Learning Media Based on Computer Embroidery for Upgrading Skill of Fashion Student

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ABSTRACT

Learning media is very important in the process of learning. In the past, embroidery learning only used manual machine and dynamo machine. The development of modern technology of embroidery could be done by media computer. Embroidery is the hand craft with the thread applied on fabric to follow the form of motive that we make it. Using learning media based on computer embroidery help student to used modern technology more creative using digital embroidery. The research of learning media based on computer embroidery help student to understand material on embroidery learning and upgrade their skill. The research focused on ADDIE process for learning media. The score that student get from understanding material of course was high category by questionnaire responses. Learning media that applied for student, help student more attractive to make design in embroidery.

Keywords: Learning, Learning Media, Skill, Embroidery

1. INTRODUCTION

Learning is an activity to obtain knowledge and understanding that doing between teachers and students to achieve optimal learning outcomes. In achieving optimal learning, students must result good knowledge and high score. Musfiqon say that a change as the learning process can be shown in various forms, as skill, habits, attitude, understanding or appreciation or award [11]. The changes for example from themselves, knowledge, attitude that can reach to get the optimal learning.

Some educational theories and approaches are systematically related to student achievements, which are large enough to be educationally important. Therefore, these results in relation to theories and approaches have considerable implications for curriculum development, instructional design, teacher decision-making, and assessment issues should be taken into consideration seriously [5].

In learning process, the result of learning every student don't same with each other, This can be influenced by many factors. One of factor that influenced competency of student was lecturer give material of learning in class. According to Sudjana that his research showed 76.6% result from learning student influenced by competency of lecturer, with 32.43% ability of lecturer, delivery on material 32.58% and attitude of lecturer 8.60% on course of learning [11].

The role of teachers from Daryanto, learning activities affected students learning outcomes to achieve optimal results. Lecturer as development knowledge was very precise and efficient for students learning based not only conventional, but it should be much supported the atmosphere of learning which he conducive as well as the relations communication between teachers, students can collaborate as well as [4].

Learning was not attractive that occurred of educator was is normal who do not understand the needs of student in characteristics, or development of knowledge. Educator as developer of knowledge must choice good media for learning, do not only conventional learning but modern learning.

The research that done by Supratman show that learning media used digital media E-learning based on schoology as innovation in learning for teacher and student. So media learning can help teacher and student easily to achieve the material in learning [17]. According on some learning problem, lecturer as educator must take activity to upgrade skill of student.

The research of Pischetola [13] that The framework proposed is a digital inclusion model based on cultural needs analysis and subsequent promotion of didactics innovation, between technology and knowledge must be combine. It highlights when student study in school or university, cultural change in learning strategies must be done, so student can enhancement of intellectual capital.

Teachers should be able to make interesting media for student to improve academic qualification as upgrading skill with the development of learning media. Opinion of hartini [7] one of improve learning outcomes is developing media with the latest current technology. In addition, teachers also have a duty to develop academic qualification with the development of technology and art. Teacher must use some media to learning process, when teacher doesn't come in class student can study with tutorial media on video.

One of the alternatives of the media is Learning media based on computer embroidery. Learning process can be realized well if teachers use tutorial video of computer embroidery. Embroidery is very unique, Embroidery designing technology reduced the embroidery cost and time [9]. Computer media as software that result information to give direct instruction by video tutorial to give new dimension in learning. The research of the study aim, give some information for student and upgrade skill student in embroidery course. So the student gets information more easily and created an interesting learning to motivate students.

1.1. Related Work

1.1.1. Learning Media

Learning media from Definition of Musfiqon was hardware and software tools that used for teacher to teach the student to understanding the material so more effective and efficient [11].

Nurseto says Learning media is a means for channeling learning messages and information. Well-designed learning media will greatly help learners achieve learning objectives. Each of these types of learning media has the characteristics, advantages and disadvantages. Therefore, it is necessary to make systematic planning for the use of instructional media [12].

Sani, B., & Kurniasih defined learning media was as an intermediary and a tool to convey messages in the form of learning material from the sender of the message (teacher) or material to the recipient of the message (students) so that there are a learning and teaching interaction [9].

1.1.2. Computer Embroidery

In 1980 the first computerized embroidery machines were introduced to the home market. Wilcom introduced the first computer graphics embroidery design system to run on a minicomputer. Melco, an international distribution network formed by Randal Melton and Bill Childs, created the first embroidery sample head for use with large Schiffli looms [5].

Embroidery software is very user friendly and much easier to use then same of the other program. Digitizing tool are built for demanding production and flexibility with intelligent workflow to streamline repetitive tasks and built robust design files that stitch flawlessly. The designer less experience was picking it up pretty easy as well. Embroidery designing technology reduced the embroidery cost and time. So it's a new opportunity for textile designer. This would also provide employment opportunities to many rural women in underprivileged [5].

