

# Development of Teaching Materials in Training Batik Based on Local Culture

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**Abstract**—This paper is based on the development of teaching materials that are used for batik training with the title "Development of Local Culture Batik Based in Agam West Sumatra, Towards a Global Market". It is carried out, in line with government efforts to encourage local batik industry grow and develop in West Sumatra, one of them being SMEs Batik Natural Minang Takambang located in Nagari Batu Palano district. Puar River District. Agam, West Sumatra Province who became a partner in the Regional Superior Product Development Padang State University.

As regional superior of SMEs Batik Natural Minang Takambang encouraged to evolve together with other batik that has been previously developed in Java. The method in

developing these materials is the Research and Development with a research model 4D comprising the steps of defining, planning, development and deployment phase.

Teaching materials developed deemed usable by the batik training participants in the learning process, based on the result of data validity and practicalities, with the result of 83.35% category of very valid. While the practicalities of test data with the result of 85.89% category very practical. It can be concluded that the teaching material worthy batik used as a medium of learning in the subject of textile analysis.

**Keywords**—Teaching Materials, Training, Batik, Based, Minangkabau

## I. INTRODUCTION

The technique of batik is basically a writing technique on cloth using the wax and canting media, there is also a saying painted on cloth. (1) it is said also that batik is a technique of making the design (drawing) on the fabric surface by covering certain parts by using wax, after that they was given color by using dipped or got a brush, in indonesia people said *dicolet* ".

The batik's process is a delicate art work is done by handmade, therefore it needs patience.(2)not everyone is able to do the job for batik, it need patience and diligence. Basically, batik is develop by the dots become a motive that become a high-quality of craft ". To develop the batik craft is not tied to any particular motive or motives that had been there before, a variety of local motifs can be developed into a batik's motif.

To develop new motifs based on local culture, it need an understanding of the traditional art and the aesthetic of traditions, as well as technical skills and aesthetic. Batik has design as part of the art, and it strongly influenced by traditional art and customs regulations. Religion and beliefs factors also played a role in determining the shape and character of the art of batik produced as visual objects.(3) "batik craft is also inseparable from the religious culture as seen in the motives which influenced by Hindu and Muslim, Chinese and European culture; but at the same time it does not limiting the presence of religious motives ". Therefore, if you want to innovate based batik local culture, you should be based on the values of the community philosophy, which is a fusion concept of religion,

However, in the development of batik in West Sumatra is a bit slowly. It is because the culture of the people in West Sumatra has not found the

craft of batik which is really rooted in their life society. West Sumatran society in general is an agrarian society, the development of batik craft is a new art for them. Therefore, in terms of technique and batik skills training needs to be done to create the resource. Likewise, the development of batik decoration, in small industry in West Sumatra, has not seemed to use motifs in West Sumatra, and even that has been developed is the image of traditional house they call the *rumah gadang*, whereas in the *rumah gadang* there are various motives that can be developed into a batik's motif.

Therefore it has made the development of teaching materials that can be used in training batik and can be used in self-directed learning. Teaching materials is one important part of the learning process.[4] In the teaching materials, there are various teaching materials associated that can be used as a teaching resource containing learning messages, which can be use for the prossess of learning.

Then the module of batik developed was made as teaching material in training made that accordance with the interests of the study's place.[5]Then for training materials, it contains in a systematic way, having a systematic structure and sequence, so you can easily follow and learn by a trainee, so the difficulties they encountered not become barriers to learning".

Therefore, the development of teaching materials on batik training can be used by batik craftsmen in West Sumatra, it need to load the main materials: an introduction to the art of batik, batik techniques and the development of decorative Minangkabau (West Sumatra) to be an art of Batik. The method that used in this developing module is Research and Development (R & D).[6]The activity began with research to get the information about the user's needs (needs assessment), followed by development to produce new products.[7]The new product is designed to systematically then field tested, evaluated, and refined to meet certain criteria that is valid and practical. [8] There are four stages in this development model, that are: to define, design, development, and dissemination.

