Hard mesh	

Table 34: Summary of results from Development 2.2

Summary of materials



Figure 115: Silk with wrapping and tying in repetition

Due to the lightweight characteristic of silk, the form couldn't create volume or retain a structure. The knots also don't stand out. The fabric also creases easily, making the pattern erratic and out of rhythm. Leaving it in a room with moisture, such as an air-conditioned room, would cause the form to deflate.



Figure 116: Hard mesh with wrapping and tying in repetition

Hard mesh is light, porous and adequately hard. When wrapped, a beautiful volume is created. Knots and bows can be seen easily with no slippery. Tying creates pleats, voluminous form, and a distinctive structure that doesn't deflate. It can maintain its form without the use of any support. Due to its unique texture, shadows and dimensions are created when light hits the fabric, which is a satisfying result.



Figure 117: Organdy with wrapping and tying in repetition

Organdy is shiny and slippery. When wrapped and tied repetitively, the knots tend to fall apart. The form deflates. The structure isn't strong.



Figure 118: Organza with wrapping and tying in repetition

Organza is similar to organdy but it is thicker. Its texture is slippery. When wrapped or tied, the knots fall apart and the form deflates. There is no distinctive structure.



Figure 119: Soft mesh with wrapping and tying in repetition

Soft mesh is similar to hard mesh but thinner. Through wrapping and tying, the resulting form doesn't have a strong structure. The form can't maintain itself without the aid of mannequin or frame.



Figure 120: Cotton and polyester with wrapping and tying in repetition

For cotton mixed with polyester, its characteristic is light and thin. Upon wrapping and tying, the form deflates. The layers are erratic with no order.

Problem: There was no problem with this development process. The results are satisfactory. And the researcher is able to find the right fabric that can best showcase the techniques, which is appropriate with the objective set for this project. Other works that do not fit the objective can still be used in other fields of art.

Next: The objective set is for the material and the techniques to complement one another. Repetition of tying creates a form into a structure that requires no support. The results have given a conclusion that the main techniques chosen for the design will be wrapping and tying on mesh fabric in order to create a fabric art form in the actual design.



Figure 121: Summary of main ideas for the actual design



Figure 122: Hard mesh

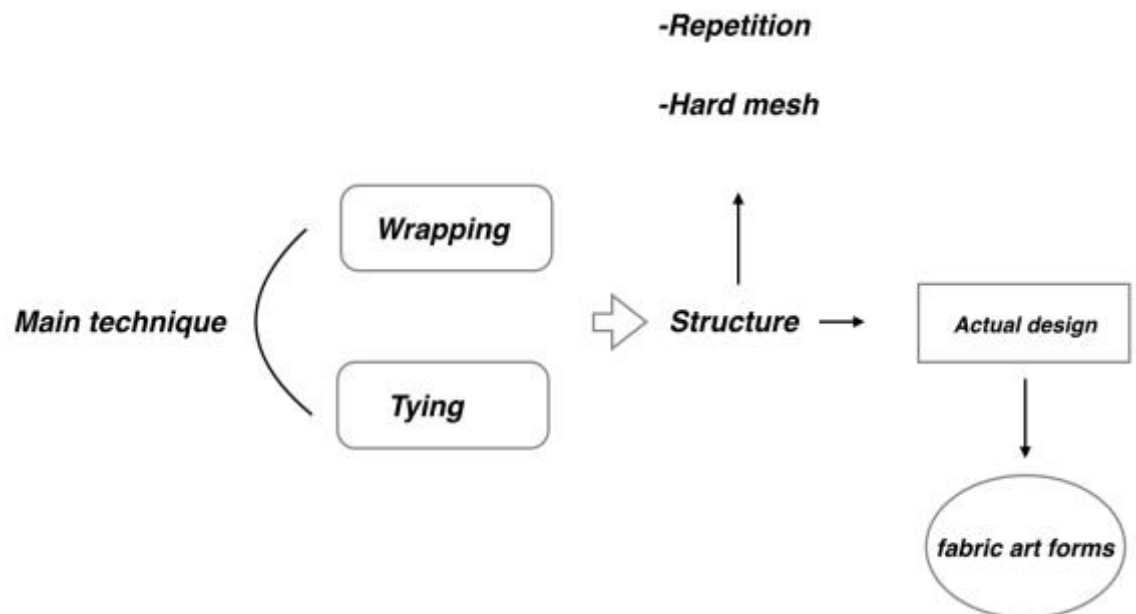


Figure 123: Summary of method

Following many experiments and development processes, it is found that wrapping and tying technique can be used to create a structure, and hence they are chosen for the actual design. From this potential, the researcher feels this potential could be used to develop a variety of art form. The experiment is continued with the expected objective that the form could be flexible and is able to transform itself into another form. Further experiments are conducted in 2.2.1 and 2.2.2. as follows.

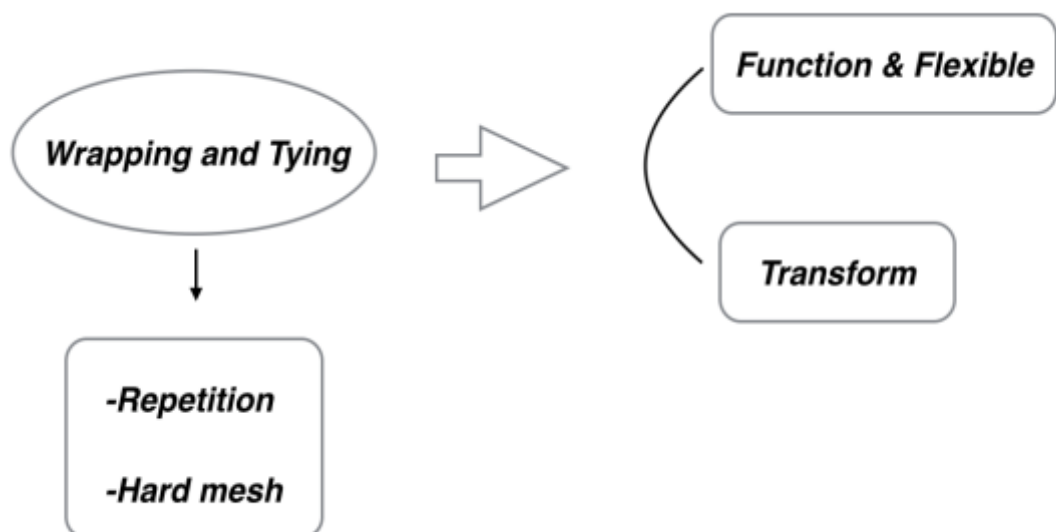


Figure 124: Function, flexibility and transformation

2.2.1. Function and flexibility

As can be seen in 2.2, the potential of the technique caused by wrapping and tying can be used to create a structure. Now, the results are further developed, with the aim to generate function and flexibility. The researcher feels that the potential of draping techniques can create a new form that is both functional and flexible. In this development process, several fabrics are used in tying and wrapping, as opposed to just a single piece of fabric in 2.2.

The development is planned here, as can be seen in the sketch. Many pieces of square-shaped fabric are combined together with the wrapping technique, and they are tied together at the corner following the first step of tying as can be found in jongkraben.



Figure 125: Process and sketch of the development

Results of the development

The result is an art form that satisfies the objective, as it is both functional and flexible. The art form is flexible on its own without the aid of any equipment.

Problem: There was no problem with this development process. The works went by smoothly as different experiments have been conducted prior to it, and the design process was planned out well.

Next: This development process is considered to be successful. The results respond well to the objectives. Upon analysis of the results, the researcher is confident that the form can be further developed in the next step, which is transformation. The question now is to find out whether this functional and flexible form can also be transformed into something as well.

2.2.2. The transformation

By flipping the form upside down, another form is created. Next, the two forms are tied together. They are flipped on the other side again, and a new form is created. The process continues using the same method of flipping over, and a new form can be seen.



Figure 126: Transformation of the form

Results of the development

The results of this development process are satisfactory, befitting the objective perfectly. This result will be analysed and used in the actual design in Chapter 4.

In conclusion, the wrapping and tying techniques as used with hard mesh fabric can create a structure that answers to the objective. It follows the original technique in creating jongkraben, which starts out with wrapping and tying. The development also yields the property of function and flexibility. As it continues

further in the process, it is also able to transform itself into different forms, as in 2.2.2. The potential of wrapping and tying technique can be used to create a structure that can be transformed into another form, and this is appropriate for the creation of fabric design. Hence, wrapping and tying are used as the main techniques in the design process. They act as the main structure, while folding and rolling are used in a secondary manner in the actual design process in Chapter 4.



Chapter 4 Process of actual design

Following the experiment and development process, the techniques were divided into primary and secondary parts of the design. The wrapping and tying technique would be used as the main structure, based on the development process 2.2 that utilised hard mesh in repetitive format. The folding and rolling techniques are to be used as secondary techniques. The process of design starts from analysing the results of the experiment and development process. The techniques include tying, folding, rolling and wrapping, which are practised on white hard mesh fabric. The form is of contemporary, organic style. The information learnt are analysed in order to apply the concept to the elements of design.

Outcome

1. Analysing, selecting and preparing tools for actual design
 - Results of the experiment
 - Inspiration
2. Visual elements to be applied to the design
 - Organic pattern
 - Draft
 - Design

Analysing, selecting and preparing tools for actual design

Wrapping and tying	Folding and rolling
 	  

Table 35: Summary of techniques for actual design

1.1 Results of the development process 2.2

The techniques of wrapping and tying follow their original method as found in jongkraben.

