

Development of Teach Book Based on Tutorial Basic Techniques and Variations of Embroidery in The Clothing Study Program of Universitas Negeri Medan

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Abstract. This study has a purpose to find out how to develop tutorial-based textbooks on basic techniques and embroidery variations in the fashion study program at Medan State University. This study uses the research and development that produces textbooks. The steps of the development process consist of five stages, which include analysis, design, development, implementation, and evaluation. The results of the development of textbooks based on tutorials on basic techniques and embroidery variations in the Medan State University study program In a similar manner, the acquisition of a validity test by a material expert received the criteria of "very good," as did the acquisition of a validity test by a media expert with the same criteria of "very good." The results of the small group trial meet the "very good" criteria, and the medium and large group test results meet the "good" criteria. They earn the "good" category through small-group tests. The acquisition of the feasibility value of tutorial-based textbook media on basic techniques and embroidery variations yielded overall results that fall into the category of "very feasible," so that you can use it in Fashion Study program courses on basic embroidery techniques.

Keywords: Textbooks, Tutorials, Basic Techniques, Embroidery Variations

1 Introduction

The development of science and technology has brought significant changes to various aspects of human life, both in the economic, social, cultural, and educational fields. Education is a human need. With education, a human being will be able to develop their abilities and be ready to face all the changes and problems that exist. According to Maemunah, the expected change in students' subject matter after experiencing the educational process is both in terms of personal behavior and community life. This is the purpose of education [1]. According to Samho and Yasunari, "education is an effort to advance the growth of character (inner strength and character), mind (intellect), and the child's body in the context of the perfection of life and harmony with the world" [2].

Every country around the world emphasizes how important the quality of education is, as does Indonesia. The quality of education can be determined by various factors. Aside from facility and infrastructure support, the most important and influential factor on educational quality is the learning process. In an effort to improve the quality of education in Indonesia, the most dominant way is through the teaching and learning process. Teaching is basically an

attempt to create conditions or environmental systems that support and enable the learning process to take place.

Learning is not an easy thing to do and cannot happen by chance because the learning process must be done consciously, intentionally, and in a well-organized or systematic manner. This is in line with Trianto's statement that "Learning is a conscious effort from a teacher to teach students (directing student interaction with other learning resources) in order to achieve the expected goals"[3]. In essence, the teaching and learning process is a system with components. According to Suyanto and Hisyam, In order to create a high-quality learning process, these learning components must be able to interact and form an interconnected system that is interconnected [4]. These elements consist of: a) learning targets; b) learning materials; c) learning strategies; d) learning media; e) instructors or teachers; f) understudies; g) evaluation and assessment.

The process of learning is significantly influenced by learning media. According to Personal, learning media that contain knowledge and information are typically utilized to achieve improved learning objectives [5]. Learning media can also make learning activities more interesting, which can make students more interested in learning. Learning media help to bridge the gap between resource individuals and the general public when it comes to delivering messages and information.

One of the most important components of education for a successful teaching and learning process is media. Learning media serves as a tool to facilitate the transfer or distribution of material from educators to students. The use of learning media requires the creativity of educators in managing it properly so that learning objectives can be achieved optimally. According to Arief S. Sadiman et al., learning media are everything that can be used to channel messages from sender to receiver in order to stimulate students' thoughts, feelings, interests, and attention in such a way that the learning process occurs [6]. Based on the observations made, it appears that a good learning method is accompanied by the use of learning media that are complete, systematic, clear, interesting, and appropriate for several subjects. One of the subjects that is of concern in this study is the learning media used in the subject of basic embroidery techniques, namely examples of embroidery fragments and photocopied parts of books, which are then distributed to students to be used as learning resources. This fact will certainly affect the way students learn.