## II. METHOD

Type of data collected in this study are primary data. The first data validation result of the validator. The second data has gotten from trials conducted in the field on a trainee. The data analysis technique based on the analysis of the

validity and practicalities of teaching materials analysis.

## III. RESULTS AND DISCUSSION

### 1. Batik knowledge

Batik name comes from the word "mba" and "tik" which means to make points. [1] batik is a technique of painting on fabric by using the wax and *canting*. The wax is used as the color barrier in order not come out in unwanted areas.[2] Batik is the cultural heritage of the identity of the nation and must be preserved. Batik fabrics favored by the public, which is worn as clothing, household supplies, other craft items. Batik has a tradition of cultural heritage value is very valuable because the craft of batik has been able to uplift the nation's culture to the world competition arena textile Abroad, because of the qualityn ethnicity and technical, as well as its uniqueness. [4] Batik is closely related to religion as seen in the motives which influenced by Hinduism and Islam, by the Chinese and European culture; but at the same time at the same, it does not limit the presence of religious motives". Therefore, batik is a cultural art philosophy contains the values of society, which is a fusion concept of religion, belief and culture.

From the above opinion can be concluded that, batik is a textile product made from plant fibers or silkworms. Batik is the result of the process of closing the pores of the mori (fabric) with a wax on the surface mori (fabric) that following the motive. Batik cloth is one manifestation of pride of Indonesian society over the nation's cultural heritage. (UNESCO) officially recognize batik as world intangible heritage (intangibele) from Indonesia, October 2009 ". Recognition on Batik UNESCO as a world heritage originating from Indonesia is not permanent in nature. The status may be terminated if the Indonesian people as heir to the tradition of art [4].

### 2. The prossess of batik

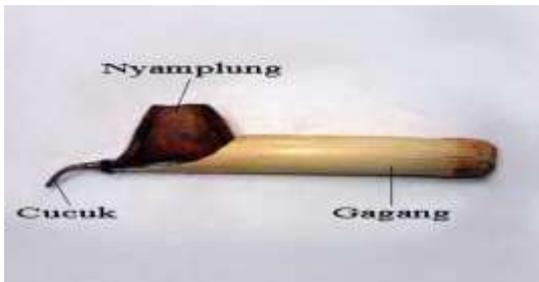
Batik begins with a design first. Batik design which has been made based on the Minangkabau motives for the first stage is processed into batik. batik designs that have been so directly transferred to testil (mori) in accordance with the expected pattern layout. As for batik designs that have been so made into a stamp seal, as a means to move the motif to mori, and then processed with batik technique, so that it becomes a batik cloth.

#### a. The tools for produce batik

In the first phase of this experiment tools used to make batik by canting board, canting seal, pans, stove, wicket, and a table or bearing for batik, as well as a brush to *mencolet*. Below is described one by one.

**Canting tulis (write) hair and canting Cap.**

The main Canting is used for batik today. there are two kinds of canting ; canting canting seal and write. The Write canting in the form of small canting tool that consists of a beak, Nyamplungan (container to take fluids nights) and bamboo as a handle. Canting is the main tool to make batik. Canting do not need to be made by the craftsmen it self, it sold in the market.



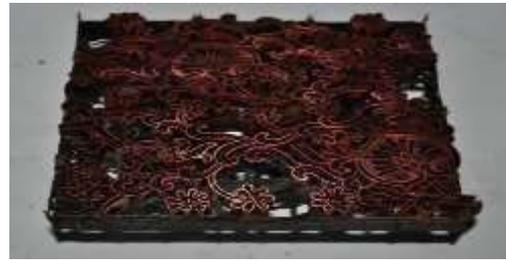
Picture 1. Write Canting (*Cating tulis*)