The process is repeated until a structure is formed. And when the process is done on hard mesh fabric, it creates a series of knots, as well as volumes and pleats that can be used in the design process.



Figure 127: Results of the development process

1.2 Results of the development process 2.2.1

The resulting form is both functional and flexible. Several pieces of fabric are tied to one another in a similar as the cross-tying found in tabengmarn. This satisfactory result can be used to design a fashion art form that is flexible on the body, as well as other art forms, which is one of the reasons why this process was chosen to be developed as part of the actual design.



Figure 128: A flexible form

1.3 Results of the development process 2.2.2.

This result continues from the process 2.2.1 that generated the hypothesis that the experiment would be able to transform the existing form into something else. With in-depth exploration, the process led to both the development of the materials and techniques until a relationship between the two is established to satisfy the objective. Proficiency was also created through regular practices and problem solving. In the end, the process results in a form that can be transformed into various other forms through the method of tying to connect the forms together. When it is flipped over, the existing form generates a new form. Its flexible quality can be adapted in the creation of a fashion art form.



Figure 129: Transforming to a new form

1.4 Results of the development process 2.1 with folding and rolling techniques

The rolling and folding techniques as found at found in jongkraben can be used to create a spiral art from. It also creates layers from folding, as in jeeb. These two techniques are selected to complete the fabric art form that, when combining all the techniques together, will result in a perfect art form and design.



Figure 130: Folding and rolling techniques

2. Inspiration

Techniques, materials, colours, forms, and style

2.1 Techniques

Techniques from the original form was gathered from studying Thai draped garments such as jongkraben, jeeb, sabai, tab and tabengmarn and taking them as an inspirations in creating a fashion art form. It follows the original techniques in that it is all handmade, without the use of sewing machine or needles in creating the work.












Tying	jongkraben (tying)					tabengmarn (tying)
Folding	jeep(folding)				jongkraben(folding)	
Rolling	 jongkraben(rolling)					
Wrapping		tab (wrapping)		sabai (wrapping)		tabengmarn (wrapping)

Table 36 Draped garment's technique from original techniques

2.2 Material

Following experiments in Chapter 3, hard fabric ended up being used as it is not slippery, and it is able to retain the form once it is constructed. The thickness and texture are just right. Hence, this type of fabric is used as the main material to create a structure in this design.



Figure 131: hard fabric

2.3 Colour

White colour is used in this project. The choice was inspired by a white painting by Jimmy McCullough, which used the whiteness of acrylic colour, toilet paper and glue on a canvas to create a painting (McCullough, n.d.). His works create dimensions and textures from white colour, which is similar to the choice of using hard fabric of the same colour. White signifies simplicity and purity (Panyasopa, 2016). Another reason for using white is to show the techniques and the new form born from the original technique. With its simplicity, white is easy on the eye and doesn't steal the limelight from the technique the researcher is trying to present.



Figure 132: White painting by Jimmy McCullough
(<https://www.deviantart.com/jimmymccullough/art/White-Painting-1-260999782>)

2.4 Inspiration from an organic form

Organic forms such as flowers, butterflies and ferns give a sense of connection with nature and livelihood in three-dimensional form (Lalita, 2008). They represent life that can grow, move and morph its form (Phunoppakun, 2007).



Figure 133: Marigold
([https://commons.wikimedia.org/wiki/File:\(Tagetes_erecta\)_Marigold_flower_at_Mu_dasarlova_Park_02b.jpg](https://commons.wikimedia.org/wiki/File:(Tagetes_erecta)_Marigold_flower_at_Mu_dasarlova_Park_02b.jpg))



Figure 134: Bloomed lotus (<https://heartful-ly.com/category/heartfulness>)



Figure 135: Lotus (<https://www.bloggang.com/data/p/pom-egranate/picture/1303295831.jpg>)



Figure 136: Fern (<https://www.pinterest.com/pin/303852306104342931>)



Figure 137: Butterfly (<http://www.creation7.com/product/white-butterfly-photo>)



Figure 138: Rose
(<https://www.blueistyleblog.com/2014/02/TheLanguageOfFlowers.html>)



Figure 139: Rose (<https://pantip.com/topic/32564842>)

2.5 Look and style

For contemporary style, the research brings about the work of artist Roberto Capucci in creating a contemporary fashion art form. Capucci's works mostly follow a free-form technique and overlaying materials together to create volume and structure into a fashion design that is more artistic, rather than to fully present it in the form of fashion.

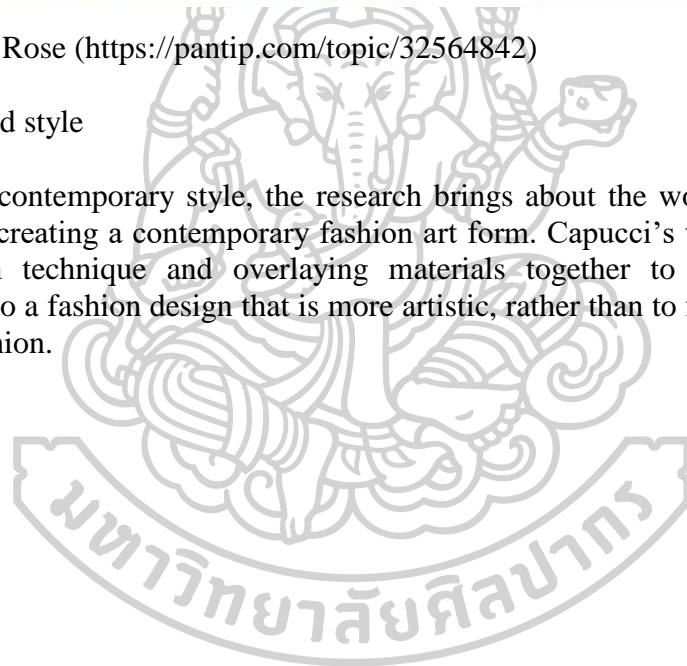




Figure 140: Capucci's works (Bauzano, 2001)

Lotus relates heavily to the Buddhist way of life, being used in merit making and different religious events since the past. The beauty of lotus has been used in art, from its shape to the complexity of the overlaying petals. Many artists have used lotus as an inspiration to create their works, such as Pramuan Thungprue, an artist from Satul province who used lotus as an inspiration to connect the feelings and emotions (Rama IX Art Museum Foundation, n.d.). The researcher views that, aside from religious significance, lotus carries artistic beauty in its shape and form, whether when it's blooming or not. The one that is not bloomed has a round base and overlaying petals, which creates a crisscross line. The bloomed lotus possesses a different kind of beauty, from the inner layer to outside, which gives a dimensional form. They all can be used as an inspiration for the design.

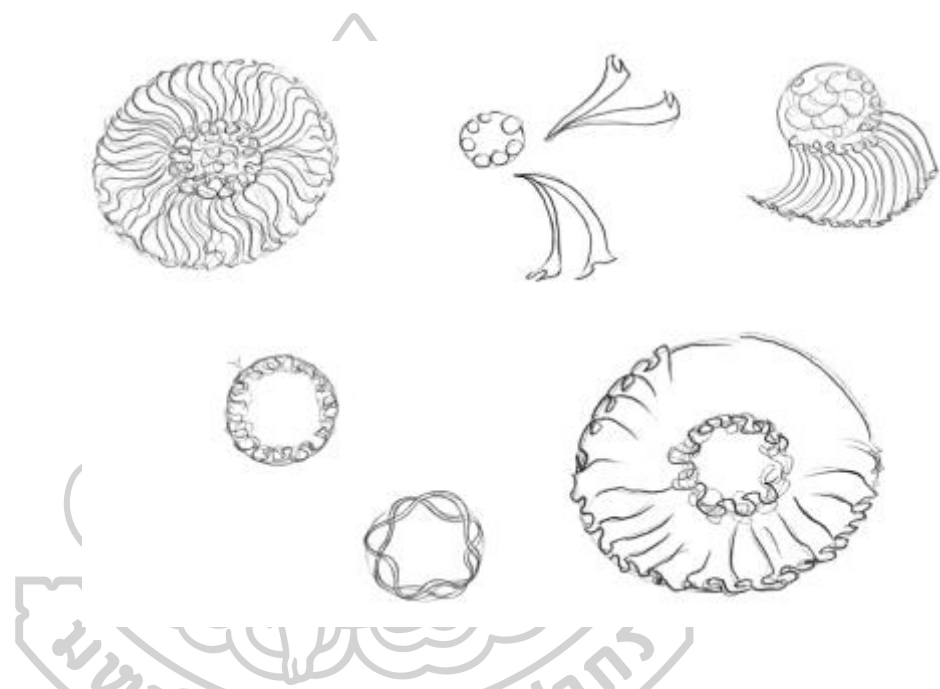


Figure 142: Sketch of marigold

In 1967, HM King Bhumibol Adulyadej brought the marigold seeds from the Netherlands as he was pleased with its beautiful colour. At that time, he asked Kasetsart University to grow the flowers and handed out some to the people and brought in income for farmers. Marigold is now serving as a representation for the late king (Glimmergirl, 2017). Aside from its distinctive colour, the form of marigold and its petals can be used as an inspiration for design.