Based on the observations and interviews conducted, the problem that exists is that students' competence is not achieved because there is no complete, systematic, clear, interesting, and appropriate learning media used, so that students experience difficulties in learning and mastering the material provided. Students need appropriate learning resources in order to help facilitate the learning process. The right media are those that can help students learn the material, do assignments, and develop material. The media is in the form of textbooks. Textbooks are defined as all forms of material, both written and unwritten, that are used to assist lecturers in carrying out the learning process and become material for students to study in order to achieve predetermined competency standards. Teaching materials contain content in the form of a set of materials that are arranged systematically so that they can be used in a comfortable and conducive learning process. These textbooks' characteristics enable students to learn, develop, and complete assignments independently and without relying on the other party. In addition, textbooks are arranged systematically and attractively so that they can become learning media in the hope that this will also affect the achievement of competence. Textbooks are also designed to evaluate students' mastery of the material provided. Therefore, the textbook is designed to guide students in mastering the basic stitch subject matter, which has a variety of stitches and variations of embroidery. Related to this, it

is very important to develop a tutorial-based textbook on basic techniques and embroidery variations in the Fashion Design Study Program, State University of Medan.

2 Research Method

The people in this study were third-semester students who took a class on basic embroidery techniques. producing evaluation, products in the form of media, namely tutorials on fundamental embroidery techniques and variations. Development of the research through the production of media tutorials on basic embroidery variations and their distribution and variations to students in odd semesters This study aims to develop learning media in the form of tutorial-based textbooks on basic techniques and variations of embroidery. This study makes use of development research that results in products media. learning media. The development of tutorial-based textbooks on basic embroidery techniques and variations. The ADDIE development model, which consists of five stages: analysis, design, development, implementation, and evaluation adapted from research procedures. The ADDIE model consists of five interrelated components and is structured systematically, which means that from the first stage to the fifth stage of its application, it must be done systematically and cannot be done randomly. These five stages or steps are very simple when compared to the other design models. It is simple and structured systematically, so this design model is easy to understand and apply. The ADDIE development model consists of five stages, which include analysis, design, development, implementation, and evaluation [6]. The steps of ADDIE development research in this study, if presented in the form of a chart, are as follows.

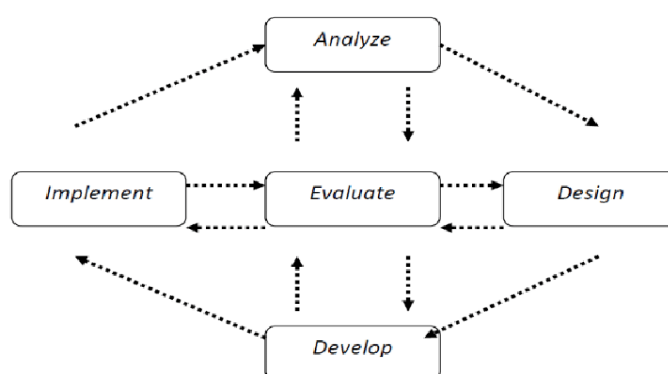


Figure 1. Steps of The ADDIE Development Model

The tutorial-based textbook development procedure consists of five stages, namely:

- 1) Stage of Analysis At this stage, the primary task is to examine the necessity of developing new learning media as well as the feasibility and the requirements for developing them [7]. According to the analysis stage that was carried out by the researchers through interviews, the media that were utilized were less varied, specifically that only examples of embroidered products were used, which resulted in students being less enthusiastic when learning took place. The creation of learning materials is necessary in light of these issues. The researcher will then create a tutorial based on a textbook on basic embroidery techniques and variations based on the collected data.

- 2) Design Phase. The developed media design is described in the following stages at this stage:
 - a. The interview revealed that more fragments were used for basic embroidery techniques.
 - b. Come up with a plan for making media that starts with creating a framework for making textbook media. The creation of a framework for the production of media is the next step.
- 3) Phase of Development are used to develop the prepared product design [8]:
 - a. In accordance with the process of creating the media, researchers combine the collected materials. The researcher then corrected the media once more before the development results were validated; if they are acceptable, the product is now ready for validation.
 - b. Make product validity questionnaires for media experts and material experts and questionnaires for teacher and student responses. The expert product validity questionnaire consists of aspects of coloring, use of words or language, graphics, and design. The material validity questionnaire consists of aspects of learning, curriculum, content, interaction, feedback, and error handling. The teacher's response questionnaire consists of several aspects of assessment, which include aspects of learning, curriculum, content, interaction, feedback, and error handling. While the student response questionnaire consists of the operation or media usage, usage reactions, and supporting or additional facilities.
 - c. Media and material experts conducted validation of instructional media design. The evaluation and recommendations of media and material experts regarding the suitability of the material and media appearance are the goals of validation.
 - d. The flaws are identified following validation and input from experts. The next step is to try to eliminate these flaws by making the products that have been made better. Products that have undergone revisions and received a favourable predicate proceed to the fourth implementation stage.
- 4) The implementation phase was conducted three times, in the form of small, medium, and large-scale trials. During the preliminary, the specialist made notes about the inadequacies and hindrances that actually happened when the item was executed, other than that understudies were given media to learn.
- 5) Evaluation stage. Evaluation is a process to analyse the media. At the implementation stage, there may still be shortcomings and weakness sings and weaknesses. If there are no more revisions, then the medium is suitable for use.

