

## Engineering Design of Traditional Gorontalo Motif for Learning *Karawo* Embroidery

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### Abstract

This research is conducted based on present less of different motif which contains characteristics of Gorontalo locality. This research aim to investigate the process of engineering and learning the application of traditional Gorontalo motif designs. The study uses a qualitative method. Research finding reveals that the craftsmen can apply *karawo* motif for woman's blouse, then for a shirt and *jilbab*. The learning process run in several stages namely; 1) Preparation stage which is preparing design of *karawo* motif and tools (cutter, scissor, needle, *pamedangan* (certain place for weaving certain fabric), centimeter and cotton as well as string); 2) learning stage which is a) preliminary activity that encompasses greeting and delivering learning goals as well as checking attendance of the craftsman, b) main activity that encompasses distributing design of *karawo* motif, determining motif position on the fabric, doing cut-take off the string, weaving process of *karawo* and finishing as the last stage. The finishing process is done by *merawang*, and c) closing activity. 3) Evaluation. In conclusion, the craftsmen are able to apply *karawo* motif well and based on the process stages.

**Keywords:** Learning, Embroidery, *Karawo*, Motif, Gorontalo.

### Introduction

Indonesia, an archipelago country, has many types of culture as an identity of each region such as traditional fabric that comes from every culture in Indonesia. Every region has its own unique traditional fabric that is not owned by other countries (Hasdiana, 2017).

Nusantara fabric has a highly-priced value because of the complicated process of manual work and its philosophical motifs such as *Karawo* fabric as the product of Gorontalo's society – designing, cutting, and drawing certain parts of textile fiber to create a base surface then filling the textile fiber that has been drawn with the various embroidery motif (Sudana, Suparno, Slamet, & Dharsono and Guntur, 2018). The technique of making *Karawo* embroidery started from the making of motif, perforation, embroidery is still done manually.

The various creative innovations are made in order that *Karawo* embroidery progresses continually. Nowadays, *Karawo* embroidery which is only fabric can be found as material for a woman's blouse, a shirt, and *jilbab* (female headgear that exposes face but not ears, neck, or hair). The current *Karawo* motifs are still related to the common design and type which is a common feature of motifs in Indonesia, so the uniqueness that reflects the personality or tradition originating from the customs and diversity of Gorontalo society is not found.

Some aspects that obstruct the progress of *Karawo* are namely design, market, material, and many craftsmen that change their profession, whereas based on KBI Gorontalo (2009) research, *Karawo* embroidery is one of the local geniuses which is potential to be developed (Rahmatiah, 2014).

An effort in order that sustainable innovation can be done is by engineering the motifs through two stages namely the development of process and motifs. The development of motif is carried out by creating design engineering (Murwati, Sri, & Masiswo, 2013) with ideas that contain local wisdom including determining the shape and size of the motif and the process carried out on *Karawo* embroidery learning for craftsmen.

The result of interview which has been conducted with one of the craftsmen in Wanita Serasi cooperation, Mom. Sartin Zakaria (Sartin, 2017), states since the embroidery business which she built in 2012, the motifs used are flora motifs, corn motifs, coconut motifs, floral motifs and fauna motifs, so that the motif on Karawo produced does not have a characteristic and seems repetitive.

Therefore, Wanita Serasi cooperation should have a motif designer in order that the motif that is used is not monotonous and can develop continually based on the era. But in the reality, it cannot be realized because the craftsmen ability is limited in the ability to slice, embroider, and wade. Consequently, it will be held the learning of *Karawo* embroidery by applying the engineering of the traditional Gorontalo motif. The learning stages are planning, implementation, and evaluation.

## Method

This research uses a qualitative descriptive and the location of this research is in Gorontalo because many craftsmen are still exist in embroidering *Karawo* and they have done it for many years.

The data source which is collected is primary data – the data that have been got from interviewing the informant in Wanita Serasi cooperation – and the secondary data – the data that have been got from the documents and books related to the topic of the research. Qualitative research theory is used in order that the research can really be of high quality and the collected data must be completed – primary and secondary data (Suharsimi, 2010).