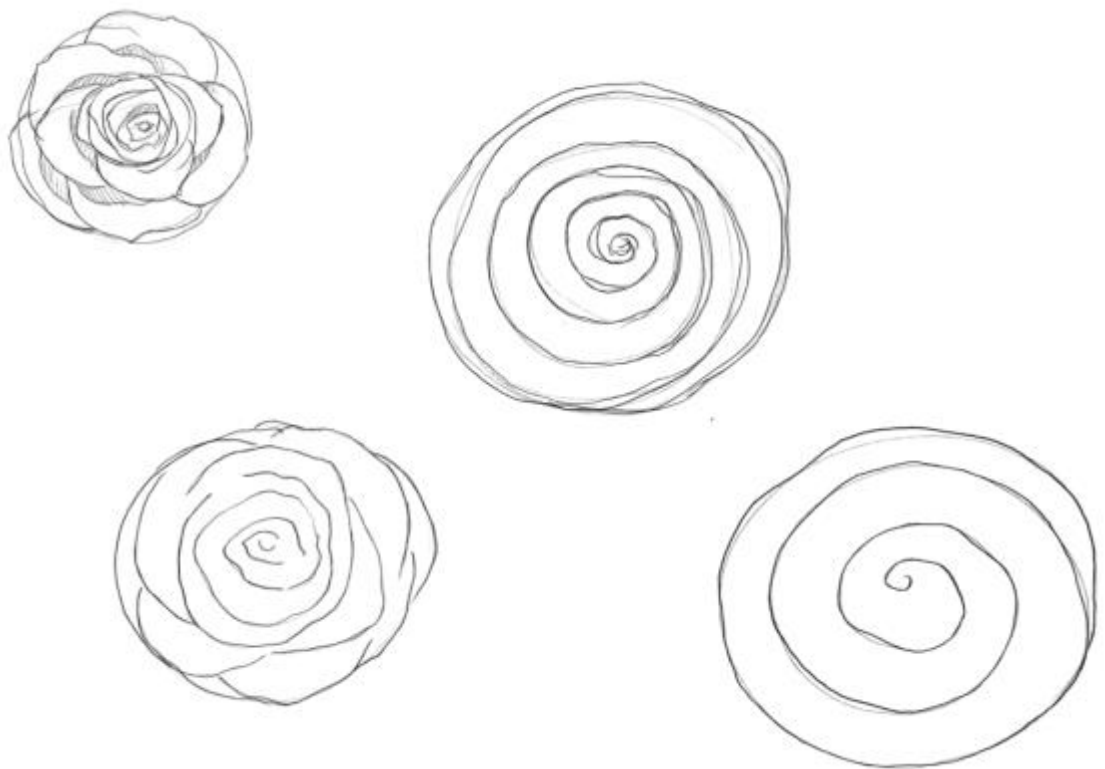


Figure 143: Sketch of rose

Rose is one of the most popular flowers in the world. It originates from Asia, and people are fond of it for usage in decorative purposes, both indoor and outdoor, and well as commercial purposes (Wikipedia, n.d.). At the mention of roses, people often think of love as this flower is a symbol of romance. Some legends say that rose signifies the birth of Venus, the goddess of beauty and love (Kapook, n.d.).

Rose is often used during auspicious occasions and celebrations, even being used in conjunction with jasmine to make flower garlands. Many people give roses on Valentine's Day. The colours of roses are beautiful, with red, white and pink being the preferred colours by the public majority. And aside from colours, they possess a delicate overall form and soft details of its petals. The petals are laid out, with small petals on the inside and big ones on the outside like a coil. This creates a beautiful form that is very aesthetically pleasing and natural.



Figure 144: Sketch of fern

Piyakaset Suksathan, Ph.D., a renowned biologist at the Botanical Garden Organisation, Ministry of Natural Resources and Environment, said, “Fern has different parts to its structure. Starting from the stem, there are ferns that shoot straight up, ones that are curved, and ones that start out as a curve before fanning out into a full-size fern.” (MGR Online, 2007).

Fern is very unlike other types of plants. The curvature in its shape serves as an inspiration in creating Thai drawings, such as lai kanok and lai kanok pak kood, to mimic its shape (Leksukhoom, n.d.). The natural form of fern gives a feeling of movement and flow. It is a form that is aesthetically pleasing and can be further developed in the design.

2. The actual design

Application of design elements

Sketch and design

Steps and outcome

2.1 Actual design No.1

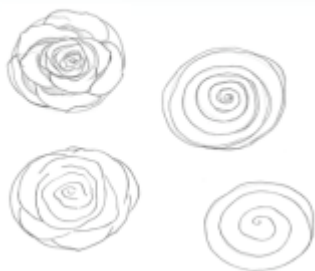

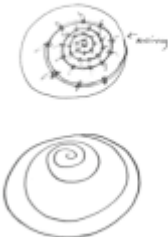


Apply to design	Art elements		Keyword	
	Shape &	Form		Line
			 	<p>rhythm</p> <p>flexible</p> <p>new form</p> <p>dimension</p>

Table 37: Application of design elements

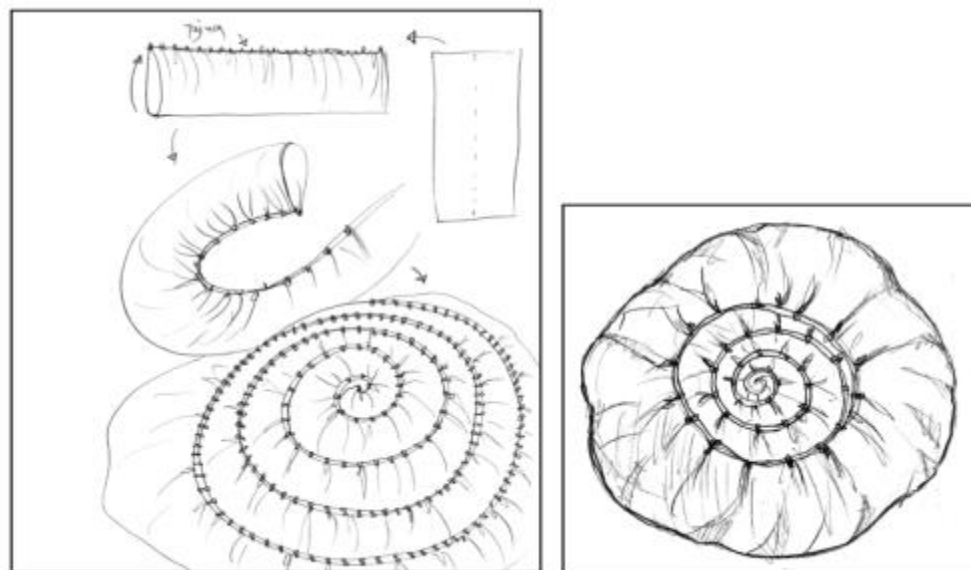


Figure 146: Draft of actual design No.1

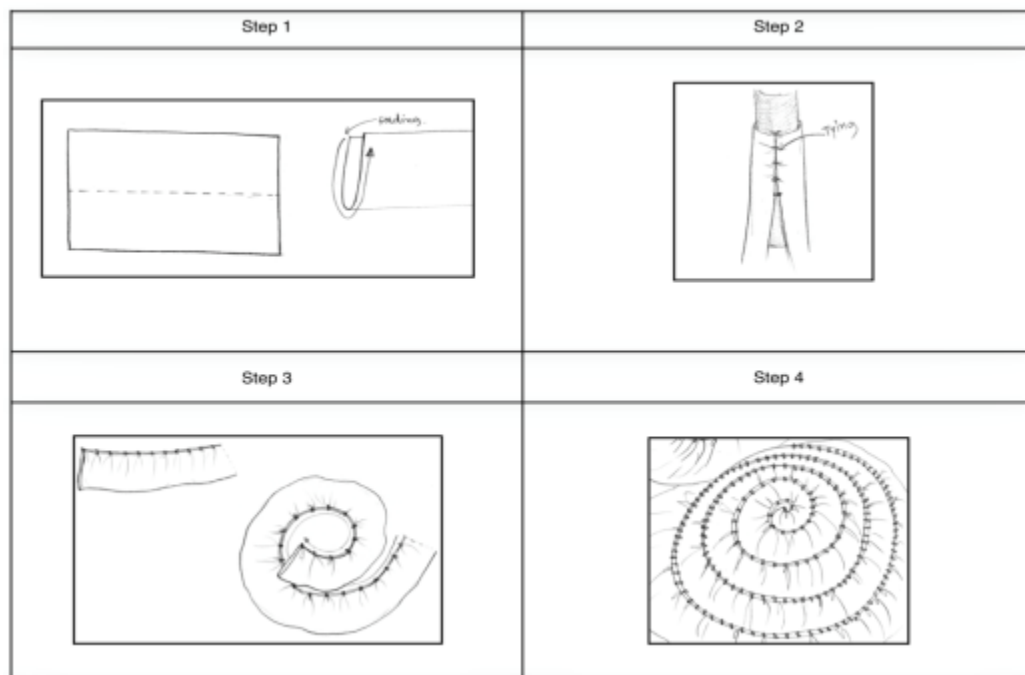


Figure 147: Steps of creation



Figure 148: Result of actual design No.1

2.2 Actual design No.2




Apply to design	Art elements		Keyword
	Shape & Form	Line	
			rhythm flexible dimension new form