According to Sugiyono, because collecting data is the primary objective of research, the procedure for collecting data is the most crucial aspect. A wide range of settings, resources, and approaches are available for data collection [9]. This data collection aims to determine whether or not the development of learning media is feasible.

The data collection instrument is one of the measuring tools used in the study that is being observed. The instruments that will be used are observation, interviews, and questionnaires.

3 Results and Discussion

3.1 Results

During the initial acquisition, The first stage is to identify potential and problems, followed by a search for needs among teaching staff and students, so that results can be obtained from lecturers' needs in the development of learning media. Based on the

questionnaire needs of the lecturers that have been given to the results of the needs analysis, 88.75% of the lecturers strongly agree with the development of learning media for tutorial textbooks on basic embroidery making materials. The results of the student needs analysis, which were obtained from the student questionnaires, indicate that 84.27 percent of students support the development media.

The researcher was able to identify the product planning strategies used to overcome the challenges faced by lecturers and students, so that they knew what the needs of a lecturer who delivered basic embroidery techniques courses were. The next process is to collect the information needed for product development in the form of a curriculum review so that the media developed cannot be separated from the syllabus and learning material objectives to be achieved.

The learning medium to be developed is a tutorial-based textbook on the subject of basic embroidery techniques. The textbook products that have been realized will then be examined by material and media experts, and good-quality media will be obtained for use in the teaching and learning process. The feasibility of the product resulted from an evaluation by the material expert, validator, and media expert, and product revisions were carried out in accordance with the suggestions obtained from the validator. After that, a good medium would be realized to be used in the implementation of learning basic embroidery techniques.

The assessment of learning material consisted of two lecturers majoring in fashion, covering aspects that were assessed with several indicators to obtain material validation results:

Table 1. Validation Results by Material Experts on Textbook Development

| No | Category | Average percentage (%) | Criteria |
|----|-----------------------|------------------------|----------|
| 1 | Content quality | 85% | Good |
| 2 | Instructional quality | 82,85% | Good |
| | Average | 83,9% | Good |

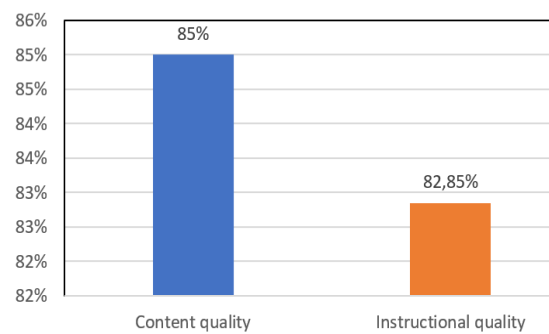


Figure 2. Validation of Material Experts on The Development of Embroidery Textbooks

The results of media validation which were validated by material experts as a whole were in the average category of 83.9% "good" so that the media was suitable for use. The media expert validator consisting of 2 lecturers in the fashion department, got the following media validation results:

Table 2. The Results of Textbook Development Validation by Media Experts

| No | Category | Percentage | Criteria |
|----|-------------------|------------|----------|
| 1 | Textbook view | 77,86% | Good |
| 2 | Textbook benefits | 88,75% | Good |
| 3 | Language | 78,57% | Good |
| | Average | 81,73% | Good |