Write canting kind used to make batik determine the fineness and neatness of the work. Canting there are several kinds according to the function, size and number of beak. Canting can be differentiated as follows: (1) According to function there are two kinds of canting *Reng-rengan*, *bercucuk* medium and single use specially to create the pattern and *Isen Canting*, and the other kind is *bercucuk* small used to fill in the fields or fill pattern. (2) According to its size beak canting consists of *canting carat* / beak small, medium and large, and (3) According to the number of beak, namely *Canting cecekan* (*bercucuk* one small), *Canting Loron* (*bercucuk* two berjalar), *Canting Talon* (*bercucuk* three), *canting Prapatan*, (*bercucuk* four), *canting Liman* (*bercucuk* five), *canting Byon* (*bercucuk* composed of seven or more circles),

Canting seal made by batik design motif carving decorative innovation Minangkabauists designed by the research team. To create a canting seal takes approximately one month. Results batik canting influenced by the perfection of form. Canting seal can be created with the employment in the builder in accordance with the desired design and do not need to create your own.



Picture 2. develops motifs carved into the motif



Picture 3. Canting Cap with Motifs Carved Innovation Minangkabau

**Gawangan** used to spread mori that already possessed by canting that does not crack and it also used for coleting the wicket. *Gawangan* made by rectangular bamboo. *Gawangan* serves to implicate as batik cloth. *Gawangan* shape used in the work of this innovation can be seen in the picture below.

**Pan** used in this experiment is a flat-shaped frying pan with a diameter of 40 cm, which is used to heat up the wax. *Wok* made of copper or wax. *Stove* used to heat instead is a gas stove to heat a small fire.

**Brush** used to paint batik dab system. Brush used based on their needs. For small motifs using a small brush and at the time of coloring motive medium and large motifs using a brush for medium-sized and also the large.

**The main ingredient** for batik is cotton materials or silk. **This** Materials for batik is called mori. Mori is the main material I for making batik, mori variety of materials can be used, among other things: cotton primisima, prima cotton, silk, china dobi, calico, and Viscos. The purpose of using materials as diverse in this trial was to see the results of innovation of each ingredient.

**Wax** is used as a material to cover parts that have not been colored in mori, that has been determined. Tonight used four kinds of appropriate according to the nature and usefulness as follows. (1) Night strips, the color is a bit yellow, not easily cracked bending its great adhesion, it helps to create a smooth batik. (2) hours of images, color is pale yellow, its easy to crack, the point is to make *remekan* (cracked color effect). (3) hours tembokan, the color a little bit brown, viscous nature, the point to close the block

(white). (4) hours Biron, the color is brown again, point to close or brickwork.

**Pigment** used is on training diguakan procion dye. Dyes procion chosen as the material for dye staining dab it easy to generate color. Before got coleting procion powder dissolved in advance with a mixture of baking soda and warm water and Tepol. Baking soda and Tepol serves to open

pores that facilitate the absorption of color mori. In addition to the resulting color of the dye procion some existing ones, the color can also be produced by mixing several different procion dye. Therefore, the dye to be used should be made as needed for each color mixing does not necessarily produce the same color.

**3. The Process of Batik**

During the preparation stage to do is to prepare all the necessary equipment and materials. Preparing mori is a major factor in producing high quality batik. Therefore, before the batik was done, measuring and cutting mori,

soak (ngetel), sunning mori, and hit with a wooden mallet mori (ngemplong). Steps batik is done, can be grouped into tga stages, which are described in the following table 1.

Table 1. The Process of Batik

1. Preparation	a) Prepare all equipment b) preparing materials
2. batik	a) Mori soak for one night, to remove wax on mori b) Canting prossess with wax at mori by using canting seal c) Mori soak into the liquid Tepol d) Coloring with dyeing techniques e) Drying-mori f) Mencolet color g) Brick color (if necessary) h) Coleting prossess dunk and do the appropriate amount of the desired color.
3. Completion	a. Eliminate wax technique melorod b) Drying mori c) c) Fold and store the results of batik.