Table 38: Application of design elements

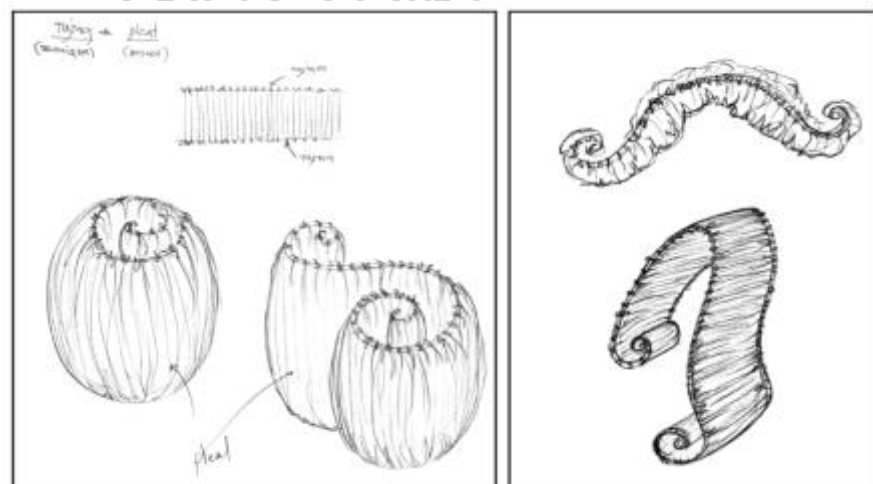


Figure 149: Draft of actual design No.2

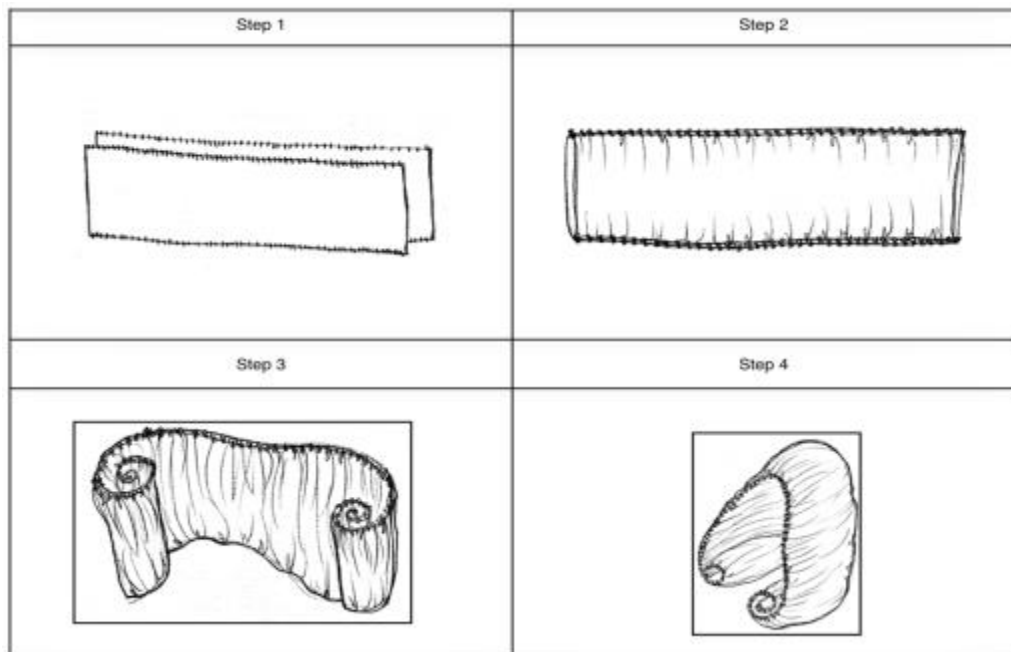


Figure 150: Steps in creation



Figure 151: Results of actual design No.2

2.3 Actual design No.3


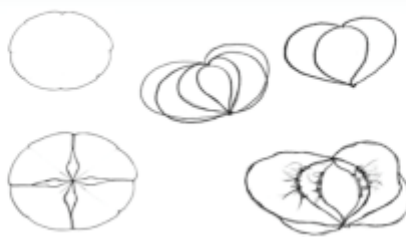

Apply to design	Art elements		keyword
	Shape & Form	Line	
			<p>rhythm</p> <p>balance</p> <p>dimension</p>

Table 39: Application of design elements



Figure 152: Draft of actual design No.3

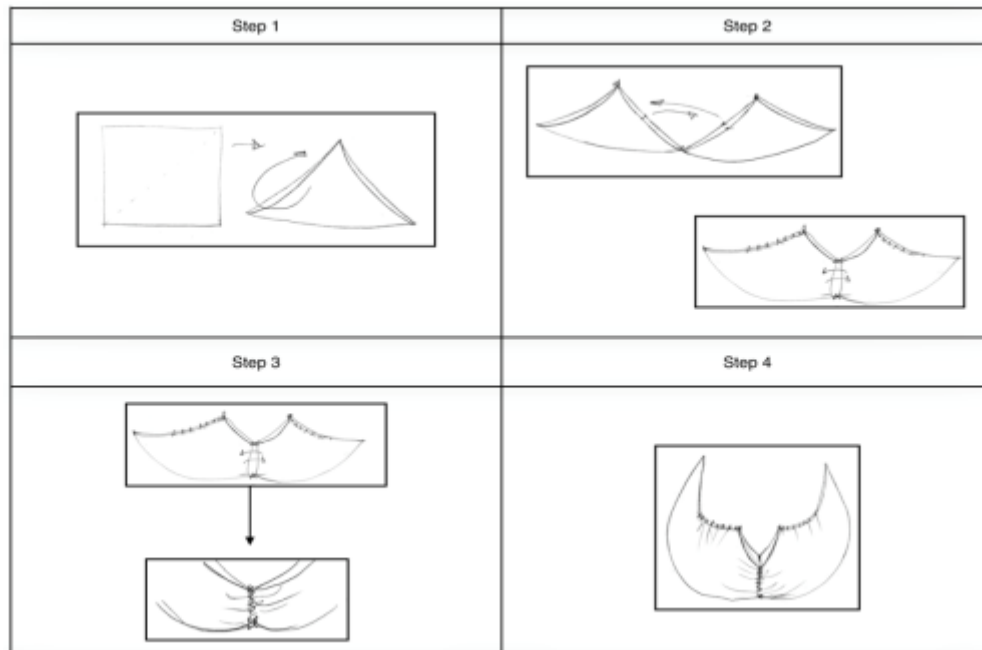


Figure 153: Steps in creation



Figure 154: Result of actual design No.3

2.4 Actual design No.4


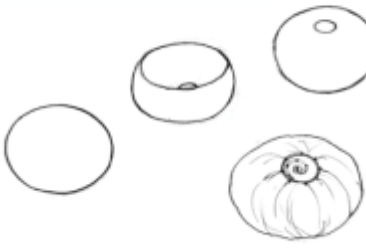

Apply to design	Art elements		Keyword
	Shape & Form	Line	
			rhythm gradation new form structure

