The Development of Batik Training Model for Transformation of Minangkabau Carving Into Batik Design Based on Local Culture

Rambang Muharramsyah, Agusti Efi, Ardipal, Agustina

Abstract: The root of the problem in productivity is due to the lack of creativity and innovative labor in creating batik by transforming Minangkabau carvings into batik motif designs. Therefore, this condition causes the quality of community resources to be decreased. In order to improve the quality of community resources in West Sumatra, batik training activities are held. The purpose of this study is to produce batik training products that are valid, practical and effective. The development model used in this study is a 4-D (four D models) development model. Batik Training Model for Transformation of Minangkabau Carving into Local Culture-Based Batik Design that has been produced has a level: The validity of the 4.32 model book is very valid, the validity of the manual book is 4.59 and the category is very valid, the validity of the craftsmen’s book is 4.53 and the category is very valid. The practicality of the model book is 3.53 and the practical category, the instructor/teacher response to the manual book is 3.29, and the practical category, the response of the craftsman to the training module is 3.65 and the category is very appropriate, the practicality of the craftsman’s book. The effectiveness of the craftsman books obtained was 77.9 and categorized high.

Keywords: training, batik, Minangkabau engraving, batik design, local culture, model development.

I. INTRODUCTION

Based on the existing conditions, it is known that the root of the problem in the field of Minangkabau batik productivity, especially in the transformation design of rumah gadang carvings into batik products. It is caused by the lack of creativity and innovative labor in making batik by transforming minangkabau carvings into batik motif designs that will make Minangkabau batik special. This condition causes the quality of community resources to be decreased. In order to improve the quality of community resources in West Sumatra, batik training activities are held. The fundamental solution to the shortage of creators should depend on training [59]. The objectives that will be achieved in the training activities are the preservation of valuable culture according to UNESCO’s decision, and public awareness that can prioritize non-formal education in the form of training in the gallery

II. RESEARCH METHODOLOGY

The development model used in this study is a 4-D (four D models) development model. According to [53] stages of the 4-D model include: defining, designing, developing, and disseminating. The steps in designing a batik training model as described above can be explained as follows:

- Define Phaseis aimed to establish and define the conditions needed in developing a batik training model. At this stage, it is done by analyzing objectives within the limits of the training model developed.

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Expanding Innovation
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The instruments used at this stage were observation sheets and interview guidelines. There are four steps that are analyzed in this step, namely: aspects of needs, aspects of participants, and aspects of concept and curriculum analysis.

- Design Phase is purposed to design a learning model that appropriates with Batik Training Model for Transformation of Minangkabau Carving into Local Culture-Based Batik Design that has been determined.
- Development Phase is aimed to produce of Batik Training Model for Transformation of Minangkabau Carving into Local Culture-Based Batik Design that consists of the concepts, theories, and principles of learning model development. This development phase is carried out with several stages: Validation Stage, Revision Stage, Practicality Stage, Effectiveness Stage.
- Dissemination phase is aimed to disseminate the Batik Training Model for Transformation of Minangkabau Carving into Batik Design Based on Local Culture.

III. RESULTS AND DISCUSSION

A. Product Validation Results

To measure the calculation and final value of the validity results used a formula from Muliyardi (2006). The following outlines is the results of the book of Batik Training Model for Transformation of Minangkabau Carving into Local Culture-Based Batik Design. The number entered in the table shows the assessment score from the validator.