Modern embroidery machines are fully automated and have a large number of heads (up to 56) that can operate with up to 18 needles. They include a large color display with usb interface, built-in editing software, and storage systems for the design files [2].

2. METHOD

The method of the research using ADDIE model, ADDIE models consist of five steps: (1) analyze: in this stage analysis for needs focus on collected information from many source, student and lecturer; (2) design: media learning that suitable for material in course; (3) development: process make media computer more interesting and efficient; (4) implementation: media that make for learning can access on social media you tube; and (5) evaluation: media that applied on student take questionnaire to evaluate prove media in future.
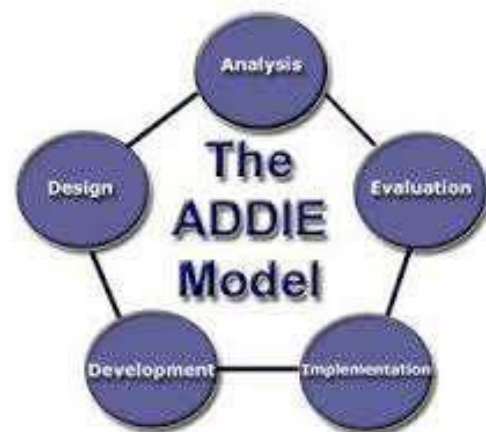

Figure 1 Stage of ADDIE models [17]

3. RESULTS AND DISCUSSION

3.1. ADDIE Process

Learning media for education must refer to ADDIE Process. Nada Aldoobie from their research ADDIE model is one of the most common models used in the instructional design field a guide to producing an effective design. This model is an approach that helps instructional designers, any content's developer, or even teachers to create an efficient, effective teaching design by applying the processes of the ADDIE model on any instructional product [1].

The authors used ADDIE instructional design model in this research because this design process focused on engaging student with course material, each other, and the teacher in innovative learning. For this method who are working to create effective media interaction, student knowledge is critical to meaningful learning.

Additionally, for instructors creating more extended learning interactions, this case has shown that ongoing feedback can make the learning experience more meaningful and significant [6]. ADDIE framework identified where issues needed, gap existed, student represented. This process from research will be outlined as follows:

3.1.1. Analyze

An analysis of the needs of students in course of embroidery according from needs of the student learning, with description of embroidery course. In part of learning embroidery show that the student of fashion education that take course of embroidery must be applied computer embroidery with Wilcom program. According from this description, as lecturer must be able to prepare new media for learning. Tutorial video that choice lecturer used to teach student more attractive in learning.

3.1.2. Design

In fact, the instructional research in this step thinks about how design application can really be effective in ways that facilitate student learning and interaction with the materials you create and provide. Learning Media that used in this learning was Wilcom software for embroidery that installed in every PC of student. In this stage, needed analysis student in this process learning must be notice. All student must prepare this application, so lecturer guided every process installation.
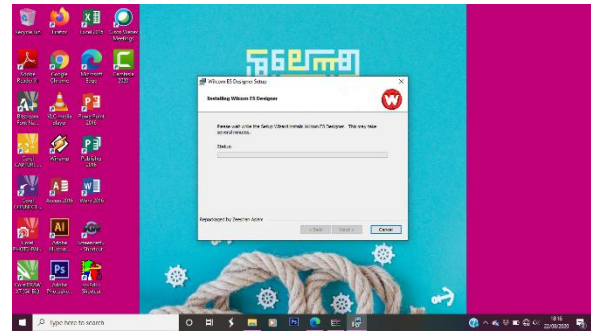

Figure 2 Process Installation on PC

3.1.3. Development

This process is really about applying the instruction. Process of making computer media embroidery used for the teaching and learning process must be true. The determination of design with application of wilcom was be an option in developing media, make video tutorials one of way to operate the application, so student can understand every stage to make embroidery with application. Computer embroidery with Wilcom ES-65 was using for development, Devi says that embroidery designing technology reduced the embroidery cost and time. So it's a new opportunity for textile designer [5]. In this step we are going to create samples of our materials, we are done from our application and are satisfied with its design, it is time to start developing our course materials.
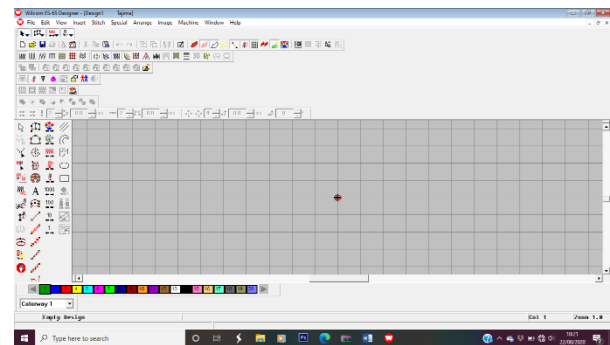