**4. Variety of Ornamental Engraving Minang kabau as a Source of Innovation Batik**

Carving generally found on the walls of the outer panels and boards. On the inside is not carved, engraved if only in certain places, such as on doors and windows as well as ventilation. Development adapted to batik techniques. A

decorative carving into batik decoration can not be transferred directly, need to adjust and change the lines and shapes correspond with batik techniques. Below motifs carved names and motifs carved Minangkabau Minangkabau in the following table 2.

Table 2. The Names of the Motif Minangkabau

Flora	Fauna	Benda lainnya
- Aka bapilin	- Alang babega	- Ampiang taserak
- Aka barayun	- Bada mudiak	- Carano kanso
- Aka Cino	- Barabah mandi	- Dama tirih
- Aka duo gagang	-Gajah badorong	- Tanguak lamah
- Aka sagagang	- Harimau dalam parangkok	- Jarek takaka
- Buah pinang	- Itiak pulang patang	- Kaluak laka
- Bungo cangkeh	- Kalalawa bagayuik	- Kambang sitinjau lauik
- Buah kaladi	- Kijang balari	- Kambang paposikumbang
- Bungo duo tangkai	- Kuciang lalok	- Lapiah ampek
- Bungo labu	- Kudo manyipak	- Maniak jarang
- Bungo panco matoari	- Kunang-kunang	- Pesong aia buiah
- Bungo pitulo	- Limpapeh	- Puti ambun suri
- Bungo lado	- Labah mangirok	- Rajo saari
- Bungo mangarang buah	- Lokan-lokan	- Saik galamai
- Bungo mantimun	- Paruah anggng	- Sajamba makan

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- Bungo taratai	- Ramo-ramo	- Saok kapuran
- Daun bodi	- Ruso balari	- Sanggan uran pasaka
- Daun kacang Goreng	- Siku kalalawa	- Sigarjo lalai
- Daun puluik-puluik	- Sikumbang janti	- Sikumbang manih
- Daun sakek	- Sipadeh manyasok bungo	- Sijinjaw lauik
- Daun satangkai	- Takuak kudo manyipak	- Tanguak lamah
- Daun siriah	- Tantadu bararak	- Tirai-tirai
- Kalayau	- Tantadu manyasok bungo	- Tirai ampek angkek
- Kambang perak	- Tupai managun	- Jambua cawek
- Kaluak paku	- Ula gerang	rang pitalah
- Kapeh kambang	- Singo mandongkak	
- Lapiah jarami		
- Lumuik hanyuik		
- Pisang sasikek		
- Picuak rabuang		
- Rantiang tasalek		
- Salimpat		
- Siriah sagagang		
- Tampuak manggih		

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In designing batik motifs from carved motives into necessary adjustments forms. Media used for carving batik motives is much different, the engraving media used is wood, while the batik medium used is mori (textiles for batik), therefore, the motif necessary in stylized and adapted to karater motif with the following steps:

**Analyzing the shape of the motive**, merging motif done by looking at the shape, character, and the same philosophy or nearing. For example, the motif *kaluak paku* can not be united with motif *ayam macotok lasuang*, because both these conflicting motives philosophy. *Kaluak paku* symbol wise leadership, while *ayam mancotok lasuang* symbol of life that do not think of others or selfish.

**Merengga motifs and stylized**, motif drawn in rengga and sorted out which ones have the character and philosophy of the same or related. Motif classifying by the purpose changed in accordance with the arrangement and layout motif on clothes. At this stage the motive and conformance test patterns on clothing.

**Test validation teaching materials**

Resource validation test conducted by Partners as batik expert Muchtar Ismed father and two instructors who used to give training Wiswarti batik's mother and father Fitra and one lecturer

**Filling motif with isen batik**, The shape and layout of the design is appropriate, written by Isen Isen. In this creative work as a space filler isen used Minangkabau songket woven motif or form stripes and tiny flowers that of a Minangkabau engraving.