Table 40: Application of design elements

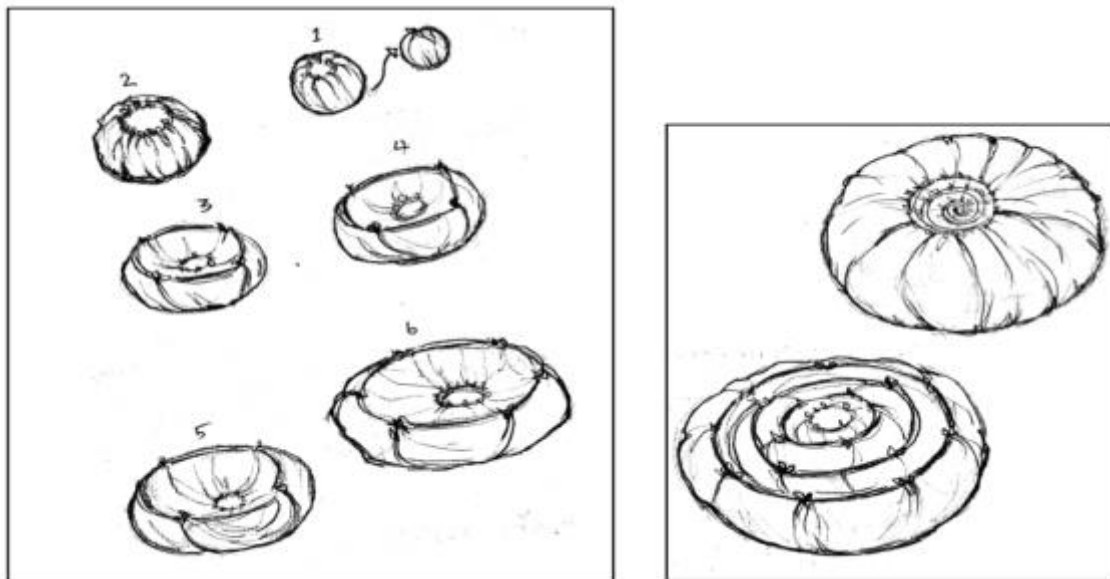


Figure 155: A draft of actual design No.4

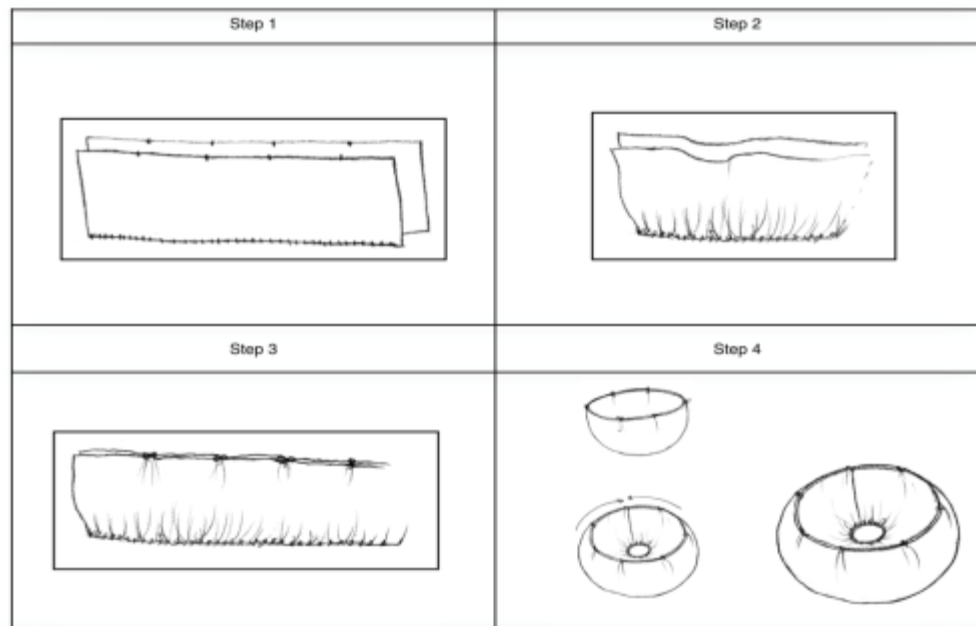


Figure 156: Steps in creation



Figure 157: Result of actual design No.4

2.5 Actual design No.5


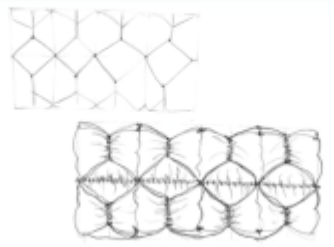

Apply to design	Art elements		Keyword
	Shape & Form	Line	
			rhythm unity new form dimension

Table 41: Application of design elements

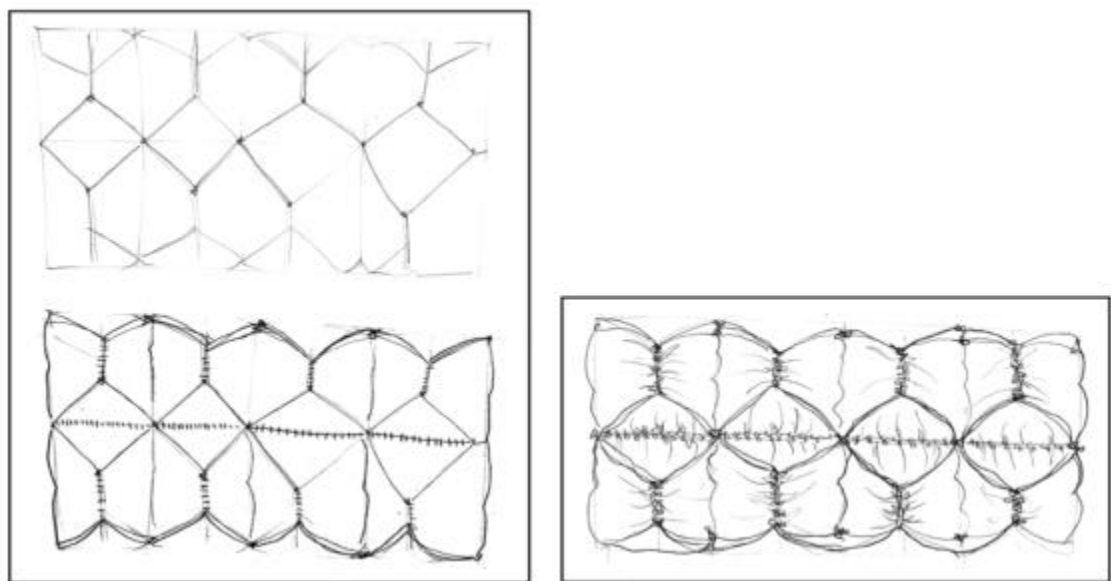


Figure 158: Draft of actual design No.5

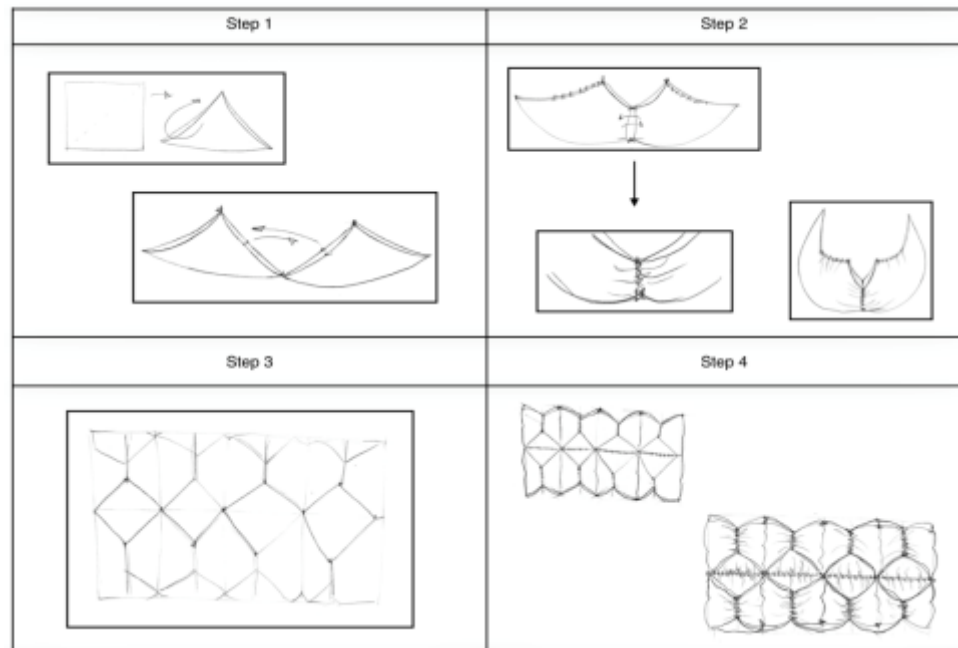


Figure 159: Steps in creation



Figure 160: Result of actual design No.5

2.6 Actual design No.6

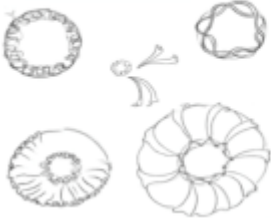
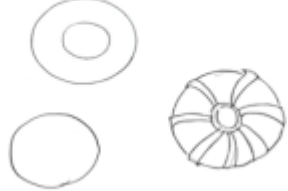
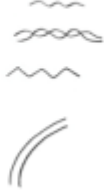
Apply to design	Art elements		Keyword
	Shape & Form	Line	
			<p>rhythm</p> <p>repetition</p> <p>dimension</p>

Table 42: Application of design elements

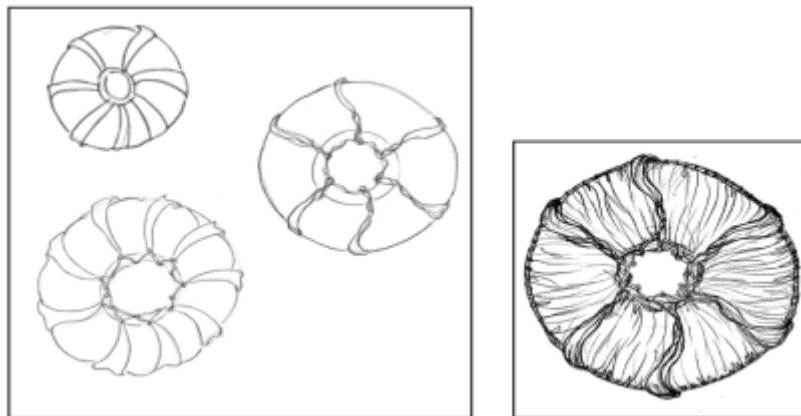


Figure 161: Draft of actual design No.6

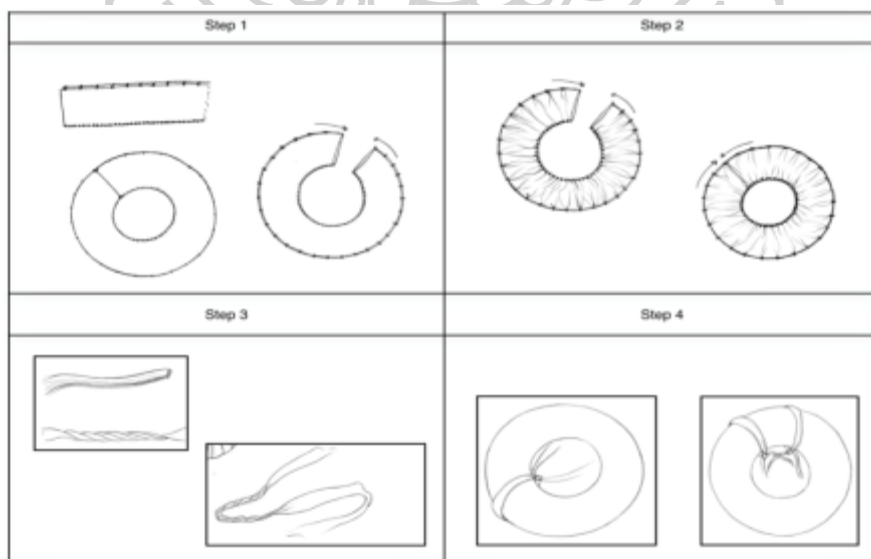


Figure 162: Steps in creation



Figure 163: Result of actual design No.6

2.7 Actual design No.7



Apply to design	Art elements		Keyword	
	Shape	& Form		Line
				<p>rhythm</p> <p>harmony</p> <p>dimension</p> <p>new form</p>