The method of collecting the data is observation, interview– structured interview – and documentation. After the data are collected, the data are analyzed by analyzing the problems and the existing data from all sorts of sources. This research studies about the problem in Wanita Serasi cooperation namely the lack of motif variety used in the production of *Karawo* embroidery. After knowing the problem, the craftsmen will be trained to apply the design engineering to produce the traditional Gorontalo motifs.

Learning stages:

1. Preparation Stage,
  - a. Creating design engineering
  - b. Preparing Millimeter Block Paper
  - d. Preparing the tools and materials
2. Learning Process,
  - a. Introduction
  - b. Main activities
  - c. Closing
3. Evaluation,
  - a. Evaluation of the motif applied in the blouse
  - b. Evaluation of the motif applied in the shirt
  - c. Evaluation of motif applied in *Jilbab*

## Results and Discussion

In the first step, the ideas about the inspiration source to set the main idea in creating this motif design, what should be prepared, what form must be made, and how to realize it are taken.

To get all descriptions, the observations are done. As for the observation, it is focused on Gorontalo local wisdom, literature review, documentation, visiting the exhibitions and art galleries, or finding other relevant supporting-data.

After the data have been collected, the analyzing, the reviewing of the literature from some sources, and the consideration of some data to decide the best idea which can be used to create traditional motif design of Gorontalo based on the first stage are done.

### The Exploration of Gorontalo Local Wisdom

From a series of exploration activities carried out, some ideas and concepts which become the basic motif design engineering of Gorontalo for *Karawo* have been found. All ideas are from Gorontalo local wisdom such as a traditional dress for Gorontalo bride – *Bili'u* and *Walimono* – and ornamental art in historical buildings. The motif on *Bili'u* crown is the symbol of the marriage customs of Gorontalo people which is combined harmoniously in symbolic meaning (Isnawati, Suleman, Sukma, & Nurilawati and Agus).

The ideas and concepts are as follows:

1. *Kecubu* exploration; chest and hand cover on *Bili'u* (bride dress);
2. *Pangge* exploration; stalks that are plugged into *Bili'u* and the decoration on it in the form of a rooster
3. *DuungoBitila* exploration; breadfruit leaves.

Besides verbal idea and concepts, exploration is also successful in identifying the types of *Karawo* embroidery. There are three types of embroidery based on the workmanship namely 1) tie *Karawo* technique using festoon stitch; 2) Manila *Karawo* technique using basting stitch and; 3) Kristik *Karawo* technique using cross-stitch. Manila *Karawo* technique is the most popular than others because it is so simple to do it while tie *Karawo* technique is often used for household linen and Kristik *Karawo* technique is seldom used.

The target of success in the exploration phase in this study is to find the idea or the concept that can be achieved. Then, the idea or concept based on Gorontalo local wisdom elements is used as a basis for engineering motif designs by considering and adapting the technique of making *Karawo*.

### Preparation Step; Engineering Traditional Gorontalo Motif Design

To make easier in the realization, the selected Gorontalo motif design sketches are made in the form of work drawing. The work drawing has counted the size of each traditional Gorontalo motif design sketch with a certain scale and detailed picture of the motif. The making of work drawing is tailored to the need or the complexity of each sketch.

