THE ART OF DESIGNING, FABRIC PATTERN
BY MOLD WITH NATURAL DYES

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ABSTRACT
This research on “The Art of Fabric Patterns Designing by Using Natural Printing Plates and Dyes” aims to find the fabric patterns designing process by using natural printing plates and colors leading to the design of 3 scarf patterns. For these 3 patterns, the researcher studied on patterns from 6 types of printing plates obtained from natural materials including mango leaves, apples, white radish, lotus root, Bodhi leaves, roselle, and seaweed. Subsequently, patterns obtained from natural molds were designed and composed. Natural colors were selected and developed as 3 contemporary scarf patterns that were beautiful and colorful.

Keywords—Natural Printing Plates, Natural Dyes, Fabric Pattern

INTRODUCTION
Currently, there are several people overlooking the problems of pollution and environmental effects caused by wastewater generated by chemical dyeing. On the other hand, they mentioned on disadvantages of natural dye regarding its durability against washing and light. As long as this mindset still exists, valuable local wisdom, especially on products obtained from natural mold and colors may be disappeared finally. How to survive and inherit this local wisdom?

The use of natural mold for designing patterns is another eco-friendly guideline. Natural molds are made of natural material including leaves, flowers, vegetables, and fruits, etc., that are used as molds for printing various patterns. Materials that will be used as molds should be made of appropriate materials without any danger including:

1. Generally available materials;
2. Materials with explicit patterns;
3. Materials that are not dangerous for utilization, for example, have no sharp prickle;
4. Materials with hard surface or consisted of small amount of water, therefore, color can be painted on its surface properly;
5. Materials with proper size and convenience for utilization

Based on above information, the researcher gave an effort to study on fabric patterns design process by using natural molds, for example, leaves, flowers, vegetables, fruits, etc. In addition, the researcher also improved colors obtained from natural materials to have similar properties as those of synthesized colors. Consequently, naturally gorgeous contemporary fabric patterns would be obtained that were also eco-friendly.

This research was conducted to build knowledge on patterns design obtained from natural molds and colors as well as to help to lower pollution caused by wastewater generated by the use of synthesized colors in dyeing. Moreover, this research also helped to conserve good environment to be with Thai society further. Accordingly, the researcher conducted a research on “Art of Fabric Patterns Design by using Natural Molds and Colors: Case Study of Techniques and Process of Fabric Patterns by using Natural Molds (e.g., Leaves, Flowers, Vegetables, Fruits, etc.) and Colors extracted from Natural Materials”.

OBJECTIVES
1. To study on history, background, types, forms, techniques, and fabric patterns printing by using natural molds.
2. To study on dye extraction from natural materials that can be used in dyeing.
3. To study on fabric patterns design process by using natural molds.
4. To build knowledge to be consistent with instruction and development of design under the topic of fabric patterns design and natural color dyeing of FAD3607 Thai Local Textile Course
METHODOLOGY

I. Data Collection

This research is considered as a pure research that was conducted to study and seek for academic knowledge in order to build knowledge on “art of fabric patterns design process by using natural molds and colors: case study of techniques and process of fabric patterns by using natural molds (e.g., leaves, flowers, vegetables, fruits, etc.) and colors extracted from natural materials”.

Conceptual Framework

II. Data Analysis

The researcher collected data from the experiment on printing fabric patterns obtained from 7 types of natural materials then such data were analyzed with the criteria on data analysis regarding shapes of patterns created by natural molds. Data obtained from such analysis would be used as the guidelines for further fabric patterns design.

<table>
<thead>
<tr>
<th>Materials used for making molds</th>
<th>Patterns obtained from printing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>mango leaves</td>
<td></td>
<td>Obtained patterns were consisted of frame lines upon the shapes of mango leaves. In addition, its fibers could be seen clearly.</td>
</tr>
</tbody>
</table>
Table 2  
Table of the Mold Analysis 2

<table>
<thead>
<tr>
<th>Materials used for making molds</th>
<th>Patterns obtained from printing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut apples</td>
<td><img src="image" alt="Patterns" /></td>
<td>The core of pattern created by horizontal line resembled five-pointed star.</td>
</tr>
</tbody>
</table>

Table 3  
Table of the Mold Analysis 3

<table>
<thead>
<tr>
<th>Materials used for making molds</th>
<th>Patterns obtained from printing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>white radish</td>
<td><img src="image" alt="Patterns" /></td>
<td>Obtained pattern resembled a rose with layered petals.</td>
</tr>
</tbody>
</table>