Table 43: Application of design elements

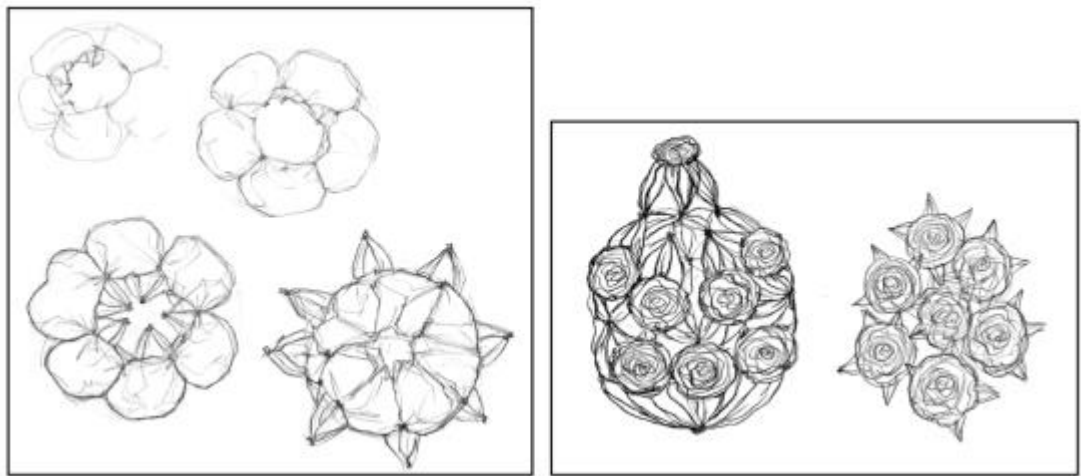


Figure 164: Draft of actual design No.7



Figure 165: Result of actual design No.7

Chapter 5 Conclusion

The draping techniques of tying, folding, rolling and wrapping as can be found in jongkraben, jeeb, sabai, tab and tabengmarn show the Thai wisdom and craftsmanship back before there were machineries for sewing. Aside from physical aesthetics such as pleats, volumes, layers, knots and bows, they also tell the story of people's past lifestyle and culture through wardrobe.

These draped garments are now fading from our daily life when machines take their place. And with a changing lifestyle, people now have no time to drape garments on themselves and instead settle for ready-to-wear clothes. The roles of draped garments are then diminished, and they are now only used during traditional events and occasions as required. They are no longer part of our daily life. It is such a waste for this age-old wisdom to disappear.

This research brings in these original techniques and applies them into a new contemporary art form by utilising same techniques without the aid of machinery. And they can be applied to fine arts and fashion design, and especially to fabric art as it is the focus of this research. It is aimed to encourage more people to use these techniques once again, so they would be reminded of the way of life, wardrobe and culture of the past. Bringing back these techniques also ensures that they will not be forgotten and forsaken.

This research studies the history, identity and techniques of draped garments. Following the literature review, it has been found that the techniques of tying, folding, rolling and wrapping as can be found in traditional draped garments of Thailand have potentials that can be further explored as artwork in various fields. These techniques have been analysed and experimented on to explore their potential. The goal was set to exceed that original role these techniques were already able to achieve. The experiments were met with both obstacles and success as have been laid out. The problems that arose were analysed deeply in order to improve on in the follow-up experiment. The results were also analysed for the relationship between the techniques and materials used. In the end, the hard fabric was used.

Following each experiment, the experiment to be followed is planned with the aim to test out the potential of draped garments for the applied usage in contemporary arts. The goal is to test out its new form, aesthetics, uniqueness, dimension, structure and function. The results are then further developed into an actual design. The tools for the next step are prepared, such as to revisit the visual arts, select inspirations from the techniques and artists such as Jimmy McCullough and Roberto Capucci.






Draped garment	Original Technique	Experiment (explore)	
		keyword	results
<p>jongkraben</p>  <p>jeep</p>  <p>tab</p>  <p>sabai</p>  <p>ta beng man</p> 	<p>tying</p> <p>folding</p> <p>rolling</p> <p>wrapping</p>	<p>beneficials</p> <p>practise</p> <p>incorporation</p> <p>connect</p> <p>repetition</p> <p>rhythm</p> <p>propotion</p>	<p>function</p> <p>flexible</p> <p>dimension</p> <p>new form</p> <p>aesthetics</p> <p>structure</p> <p>art form</p>

Table 44: Summary of conceptual ideas for the experiment





Inspired			Material	Keyword
Organic form	Style,look	Color		
	<p>contemporary</p> <p>Roberto Capucci</p> 	<p>white</p>  <p>white painting 1 by Jimmy Mcullough</p>	 <p>hard mesh fabric</p>	<p>fashion-art form</p> <p>art</p> <p>knowledge</p> <p>culture</p> <p>hand craft</p>

Table 45: Summary of inspiration for actual design

Result of actual design No.1



This artwork is inspired by an organic form of a rose. The details of the form was minimised and remade with freedom without trying to imitate the original form. This new form is dimensional, which follows the Post-impressionism art style (Ratchabandittayasathan, 1998).

The fabric, in square shape, is folded in half, and the two ends of the cloth is tied together like jongkraben. Leave space between each knot. The resulting form is bent with knots and pleats forming from tying. Later, taken inspiration from a minimised form of a rose, with its curve spinning out from inside out, from small to big, it became a basis for this work. The resulting form from repeated tying is a dimensional curve which exudes the feeling of free flowing and slow movement (Saekue, 2014). From the tying technique as can be found in jongkraben, the resulting art form is a fashion item that is a reinterpretation of the past technique that retains the identity of the past.





Inspired			Material	Technique
Organic form	Style,look	Color		
<p>rose</p> 	<p>contemporary</p>  <p>Roberto Capucci</p>	<p>white</p>  <p>white painting 1 by JimmyMcullough</p>	 <p>hard mesh fabric</p>	<p>tying</p> <p>folding</p> <p>wrapping</p>

Table 46: Summary process of actual design no 1



Result of actual design No.2



For the second form, the inspiration was taken from Roberto Capucci's works as the researcher is very impressed with his works which are very strong in pleats and layers. He overlaid layers of fabrics together to create volume and a beautiful, modern form that is also elegant. The organic form of a fern is also used as one of the inspirations.

Following the tying technique of jongkraben, use a rectangular cloth and repeatedly tied it closely together. The curved form of a fern is then used to transform the work by bending the two ends. The result is a contemporary art form with a long line of pleats. Knots similar to bows are formed from repeatedly tying the fabric closely together. It serves as a reminder of an art from the past. The curls and curves of the resulting form signify a movement, expansion and growth (Saekue, 2014).





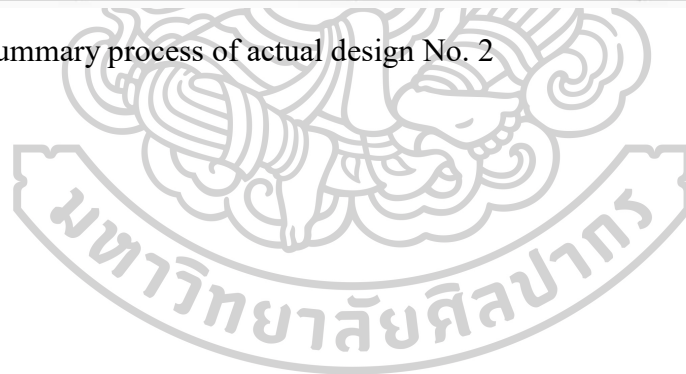
Inspired			Material	Technique
Organic form	Style,look	Color		
	<p>contemporary</p>  <p>Roberto Capucci</p>	<p>white</p>  <p>white painting 1by JimmyMculough</p>	 <p>hard mesh fabric</p>	<p>tying</p> <p>rolling</p> <p>wrapping</p>

Table 47: Summary process of actual design No. 2



Result of actual design No. 3



Fashion art form No. 3 is inspired by an organic form of a butterfly. The wings are used in the design. The form is symmetric, and the curve of the wings gives a sense of freedom and delicateness. The researcher has taken this impression and applied it to the design. To create this look, two square-shaped pieces of fabric are tied together with big and small space in between to create a form that corresponds to the design. The pieces are then put together to create a new form, and many other forms within the same collection. The aesthetics of the art form exudes lively and carefree feelings. The technique from jongkraben gives a voluminous form, and the tying results in pleats and dimension of the work. The resulting form is both contemporary and unique, and it can be further expanded and developed in other branches of art without using machinery in the creation process.