Figure 3 Application of computer embroidery with Wilcom ES-65

3.1.4. Implementation

After a process of making the media video embroidery computer was finished, the media uploaded on you tube and E-learning on account university so they can be accessed by every student that following this learning.
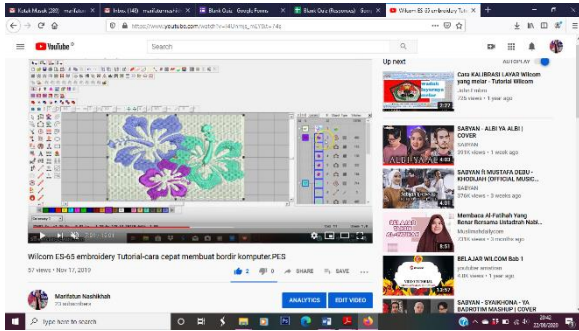

Figure 4 Tutorial Video that applied on You tube

Video is an art when student study by self, this way recommended that educators teach using varied teaching style with video program. The primary role in teaching video is given to art. Thompson [12] says This enables students to strive for aesthetic vision, creative and artistic practice, and imaginative digital video. Merely teaching technology without an emphasis on art in a video class makes video production hollow and bereft of artistic merit.

3.1.5 Evalution

Evaluate was process to show the result from data that obtain when media was implementation to student. From the result of evaluate, we know that media can understand and upgrade skill of student to make computer embroidery. Questionnaire that give for student to measure knowledge student on achieve material in learning embroidery with media tutorial video. Student as respondent was taken with collect data by the proportional random sampling technique. Data this research that resulted by closed questionnaire with total 20 questions and 40 respondents.

Score scale used point 1 until 5, the result of data from respondents, minimum score was 55 and high score was 100. The following of data spread on table of frequency:

Table 1. Distribution of Data Frequency

No	Interval Class	Limit of Class	Frequency	Percentage (%)
1	55-60	54,5-60,5	4	10%
2	61-65	60,5-65,5	3	7.5%
3	66-70	65,5-70,5	6	15%
4	71-75	70,5-75,5	8	20%
5	76-80	75,5-80,5	11	27.5%
6	81-85	80,5-85,5	2	5%
7	86-90	85,5-90,5	2	5%
8	91-95	90,5-95,5	3	7.5%
9	95-100	95,5-100,5	1	2.5%

According to the upper table, learning media based on computer embroidery for upgrading skill of fashion students were as follows: 1) there are 4 students (10%) low, 2) 8 students (20%) as medium, 3) 11 students (27.5%) as high, 4) 8 students (20%) as very high. so that skill of students on online learning with video tutorial were the category of high. Student that giving tutorial video was attractive because embroidery course usually used conventional method. Student do not only study with machine but with computerized embroidery.

Same with the research of Marlina show that Teaching media is a container of messages, the material to be conveyed is the message of learning and the goal to be achieved is the process of learning itself. Is that the making of needy white embroidery tutorial multimedia is used in the learning process because it has a clear knowledge content, has an attractive and easily understood content and can be used in the white embroidery learning process [10].

Computerized embroidery make student more creative, because student can design by self with application of Wilcom. We can design everything what do you want. Student that follow CAD (Computer Aided Design) course can applied and collaborated the skill on embroidery with computer. So skill student on embroidery course can upgrade as well as.

Method that applied for student should be changed. Therefore, Risniawati says that curriculum and instructional methods for young generation should be changed and studied empirically. The result may contribute to plan collaborative teaching-learning in the future classroom setting and develop collaborative supported classroom environments [15].

According to Puspita the curriculum should be developed along with the development of science, art, technology and the demands of competence to be achieved as the educational objectives so that the construction of a civilization of human resources in Indonesia can be met according to with the ideals of education in Indonesia in the future [14].

The figure 5 showed the result of student, student make design with Wilcom application on PC so that applied in computer embroidery.

Figure 5 The result of computer embroidery student

4. CONCLUSION

Based on the result from used learning media based on computer embroidery for upgrading skill of fashion student can conclusion that learning media can upgrade skill of student. The data showed there are upgrading from student, the score that student get from understanding material of course was high category. Student more attractive to make design in embroidery, hopefully student can learn by self to upgrade their skill because media tutorial video can access on you tube. So this media has function to upgrade skill student to understand the material that delivered from lecturer.

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