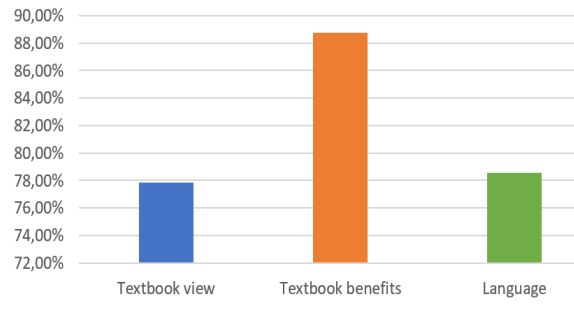


Figure 3. Validation of Media Experts on The Development of Embroidery Textbooks

The results of media validation, which were validated by media experts as a whole, were in the average category of 81.73% "good," so that the media was suitable for use. The textbooks that have been reviewed are then tested. The trial is intended to identify product deficiencies (textbooks) that are suitable for use in learning. The trials included small group trials, medium groups, and large groups. Eight students were tested, and data from small group trials was used to determine how they felt about the new media. Through a media experiment with a small group of Fashion Design majors, the "good" students thought it was appropriate to use media in the teaching and learning process. The average result was 81.8 percent. Students' opinions on the developed media are being solicited through group trials. Based on the test results of students majoring in fashion design, with an average result of 82.87% "good," students feel they are worthy of using media in the teaching and learning process.

A large-scale trial was conducted by distributing questionnaires to 32 students enrolled in the Basic Embroidery Techniques course. With an average attendance rate of 85.3 percent, 32 students participated in the large group tryout, which resulted in the media being rated "good" and suitable for use. The diagram depicts how to obtain feedback from textbook tutorials in small, medium, and large groups:

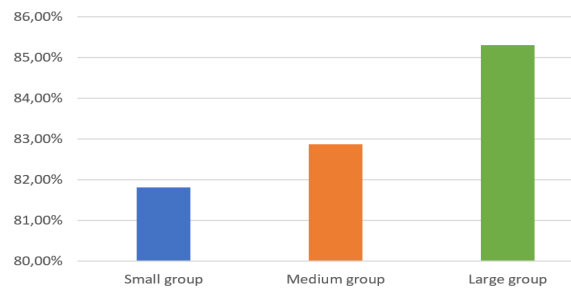


Figure 4. Group Trial on the Development of Textbook Media

3.2 Discussion

The development of textbook media for basic sewing subjects was carried out based on the stages as stated in the research procedure. The study began with a needs analysis. The information gathered showed that embroidery tutorial textbooks were needed for learning.

The results of media and material validation are in the "good" category, with an average score of 83.9% for material experts and an average score of 81.73% for media experts, indicating that the media made is feasible to use. Then a media feasibility test was carried out by conducting a small group trial with eight students. Based on the analysis of the collected data, the total average score for the small group trial was 81.8%. Based on the due diligence table, the grade is "good." So it is stated that textbooks are suitable for use in learning.

The media trial was carried out by conducting medium-sized group trials on students. Based on the results of the analysis of the collected data, the total average score of the medium group trial was 82.87%. Upon completion of the feasibility test, we obtained an assessment of "good." Through textbooks, it is known that textbooks are suitable for use in learning. Large group trials were carried out by distributing questionnaires to 32 students. From the results of the analysis, we obtained an average score of 85.3%. Based on the results of the values obtained when viewed from the due diligence table, they are classified in the "good" category. Based on these data, the results of the development of tutorial-based textbook learning media on the subject of basic embroidery techniques and variations of embroidery.

4 Conclusions

The following conclusions can be drawn from the findings of the research that has been carried out:

- a. Media and material experts have validated instructional media based on tutorials on the subject of basic embroidery techniques and variations. and declared "good." so that it can be tested on students learning basic embroidery techniques.
- b. Media tutorial-based textbooks on basic techniques and variations of embroidery in basic engineering subjects were tested in the "good" category. Small, medium, and large groups were tested. So it can be concluded that the medium for the basic technique of embroidery is a textbook. So that the media can be used.

Based on the results of the study and the conclusions obtained when developing media, the researchers suggest the following:

- a. For students, the tutorial-based textbook media on the basic embroidery techniques and variations of this embroidery can be used optimally in learning, and it is hoped that with the textbook media, students can learn independently.
- b. It is hoped that it will be useful and can aid the learning process for lecturers who teach the subject of basic embroidery stitch technique, particularly on the material of various basic stitches and variations of embroidery.
- c. For readers or other researchers who will conduct research and development of media, hopefully it can be used as a reference or source of learning and can develop better media than before, especially in the subject of basic embroidery techniques.

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