1. *Kecubu* Motif Engineering

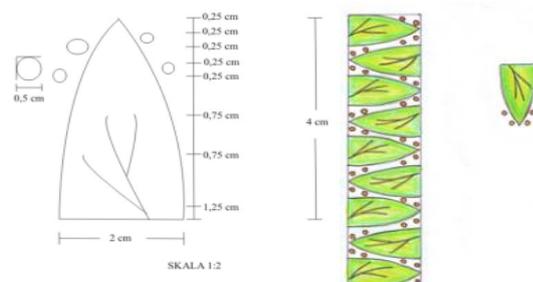


Figure 1. Result of *Kecubu* Motif Engineering

2. *Pangge* Motif Engineering

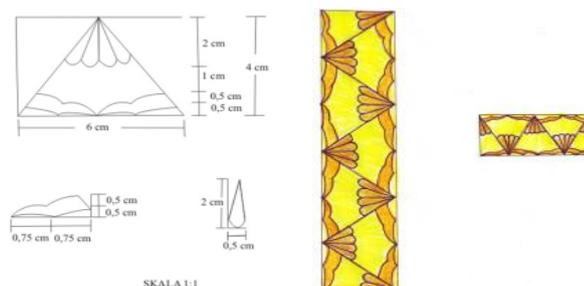


Figure 2. Result of *Pangge* Motif Engineering

### 3. DuungoBitila Motif Engineering

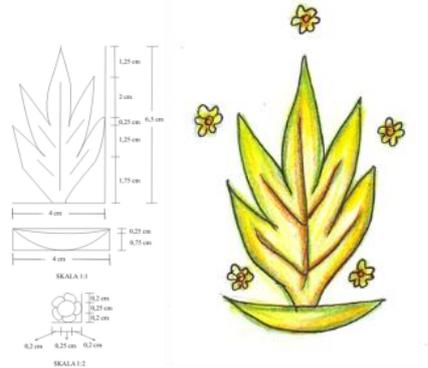


Figure 3. Result of *DuungoBitila* Motif Engineering

After making engineering designs of traditional Gorontalo motifs, it is continued by making *Karawo* pattern to be made on millimeter block paper, where the distance of each line is 2 millimeters (the size of the distance of each line should not be less than 2 millimeters because the size is adjusted to plain woven cloth that will be embroidered). In one box, there are ten lines, so each large box is 2 centimeters.

#### Learning Process; *Karawo* Embroidery with Traditional Gorontalo Motif

Before starting the lesson, the first step is preparing the tools and materials which are needed when making *Karawo* embroidery in WanitaSerasi business cooperation. The stages of implementation are as follows:

1. Preparation Phase; in this phase, before starting the learning process, things that must be prepared are
  - a. Preparing the patterns according to the motif
  - b. Preparing the tools and materials that will be used such as scissors, razor blades, needle, centimeters, tambour beading, cloth, ordinary threads, embroidery threads, and threads of gradation embroidery
2. Learning process phase; the learning of *Karawo* embroidery with traditional Gorontalo motif has been held for 4 days – preliminary activities, core activities, and closing activities. The duration for each activity is different (see table 1).
3. Closing phase; at this stage, the daily learning activities are closed with the conclusion of the material presented on that day, and before closing, the activities that will be held on the next day to the fourth day will be explained.

Table 1. Use of Time on Learning Process of *Karawo* Embroidery with Traditional Gorontalo Motif

Process	Implementation of <i>Kecubu</i> Motif on Shirt	Implementation of <i>Pangge</i> Motif on Blouse	Implementation of <i>Kecubu</i> Motif on <i>Jilbab</i>	Explanation
Deciding the motif	15 minutes	15 minutes	15 minutes	Finished
Slice and Unplug	30 minutes	30 minutes	1 hour	Finished
Embroidering	6 hours	6 hours	8 hours	Finished
Finishing	25 minutes	25 minutes	1 hour	Finished
Total	7 hours 10 minutes	7 hours 10 minutes	10 hours 15 minutes	

## Evaluation

From the lesson that has been learned, there are six products of Karawo embroidery with traditional Gorontalo motif that have been produced namely 2 shirts using *Kecubu* motif, 2 blouses using *Panggemotif*, and 2 *Jilbabs* using *Duungo Bitila* motif which can be finished well according to the planned time.

Based on the evaluation result, it can be seen that the time which is used to finish the implementation of *Duungo Bitila* motif is longer than others, 10 hours 15 minutes.

It is caused *Duungo Bitila* motif which is embroidered on *Jilbab* needs symmetrical placement in the motif shape and size in which the size and the color should be balanced between right and left side.

Whereas *Kecubu* and *Pangge* motifs which are used in blouse and shirt only need 7 hours and 10 minutes, it is caused the repetition of motifs with the same size and shape is occurred in *Kecubu* and *Pangge* motifs, so it makes easier in the production process.

## Conclusions

*Karawo* embroidery learning through traditional Gorontalo motifs is considered to be able to be an alternative solution for craftsmen to add a variety of motifs which has seemed monotonous and do not contain local values.

Craftsmen are expected to be able to motivate themselves to further explore ideas to create distinctive motifs, so there is no recurrence in the use of motifs and an increase of the quality of the product produced can be occurred.

## Acknowledgments

The researcher gives acknowledgment to the faculty of Engineering, Gorontalo State University, minister of Research, technology and higher education, Institute for Research and Community Service for funding and facilitating this research.

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