Table I. Data Validation Results Book Batik Training Model

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Average</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supporting Theory</td>
<td>4.42</td>
<td>Very valid</td>
</tr>
<tr>
<td>2</td>
<td>Syntax</td>
<td>4.24</td>
<td>Very valid</td>
</tr>
<tr>
<td>3</td>
<td>Social system</td>
<td>4.31</td>
<td>Very valid</td>
</tr>
<tr>
<td>4</td>
<td>Principle of Reaction</td>
<td>4.22</td>
<td>Very valid</td>
</tr>
<tr>
<td>5</td>
<td>Supporting System</td>
<td>4.76</td>
<td>Very valid</td>
</tr>
<tr>
<td>6</td>
<td>Instructional Impact</td>
<td>4.31</td>
<td>Very valid</td>
</tr>
<tr>
<td>7</td>
<td>Implementation of the Training Model</td>
<td>4.7</td>
<td>Very valid</td>
</tr>
<tr>
<td>8</td>
<td>Linguistic</td>
<td>4.06</td>
<td>Very valid</td>
</tr>
<tr>
<td>9</td>
<td>Graphics design</td>
<td>3.87</td>
<td>Very valid</td>
</tr>
<tr>
<td></td>
<td><strong>Average</strong></td>
<td>4.32</td>
<td><strong>Very valid</strong></td>
</tr>
</tbody>
</table>

The results of the Batik Training Model Book validation that were assessed by the validator in Table I, it can be seen that the average validation results are 4.32 in the very valid category. Based on the indicators assessed obtained indicators of the supporting system and implementation of training models with the highest average of 4.76 and 4.7 in the very valid category. Meanwhile, the graphic design at the lowest average with a value of 3.87 are very valid categories. Supporting theory has average 4.42 with a very valid category, syntax 4.24 is very valid. Social system indicators and instructional and supportive impacts get the same value of 4.31 which is in the very valid category. Linguistics 4.06 and graphics design 4.22 is in a very valid category. From the results of overall validity, it shows that the Batik Training Model Book developed is valid. Next, the results of the validity of the Manual book of batik training model. The number entered in the table shows the assessment score from the validator.

Table II. Validation Results Data For The Manual Book Of Batik Training Model

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Average</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Guidance</td>
<td>4.5</td>
<td>Very valid</td>
</tr>
</tbody>
</table>

Based on Table II, it can be seen the results of the validation. The manual book for using the batik training model is rated by the validator with the result, 4.59 which is in a very valid category. From the indicators assessed the average syntax and advantages obtained the same value and the highest is 4.75 in the very valid category. Indicators of guidance, objectives, language, and graphics got the same average of 4.5 in the very valid category. Meanwhile, the material indicator is 4.63 with a very valid category. From the table above shows, the Manual Book for using the batik training model developed is valid. Next, the results of the validity of the Training Module. The number entered the table shows the assessment score from the validator.

Table III. Data From The Validator Training Module Results

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Average</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Material Coverage</td>
<td>4.17</td>
<td>Very valid</td>
</tr>
<tr>
<td>2</td>
<td>Material accuracy</td>
<td>4.25</td>
<td>Very valid</td>
</tr>
<tr>
<td>3</td>
<td>Conformity with the material</td>
<td>4.68</td>
<td>Very valid</td>
</tr>
<tr>
<td>4</td>
<td>Conformity with the character of the trainee</td>
<td>4.56</td>
<td>Very valid</td>
</tr>
<tr>
<td>5</td>
<td>Use of terms, notations, or symbols</td>
<td>4.5</td>
<td>Very valid</td>
</tr>
<tr>
<td>6</td>
<td>Presentation technique</td>
<td>4.92</td>
<td>Very valid</td>
</tr>
<tr>
<td>7</td>
<td>Supporting presentation of material</td>
<td>4.5</td>
<td>Very valid</td>
</tr>
<tr>
<td>8</td>
<td>Presentation of training</td>
<td>4.5</td>
<td>Very valid</td>
</tr>
<tr>
<td>9</td>
<td>Cover design</td>
<td>4.75</td>
<td>Very valid</td>
</tr>
<tr>
<td>10</td>
<td>Content design</td>
<td>4.5</td>
<td>Very valid</td>
</tr>
<tr>
<td></td>
<td><strong>Average</strong></td>
<td>4.53</td>
<td><strong>Very valid</strong></td>
</tr>
</tbody>
</table>

From the validation results of the Training Modules assessed by the validator as in Table III, it can be seen that the average validation results are 4.53 with a very valid category. Technical indicators for presentation and cover design are at the highest average of 4.92 and 4.75 with the category of very valid. The use of terms, notations, and symbols, presentation of material, presentation of training, and design of content equally have an average of 4.5 in the highly valid category. Indicators of conformity with material 4.68, conformity with learners 4.56 and 4.25 material accuracy with very valid categories. While the lowest average is owned by material coverage of 4.68 with a very valid category.