**Test the feasibility of teaching materials teaching materials on training conducted** by placing motifs and also make batik by adjusting the dress pattern or arrange the layout patterns on the body. At this stage, also carried out the review, whether the motive was considered balanced and in accordance with the composition expected. At this stage, if magnified need to do renovations back of the motives that have been made, because it has not met the criteria expected, renovation and even changes in total were carried out. Designs that have been considered, followed by removal of the mori motif (raw materials that will dibatik), and after it was done batik. Experiments were performed repeatedly until it was discovered batik really as expected. So for just a decent mendapatkan material and can be used needs to be done due diligence.

who teaches in the Department of Fine Arts batik UNP, Drs. Erwin A, M.Sn. The validity of the results can be seen in the following table 3.

Table 3. Results of Expert Validation of Teaching Materials

No.	Aspects Rating	Result validity (%)	Category
1	feasibility of Contents	87.14%	very Valid
2	presentation Materials	91.11%	very Valid
3	Language assessment	86.36%	very Valid
<b>Average</b>		<b>88.21%</b>	<b>very Valid</b>

Described the results of the validation subject matter experts in the table above are: 1) the feasibility of the contents of the value of the category of very valid 87.14, 2) the presentation of the material value of 91.11% category of very valid, 3) 86.36% language assessment very valid category. Of the three aspects of the assessment above average diproleh 88.21% categorized as very valid.

Test the practicalities of teaching materials Phase practicalities of teaching materials batik test the practicalities of the participants of this stage is done by using a questionnaire given by the researchers then filled by the respondent. Practicalities of a small group of test results. Test the practicalities of the small group of craftsmen done to the 10 participants. Then the practicalities of the test results as follows table 4.

Table 4. Test Results Practicalities of Craftsmen / Small Group Training Participants

No.	Aspects Rating	Results practicalities (%)	Category
1	feasibility Views	82.50%	very Practical
2	presentation Materials	84.29%	very Practical
3	benefit	83.54%	very Practical
<b>Average</b>		<b>83.44%</b>	<b>very Practical</b>

Test results can be explained from the practicalities of craftsmen/small group training participants as follows: 1) the feasibility of views with the result of 82.50% category of very practical, 2) the presentation of the material with the result of 84.29% category sanagt practical, 3) the benefits with the result of 83, 54% categorized as very practical. Of the three aspects of the assessment above average diproleh 83.44% with very practical.

The test results practicalities of craftsmen/trainee large group after the test the practicalities of craftsmen/small group training participants, then test praktikalitas craftsmen/large group of trainees. By giving questionnaires to 25 craftsmen /trainee.

Table 5. The Test Results Practicalities of Craftsmen/Large Group of Trainees

No.	Aspects Rating	Results practicalities (%)	Category
1	feasibility Views	86.94%	very Practical
2	presentation Materials	84.17%	very Practical
3	benefit	85.56%	very Practical
<b>Average</b>		<b>85.56%</b>	<b>very Practical</b>

3 aspect can be extracted from a large group practicalities test ratings as follows: 1) the feasibility of views with the result of 86.94% category of very practical, 2) the presentation of the material with the result of 84.17% category of very practical, 3) the benefits with the result of 85.56% very practical category. From the results of these assessments diproleh average of 85.56% with a very practical category.

#### IV. CONCLUSIONS

Development of teaching materials for training batik batik training in SMEs as a partner can be used because it has been through a feasibility test. The validity of the test phase batik teaching materials for small and medium enterprises (SMEs) the results of the assessment is a very valid 83.35% declared so eligible to be used.

Test practicality phase of teaching materials on subjects batik textile diproleh analysis of the response of craftsmen / trainees and faculty

adviser subjects the practicalities of thh assessment results of test get 85.89% is otherwise very practical for use.

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