Table 4  
Table of the Mold Analysis 4

<table>
<thead>
<tr>
<th>Materials used for making molds</th>
<th>Patterns obtained from printing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>lotus root</td>
<td><img src="image" alt="Patterns" /></td>
<td>Obtained pattern resembled combination of oval channels.</td>
</tr>
</tbody>
</table>
### Table 5
**Table of the Mold Analysis 5**

<table>
<thead>
<tr>
<th>Materials used for making molds</th>
<th>Patterns obtained from printing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodhi leaf</td>
<td><img src="bodhi_leaf.png" alt="" /></td>
<td>Obtained pattern was consisted of frame line of Bodhi leaf with clear lines of its leaf lines.</td>
</tr>
</tbody>
</table>

### Table 6
**Table of the Mold Analysis 6**

<table>
<thead>
<tr>
<th>Materials used for making molds</th>
<th>Patterns obtained from printing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>roselle</td>
<td><img src="roselle.png" alt="" /></td>
<td>Pattern of its outer frame was the shape of pentagon with clear five channels.</td>
</tr>
</tbody>
</table>

### Table 7
**Table of the Mold Analysis 7**

<table>
<thead>
<tr>
<th>Materials used for making molds</th>
<th>Patterns obtained from printing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>seaweed</td>
<td><img src="seaweed.png" alt="" /></td>
<td>Obtained pattern showed leaf’s lines scattering as the bunch of the top of seaweed clearly.</td>
</tr>
</tbody>
</table>
RESULTS

The researcher concluded the results of fabric patterns design by using natural molds and colors that there were 3 obtained patterns and the conclusion was obtained by collecting data of Chapter 1 - 3. Subsequently, the research analyzed and synthesized such data in order to gain the guidelines of fabric patterns design. Those three obtained fabric patterns were as follows:

**Pattern 1**

**Figure 2**

The contribution of fabric patterns design 1

Obtained patterns were created by using several types of natural molds in order to adjust printing patterns to suit with development of scarf design. Such created patterns were consisted of printing patterns created by the following natural materials: Seaweed, Cut apple, Potato and Sweet pepper.

**Figure 3**

Such patterns would be developed as scarf pattern 1

Patterns obtained from the Pattern 1 contribution were repeated in order to be developed as patterns for scarf.

**Pattern 2**

**Figure 4**

The contribution of fabric patterns design 2
Obtained patterns were created by using several types of natural molds in order to adjust printing patterns to suit with development of scarf design. Such created patterns were consisted of printing patterns created by the following natural materials: Mango’s leaf, White radish, Bodhi leaf, Cut apple and Lotus root.

**Figure 5**

Such patterns would be developed as scarf pattern 2

Patterns obtained from the Pattern 2 contribution were repeated in order to be developed as patterns for scarf.

**Pattern 3**

**Figure 6**

The contribution of fabric patterns design 3

Obtained patterns were created by using several types of natural molds in order to adjust printing patterns to suit with development of scarf design. Such created patterns were consisted of printing patterns created by the following natural materials:  Seaweed, Cut apple and Crafted pumpkin.

**Figure 7**

Such patterns would be developed as scarf pattern 3

Patterns obtained from the Pattern 3 contribution were repeated in order to be developed as patterns for scarf.
DISCUSSION

From the study on art of fabric patterns design process by using natural molds and colors: case study of techniques and process of fabric patterns by using natural molds and colors extracted from natural materials, it was found that most natural molds used in this design were materials that can create patterns by their outer surface or inside surface (obtained from cutting), etc. To select materials for using as natural molds, materials with explicit patterns that may not cause any danger against printing should be selected. Those materials were generally available materials, with explicit patterns that are not dangerous for utilization, for example, have no sharp prickle, with hard surface or consisted of small amount of water, therefore, color can be painted on its surface properly, and proper size and convenience for utilization. After selecting demanded molds from natural materials, fabric patterns should be designed by composing obtained patterns beautifully for developing as scarf patterns.

In this research, the researcher designed patterns by using natural materials therefore some lines of some patterns were not clear. Accordingly, to select materials as molds, such materials should have clear surface for clearer patterns. Consequently, higher level of variety and novelty of fabric patterns design would be created.

REFERENCE

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