B. Product Practicality Results

Calculation of the final value of the observations was analyzed using a modified formula from Riduwan and Sunarto (2007). The results of the observational assessment are summarized in Table IV.

Table IV. Observation Results Of Training Implementation With Training Model Manual Book

<table>
<thead>
<tr>
<th>No</th>
<th>Observed aspects</th>
<th>Average</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Opening session</td>
<td>3.51</td>
<td>Practical</td>
</tr>
<tr>
<td>2</td>
<td>Core activities</td>
<td>3.53</td>
<td>Practical</td>
</tr>
<tr>
<td>3</td>
<td>Closing session</td>
<td>3.55</td>
<td>Practical</td>
</tr>
<tr>
<td></td>
<td><strong>Average</strong></td>
<td>3.53</td>
<td><strong>Practical</strong></td>
</tr>
</tbody>
</table>
Based on Table IV above, it can be seen that the average implementation of model book instructions by instructors with a value of 3.53 is in the practical category. In the opening session, the average score was 3.51 with a very practical category, while the core activity was 3.53 with a very practical category. The closing session is the highest aspect with an average value of 3.55 in the very practical category. Furthermore, the results of filling out the responses of craftsmen participants can be briefly seen in Table V.

### Table V. Craftsman Responses to the Practicality of the Training Modules

<table>
<thead>
<tr>
<th>No</th>
<th>Observed aspect</th>
<th>Average</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attractiveness</td>
<td>3.72</td>
<td>Very practical</td>
</tr>
<tr>
<td>2</td>
<td>Process of implementation</td>
<td>3.7</td>
<td>Very practical</td>
</tr>
<tr>
<td>3</td>
<td>Evaluation</td>
<td>3.52</td>
<td>Very practical</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>3.65</td>
<td>Very practical</td>
</tr>
</tbody>
</table>

Based on Table V above, it is known that the responses of 20 participants of the Alam Takambang gallery batik craftsmen, Padang Lua, West Sumatra, which were used during the Batik Training Model for Transformation of Minangkabau Carving into Local Culture-Based Batik Design Products are very appropriate with an average of 3.65. Overall, the responses of the trainees to the Training Modules on Transforming Minangkabau Carving into Local Culture-Based Batik Product Design are in the very appropriate category. Moreover, the results of the instructors' response can be briefly seen in Table VI.

### Table VI. Instructors' Responses to Practicality of Character Education-Oriented Learning Tools

<table>
<thead>
<tr>
<th>No</th>
<th>Observed aspects</th>
<th>Average</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>practicality of use</td>
<td>3.25</td>
<td>Practical</td>
</tr>
<tr>
<td>2</td>
<td>Time suitability</td>
<td>3</td>
<td>Practical</td>
</tr>
<tr>
<td>3</td>
<td>The suitability of the illustrations</td>
<td>3.3</td>
<td>Practical</td>
</tr>
<tr>
<td>4</td>
<td>Language</td>
<td>3.6</td>
<td>Very Practical</td>
</tr>
</tbody>
</table>

Based on Table VI above, it is known that the instructor's response to the practicality of the Instructions for Using the Batik Training Model for Transformation of Minangkabau Carving into Local Culture-Based Batik Product Design with practical categories on aspects: 1) practicality of use, 2) timeliness, and 3) Suitability of Illustration. In the aspect of language shows a very practical category. This shows that the Instructions for Using the Batik Training Model in Transforming Minangkabau Carving into a Local Culture-Based Batik Product Design that was developed can facilitate the instructor in the process of delivering batik motif material to the trainees.

### C. Product Effectiveness Results

The results of filling out the observation sheet of the training participants' activities were analyzed by calculating the percentage using the formula from Arikunto (2006). The following table are the average results of student activity from two training activity meetings conducted at the Alam Takambang gallery, Padang Lua, West Sumatra with a total of 20 craftsmen.