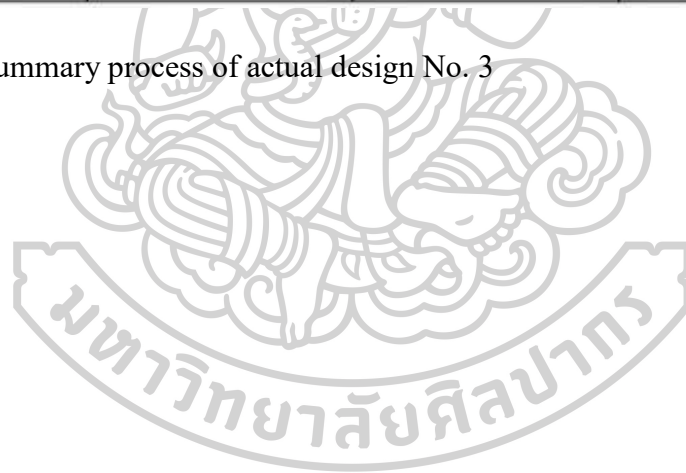
Inspired			Material	Technique
Organic form	Style,look	Color		
butterfly 	contemporary  Froberto Capucci	white  white painting 1 by JimmyMcullough	 hard mesh fabric	tying wrapping

Table 48: Summary process of actual design No. 3



Result of actual design No. 4



For this piece, the researcher is impressed with the organic form of a lotus. The beauty of the overlaying petals from the inside out, which creates a circular form, is accentuated further once the flower is in bloom. This aesthetics of this layered form is applied to the design, while also minimising its details.

To create this look, tie the cloth together while leaving spaces unequally between top and bottom. Leave wide space for the top, but leave small space for the bottom. This will create a half- circle form, which we go from big to small to mimic the layer of the lotus petals. Then, bring the form together and wrap them to create different layers. On the other side of the form, the knots from tying create a dimensional coil. Overall, this art form shows the potential of the tying technique and its ability and versatility in creating different shapes and volumes quickly without the aid of machines or any equipment.






Inspired			Material	Technique
Organic form	Style,look	Color		
<p>lotus</p> 	<p>contemporary</p>   <p>Roberto Capucci</p>	<p>white</p>  <p>white painting 1by JimmyMcullough</p>	 <p>hard mesh fabric</p>	<p>tying</p> <p>wrapping</p>

Table 49: Summary process of actual design No.4



Result of actual design No.5



Fabric art No.5 is inspired by a lotus that has yet to be bloomed. The layers of petals that stack on top of one another creates a pattern of zigzag line, and these lines give off violent and chaotic feelings (Saekue, 2014). The researcher feels this pattern is beautiful for its rhythm and harmony, and has applied the pattern to the design. It turns into a checkered pattern, which started as smaller forms first, then later being put together to create an art form. The result is of a form with a feel of harmonising diagonal lines. The technique of repeated tying creates a clear line with distinctive dimensions when light shines on them. As with the others, this work utilises the tying technique to create an art form that can be further developed into other lines of art.





Inspired			Material	Technique
Organic form	Style,look	Color	 hard mesh fabric	tying wrapping
lotus 	contemporary  Roberto Capucci	white  white painting 1by JimmyMcullough		

Table 50: Summary process of fashion art form No.5



Result of actual design No.6



Fabric art form No.6 utilised all four draping techniques – namely tying, folding, rolling and wrapping – and combined them together. These techniques have undergone different experiments in various forms, and adapted with different materials to create a work that befits the objective.

The main structure originated from an organic form of a marigold. Its circular form is recreated with the tying technique as can be found in jongkraben. The material used is a square- shaped hard fabric. Two fabrics are tied together several times, with the top leaving tight spaces while the bottom leaving wide spaces in between. This results in a circular form that serves as a foundation for this work. The circle gives off a feeling of softness. The knots that surround this circular form serve as a reminder for draped garments of the past. And this repeated tying technique also creates pleats, layers, volumes, and more. For accessories, they are inspired from petals of the marigold

To create this look, the fabric is folded in a similar way of creating jeeb. Then, take this jeeb and wrap it around the main structure, as with the technique found in sabai and tab. Next, roll the fabric as one would roll the tail of jongkraben. Tie this end into a cross, as in tabengmarn. The result is a contemporary fashion art form that retains the identity of past draped garments and their techniques, connecting the past and present together.







Inspired			Material	Technique
Organic form	Style,look	Color		
<p>marigold</p> 	<p>contemporary</p>    <p>Roberto Capucci</p>	<p>white</p>  <p>white painting 1 by JimmyMcullough</p>	 <p>hard mesh fabric</p> <p>silk</p>	<p>tying</p> <p>folding</p> <p>rolling</p> <p>wrapping</p>

Table 51: Summary process of fashion art form No.6

Result of actual design No.7



For fabric art form No.7, creating this work is about further developing the potential of techniques to the point where it can create a form that is both functional and flexible. The tying and wrapping techniques require two rectangular fabrics to be tied together. The end result is a flexible form. Afterward, the form is flipped inward, and the cross-tying technique is then used to connect smaller forms together. This characteristic in connecting the form is inspired by a Damask rose that grows together into a shrub. Their connecting form of small roses creates a bigger shrub that gives a sense of relationship. The researcher used it as an inspiration in design. The resulting art form is dimensional and layered. The cross-tying technique shows the identity of the form that connects old techniques and contemporary art form together, which can be further applied in other lines of artworks.



Inspired			Material	Technique
Organic form	Style,look	Color		
	<p>contemporary</p>  <p>Roberto Capucci</p>	<p>white</p>  <p>white painting 1by JimmyMcullough</p>	 <p>hard mesh fabric</p>	<p>tying</p> <p>wrapping</p>

Table 52: Summary of results of original draped technique in fabric art form No.7

Discussion

The design characteristic of the art form is contemporary. They are all handmade, with no aid of machinery and other equipment to hold the fabrics together in the creating process. This is an original technique that has combined old ones together – tying, folding, rolling and wrapping – as an inspiration for this design. The technique has been developed to be functional, and easy to apply. It also takes a small amount of time to create. The resulting form is a contemporary art form that tells a story of past culture, with the draping techniques being used in the design.

In this research, the researcher has recognised the significance of draping techniques of the past and has done extensive research on the history, culture, identity and techniques of how to put on draped garments of both Thai and foreign origins. Following the study, it has been concluded that the aesthetics and potential of these techniques – tying, folding, rolling and wrapping – can be created without using machines. It only takes a small amount of time to create draped garments of the past, such as jongkraben, jeeb, sabai, tab and tabengmarn. The resulting form is aesthetically pleasing, with knots, pleats and bows being created. It also carries the significance of the people's way of life and Thai arts and culture within itself.

The researcher has collected data, analysed, experimented and developed until a technique is formed. The materials have been tested and selected. And the works have received criticism from experts. Both case studies and art researches have been consulted to bring about the conclusion to create a fashion art form. The literature review, methodology, analysis, sketch design and more are explained in details of its creation.

Self critical

The topic chosen is quite difficult to create an outcome made entirely by hand without the aid of machinery. This research has been built on from tying, folding, rolling and wrapping techniques, which were inspired by the study of draping techniques.

Currently, the industry has seen a rapid modernisation of machinery that could aid the process and efficiency of garment production. Ready-to-wear clothes then became popular. The world trend in fashion has dictated that, to some extent, the standard of beauty and elegance lies in neat sewing work done through modern machines. Handmade works are often left for smaller, detailed parts of a handbag or clothes as it takes more time to create the works. Furthermore, the craftsmen within the field of fashion can be hard to find, and so handmade works aren't really popular, and it has added to the challenges and pressure in this project.

The process of work also carries many obstacles, though some were born from the researcher's reluctance to break free from existing ideas and get somewhat stuck in minute details rather than the overall form. Limited time was also a pressure. The theory and history that have been studied became quite a limitation that restricted the researcher within its frame of thoughts. It was a struggle to break out of.

The process of conducting several experiments, together with the research on case studies of different artists, became the strength of the project. It built up the analysis and comparison that eventually developed into a guideline, as well as a relief of anxiety during work. It allowed the researcher room of freedom in creativity, and to be more daring. The research that went by smoother and was able to be developed faster.

By giving enough time to the research and the experiment, and receiving constant guidance from the supervisors, it resulted in rapid development of the project into the right direction. Had the researcher been working alone, the project might have ventured into a wrong direction, which would be very inefficient.

Selecting a research topic the researcher is quite familiar with is considered an advantage. With this project, the process is all handmade with no use of machinery, which can be difficult to generate a diversity in form that befits the set outcome. However, as the researcher previously had some experience within fashion, garment production and handmade work, it became an asset in this project. Together with years of experience as a fashion designer, they all contributed to the successful end result of this project.

The result has exceeded the researcher's expectation in this project. The process, information, techniques and more as found as part of the project have been satisfactory. They can contribute to further usage and development in various fields such as fine arts, interior design, fashion design and academic purposes.

Suggestion

This research is a combination of knowledge that can be further applied and developed into a contemporary art form. The draping techniques can be used in fine arts, fashion design, academic ground, and more.