### Table VII. Observation Results of Training Participant Activities

<table>
<thead>
<tr>
<th>No</th>
<th>Observed activity</th>
<th>Percentage (%)</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pay attention and listen to the instructor's explanation</td>
<td>100</td>
<td>Very high</td>
</tr>
<tr>
<td>2</td>
<td>Study training material</td>
<td>85</td>
<td>Very high</td>
</tr>
<tr>
<td>3</td>
<td>Asking questions to the instructor</td>
<td>75</td>
<td>High</td>
</tr>
</tbody>
</table>

In Table VII, it can be seen the activities of craftsmen in Transformation Carving Training activities into Design of Local Culture-Based Batik Products in the high category. High category is shown on the activity of asking questions to the instructor. Meanwhile, the activities of answering the instructor's questions and presenting group work results are in the medium category. The activities of the trainees pay attention and listen to the instructor's explanation, learn the training material and work together in groups and individually in the very high category.

### IV. DISCUSSION

#### A. Product Validation

The activities in the Batik Training Module can evoke the activities, skills, and understanding of the trainees' concepts, as a result, the training process becomes interactive, innovative, challenging, and fun. This is in accordance with [61] they stated that Supporting Systems are devices or facilities that support the implementation of the training/learning process. For example, to apply a learning model that is used to see participants' imaginative/creative abilities, the learning model is needed that illustrates students' imagination / creative abilities. The instructional impact is that which refers to the ability of imagination/creativity and learning outcomes, while the accompanying impact is referring to the experience or skills acquired by the trainee. Based on the results of the validation conducted by the validator on the Batik Training Model in Transforming Minangkabau Carving into a Local Culture-Based Batik Product Design developed in the form of 1) Batik Training Model Books, 2) Instructions for Using Batik Training Model Books, and 3) Batik Training Modules Transforming Minangkabau Carving Into Local Culture-Based Batik Product Designs are in the category of very valid. Validation carried out in this study emphasizes the content validity and construct validity. The validity of the content was declared valid by the validators because the training product developed was in accordance with the material that was supposed to be presented, it could be said that the validity of the contents of this training product could be justified because it had been assessed by experts. The construct validity was also declared valid by the validators because the construct of the Batik Training Model in Transforming Minangkabau Carving into a Local Culture-Based Batik Product Design that was developed had met the requirements for preparing learning tools.

This is in accordance with the opinion of [48] that "An instrument is said to be valid if the instrument can be used to measure what should be measured".

The validation results show that the learning tools produced have been tested for quality and have been declared valid by the validators. The next stage in this research can be continued, namely at the trial stage.

#### B. Product Practicality

Based on observations of the implementation of the
Manual of Using Batik Model Training Books in the gallery of Alam Takambang, Padang Lua, West Sumatra, which are used in the trial are in practical criteria with an average value of 3.57. This performance is supported by the availability of other products that researchers have developed, such as modules trainees. In this case, it can be seen that the Manual for Using the Batik Training Model Book developed can be easily carried out by the instructor, on the other hand, the Manual for Making the Batik Training Model Book is a practice to be used. According to [3] that the device/product can be said to be practical, if the teacher/instructor can use the device/product to carry out learning logically and continuously, without many problems. After the training process using the Manual for Using the Book Model of the Batik Training Model in Transforming Minangkabau Carving into a Local Culture-Based Batik Product Design by instructors conducted at Alam Takambang Gallery, Padang Lua, West Sumatra, the trainees gave a generally very appropriate response. The results of the questionnaire analysis of students' responses to the practicality of the training modules developed showed that the trainees were interested in learning the training modules because they had an attractive appearance. The colors chosen for the participants' text, images, and background modules are contrasting colors that support learning. According to Walker [39] color has a physiological effect on anxiety, heart rate, and blood flow. Each color has wavelengths, and each wavelength can affect the body and brain differently. The dominant color that is widely used is purple, as one of the best colors to stimulate learning [39]. The use of training modules encourages the active participation of trainees in training process. Group discussions conducted by participants can help participants in understanding the material. Understanding of trainees in learning can improve learning achievement, and they are motivated to continue learning. This is according to the opinion of [46] that learning is a process to obtain motivation in knowledge or skills, habits, and behavior.

C. Product Effectiveness

The activity of the trainees during the learning process is one of the information about the trainees' responses during the use of the Batik Training Model in Transforming Minangkabau Carving into a Local Culture-Based Batik Product Design. Training participants' activities are activities or behaviors that occur during the training process. The training participants' activities during the learning process are one indicator of the willingness of the trainees to learn. This is according to [20], "Student activities in learning can be seen based on their participation and involvement in responding". Activities are needed in learning because in principle learning is doing. Doing to change behavior into activities. [28] states that activities in self-formation are students themselves, while educators only provide guidance and plan all activities to be carried out by students. In this study the activities of the trainees observed comprised paying attention and listening to the instructor's explanation, studying instructional materials, asking questions to the instructor, answering instructor's questions, working in groups and individually, presenting the results of group work. Based on the analysis of the training participants' activities during the training, they were in the high category. Hence, it can be concluded that the learning process using the Batik Training Model in Transforming Minangkabau Carving into a Local Culture-Based Batik Product Design has succeeded in increasing student activity. To find out how far students can master the teaching material, a learning achievement test is conducted on the cognitive aspects. According to [51], "The cognitive domain is a learning process that aims to measure the level of ability in mastering the material, the measuring instrument is commonly called a learning achievement test". Giving a test is done once in the form of objective tests of 20 questions conducted after learning activities carried out. Trianto (2009: 235) states "The learning outcomes test is a test item used to determine student learning outcomes after participating in learning activities". The average value processing results are compared with KKM, so that individual completeness will be obtained in the basic competencies with Pollution material. According to [53] KKM is a learning completeness criteria determined by the education unit (each school). KKM scores for batik material at the Alam Takambang gallery, Padang Lua, West Sumatra are 80. Of the 20 students who took part in the evaluation, all 20 students scored ≥ 80, thus individually declared complete for Membatik material. [53] states that "Each student is said to have finished learning (individually) if the proportion of correct answers of students is ≥ 65%, and a class is said to have finished learning (classical completeness) if in the class there are ≥ 85% of students who have finished learning ". Thus it can be concluded that training with the Batik Training Model in Transforming Minangkabau Carving into a Local Culture-Based Batik Product Design can improve the learning outcomes of trainees. Learning outcomes on psychomotor aspects are obtained through observing the work of the trainees. Where obtained a variety of batik motifs that reflect local Minangkabau motifs that are very interesting and beautiful. According to [23], "Psychomotor skills have six stages, namely: reflex movements, basic movements, perceptual abilities, physical movements, skilled movements, and non-discursive communication. Non-discursive communication is the ability to communicate by using movement ".

V. CONCLUSION

Based on the objectives, results and discussion of the research described, the following conclusions can be concluded:

1) The Batik Training Model in Transforming Minangkabau Carving into a Local Culture-Based Batik Product Design (Baturmi Berbulo) has been produced through the Four-D development model.

2) The Batik Training Model in Transforming Minangkabau Carving into a Local Culture-Based Batik Product Design (Baturmi Berbulo) which has been produced has levels:

- The validity of the model book 4.32 is very valid, the validity of the manual is 4.59 and the category is very valid, the validity of the craftsmen's book is 4.53 and the category is very valid.

- The practicality of the model book is 3.53 and the category is practical, the instructor / teacher response to the guide is 3.29 and the practical category, the response of the craftsman participants to the training module is...
3.65 and the category is very appropriate, the practicality of the craftsman’s book.

• The effectiveness of the craftsman’s book obtained was 77.9 and categorized high.

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• Internasional Conference On Global Education IV” University of Kebangsaan Malaysia. 8-9 Agustus 2016.

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• Essay. Teenagers Who Are Mired In A Black World In Expressionist Painting 2011
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• International Conference (proceeding). Authentic Assessment to increase students knowledge: 2016