In fine art, artists in both painting and sculpture can take the result of this art form – both its technical aspect and form – and use it in their existing works, or even creating new ones from it.

For interior design, the designers can apply draping techniques in the creation of carpet rug. As it normally relies on machinery to create, the technique in this research can be used as an alternative from machines. Designers can also try out different materials, from other types of fabrics, polyester, and plastic.

A curtain is a must-have in interior decoration to shield some lights and for decorative purposes. This research – both the end result and the experiment – and its methods and techniques can be applied and developed further, such as using the tying technique to create different texture, for example.

A partition is used to separate different parts of the room, and it is also used as a decoration for the room. The tying, folding and rolling techniques can be used, with suitable materials, to create a work that is both aesthetically and culturally pleasing.

For furniture, mostly they are made using machines. But this research can be adapted for the work to create different textures. The materials can be changed to rope, leather, plastic and more to cover the furniture.

Lamp is another important thing in a house. From lamps to hanging and outdoor lights, they are mostly made with crystal, fabric, plastic, fibre, and more. But the technique in this research can be adapted to create a new style of lamp. Tying and folding techniques can be used to create different forms to be made into a shade for lamps.

Computer graphics can take this fashion art form to apply to their designs, such as in creating a fabric pattern, mirror, graphic designs and more.

In fashion, after machinery took over, mass production eventually reduces the significance of handmade works. They are barely applied in fashion industry anymore. Now that they are not in use, they are not being improved upon either, and soon they could fade away. The researcher realised the significance of draping techniques, and so decided to study the topic and create something new out of it to become an inspiration so those who are interested in fashion can adapt the technique to their own work.

The fashion design industry can use this to further develop different designs, such as using the tying technique to create a structure of the sleeves or the skirts, which will create volume without cutting patterns or operating complicated machines. The techniques can be used to create hats, shoes, accessories and more.

Within the academic setting, students in art or fashion discipline should study the history, identity and techniques of Thai draped garments. They can analyse and experiment with the techniques as a way of learning and preserving this form of arts. Upon learning, the technique gets applied in both designs and techniques, which would then retain this knowledge within the Thai society and prevent it from disappearing.



REFERENCES

- Alasat. "What Is Art? ." <http://alasad.wordpress.com/2010/04/01/art>.
- Artbay Gallery. "Artist Profile: Louise Mcrae " <https://www.artbay.co.nz/collections/louise-mcrae>.
- Bauzano, G. . *Roberto Capucci: Timeless Creativity*. Milan: Skira Editore, 2001.
- Casal-Data, V. "Peter Gentenaar's Paper Sculptures Inspired by Plant Life " <http://hifruuctose.com/2014/02/17/peter-gentenaars-paper-sculptures-inspired-by-plant-life>.
- Chanel. "Handbag Stories " https://www.chanel.com/th_TH/fashion/collection/handbag-stories-classic-handbag.html.
- Chantavit, N. . *Pha Lae Karn Tanggai Nai Samai Boran Jhak Jittakum Pha Panang Bon Phra Teenung Putthai Sawan Phra Ratchawang Bavorn Sathan Mongkol (Garment and Costumes from the Murals at Phutthaisawan Buddha Image Hall of Boworn Sathan Mongkol Palace)*. Bangkok: Department of Fine Arts, 2002.
- Chien, W. "About/Faq." <http://www.windychien.com/about>.
- Chien, W. . "The Year of Knots." www.windychien.com/yearofknots.
- Coles, R. "About." <http://www.rebeccaicoles.co.uk/about>.
- Dejwitthayaporn, P. . *Pha Thai Gub Withee Cheewit Khong Khon Thai (Thai Garment and the Thai Lifestyle)*. Bangkok: Modern Academic Center, 2005.
- Department of Fine Arts. *An Illustrated Book of Costumes Based on Historical and Archaeological Evidence*. 7 ed. Bangkok: Sammit Publishing, 1972.
- Designer. "Fashion Designer – Iris Van Herpen." <http://www.designer.co.th/861>.
- Duignan, B. . "Postmodernism " <https://www.britannica.com/topic/postmodernism-philosophy>.
- Edema, K. "Unfolding the Life of Peter Gentenaar." <https://kaseyedema.weebly.com>.
- Editors of Encyclopædia Britannica. "Deconstruction." <https://www.britannica.com/topic/deconstruction>.
- iUrban. "Issey Miyake." <https://www.iurban.in.th/design/isseymiyake>.
- Jansen, C. "Burberry Explores Henry Moore's Vision of the Body at Makers House." <https://www.wallpaper.com/fashion/burberry-makers-house-exhibition-marries-henry-moore-sculpture-with-fashion>.
- K. Alesandrini, L. Larson. *Teachers Bridge to Constructivism*. The Clearing House, 2002.
- Kerdharn, T. . *Karn Tanggai Samai Thai Mung – Thongburi (the Costumes of Thai Mung to Thonburi)*. Prathumthani, Thailand: Sky Books, 2011.
- Kurowat, P. . *Khu Mue Prawat Kreung Tanggai (Handbook on History of Costumes)*. 2 ed. Bangkok: Vocational and Technological School, 1980.
- McRae, L. . "Louise Mcrae." <https://www.saatchiart.com/louisemcrae>.
- . "Writing." http://louisemcrae.com/?page_id=29.
- National Identity Office. *Karn Tanggai Thai: Vivatthanakarn Jak Adeet Su Patjuban (Thai Costumes: The Evolution from Past to Present)*. Vol. 1, Bangkok: National Identity Office, 2000.
- . *Rajapastraporn*. Bangkok: National Identity Office, 2004.
- Nawigamune, A. . *Thai Costume in the Rattanakosin Period* 2ed. Bangkok: Mueang Boran, 2004.
- Pacheco, A. . "Paper Sculptures/ Richard Sweeney " <http://www.evolo.us/architecture/paper-sculptures-richard-sweeney>.

- Patindhu, C. . *Yook Samai Krueng Tanggai Thai (the Age of Thai Costumes)*. Bangkok: Odean Store Printing House, 1992.
- Philadelphia Museum of Art. "Roberto Capucci: Art into Fashion " <https://www.philamuseum.org/exhibitions/411.html>
- Positioning. "Swarovski Partners with Iris Van Herpen " <https://positioningmag.com/1133701>.
- Ratchawet, O. . *Karn Tanggai Thai Siam (Thai-Siamese Costumes)*. Bangkok: Bangkok Cartoonist, 2000.
- Rhodes, M. "This Artist Tied One Knot for Every Day of 2016. The Results Are Gorgeous " <http://www.wired.com/2017/01/artist-tied-one-knot-every-day-2016-results-gorgeous>.
- Ross, N. . "Peter Gentenaar's Ethereal Paper Sculptures Float in the Air Like Jellyfish." <https://inhabitat.com/peter-gentenaars-stunning-paper-sculptures-soar-through-the-air-like-flying-jellyfish>.
- Roy, A. "We Met Rebecca J Coles (Paper Artist) in Her Workshop " <http://www.fondazionecogni.it/en/interviste/ar/rebecca-j-coles>.
- S. Papert, I. Harel "Situating Constructionism " <http://www.papert.org/articles/SituatingConstructionism.html>
- Saekhow, A. . *Karn Tanggai Thai (Thai Costumes)*. Bangkok: STP World Media, 1998.
- Sataporn Books. "Draped Garments of Asean." http://satapornbooks.co.th/SPBcommunity/novels_episode/4862/15/ตอนที่-15--ผ้าถุง-ผ้าถุง--ของคนอาเซียน.
- Schoeser, M. . *International Textile Design*. Hong Kong: Laurence King Publishing, 1995.
- Strategy, J. . "Intricate Modular Paper Sculptures by Richard Sweeney " <http://www.thisiscolossal.com/2015/01/intricate-modular-paper-sculptures-by-richard-sweeney>.
- Sweeney, R. . "Biography." <http://www.richardsweeney.co.uk/biography>.
- Taschen, A., Taschen, B. *L'architecture Moderne De a à Z*. Bibliotheca Universalis, 2016.
- Tate. "Art Term: Postmodernism " <http://www.tate.org.uk/art/art-terms/p/postmodernism>.
- Thanaprasitpattana, S. . *Karn Tanggai Satree Gub Hatthagum Thorpanai Sangkhom Thai Samai Rattanakosin (Women's Costumes and Weaving in Thai Society During Rattanakosin Period)*. Bangkok: Chulalongkorn University Printing Press, 1999.
- Viravaidya, P., Diteeyont, V. *Thai Ladies of Illustrious Fame Who Are Held in High Esteem by Her Majesty the Queen*. Bangkok: TNAT Printing Press, n.d.
- Watjanasoonthorn, P. "Top 5 Works by Alexander Mcqueen " <http://hommesthailand.com/2018/02/ชื่อนร่าลึก-5-ผลงานสุดเจ๋ง>.
- Wongsingthong, P. *Prawattisart Silapa Kreung Tanggai (History of Costume Arts)*. Bangkok: Infomedia International, 2004.

VITA

NAME Mayrissara chantarat
DATE OF BIRTH 24/05/1963
PLACE OF BIRTH Bangkok
INSTITUTIONS ATTENDED M.F.A. Ramkhamhaeng University
HOME ADDRESS 91/46 Maneerin vil ,soi tha-it ,muang distric , nonthaburi 11000

