The Development of the Ibis Paint X Application Module in Learning Fashion Design

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Abstract. Learning by utilizing technology will further activate students' critical thinking and teach them to be independent. Fun learning media will improve the quality of classroom learning. One of the media used is a module. It is the concern of the writers to propose this research, entitled The Development of ibis Paint X application module in learning fashion design.

This study aims to develop a module that is used as a guide in learning Fashion Design. The method used in this study is Research and Development with the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). It includes analyzing needs; designing the module and instruments for medium validation, materials, and trials; developing the module; and implementing learning medium developed by media and content experts. The results of the first evaluation were then used to revise the learning medium in the form of module; evaluate the effectiveness of the module on learning process. The module feasibility test was obtained with a very feasible category. The results of this study showed that the module was very suitable to be used as a medium in learning fashion design and it was used as a support for a more varied and interesting learning process so as to increase student learning motivation.

Keywords: Module Development · Ibis Paint X Application · Fashion Design

1 Introduction

The development of technology in education is very helpful, especially in improving the quality of learning. The world of education is supposed to always adapts to it. Utilization of technology is designed to develop learning process that is more interesting and creative. As facilitators, teachers are required to create digital-based learning designs to make students more active and think creatively.

The development of teaching media is important for teachers, especially to improve the quality and efficiency of learning. Those teaching materials play an important role for both teachers and students. In developing teaching materials like modules, teachers need to pay attention to the procedures and components of the module [1]. Currently, the development of teaching materials in the form of module is a very urgent need. Especially in the era of a pandemic, teachers must be able to read the situation to develop teaching materials that are suitable for use by students during online and offline learning.

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The use of technology as a learning medium makes it easier for students to receive fashion design lessons digitally. However, the use of media to make fashion designs is still inadequate. It is difficult for students and teachers to conduct teaching and learning process. Teachers often ignore the importance of making teaching plans so what they teach is not optimal and is not effective enough to achieve the targets. From the problem above, it is necessary to develop the media, teaching materials, and learning strategies. To overcome the problem, the teachers need teaching materials that can reduce the burden on teachers in presenting the materials either offline or online so they will be more focused in guiding and facilitating the students in learning. The teaching material refers to a module that helps students to learn individually and to repeat and practice the knowledge that has been given by the teacher anywhere and anytime. According to research [2] The development of embroidery module for grade XI students of fashion is intended to provide learning medium in the form of module as teaching materials to help or facilitate the students in learning. The results shows that the embroidery module as teaching material is very feasible used in the subject of Fashion Decorations and it can increase the learning motivation of students of grade XI at Vocational High School.

Fashion Design taught in grade XI is for making digital designs. From the results of initial observations a few years earlier, it was obtained that the learning of Fashion Design was still done manually. Meanwhile, nowadays, to learn fashion design digitally, they have to find their own sources from video tutorials on YouTube. YouTube and other social media can be used as learning resources because of the availability of social learning facilities on the platform and recommending high quality relevant learning content to users who have no or limited experience using the platform for learning [3] and [4]. The positive results obtained from this educational project, show that YouTube offers an effective platform for the development of student-created activities [5] (Chan, 2010) and [6]. However, students still find it difficult to learn Fashion Design digitally with video tutorial guides from YouTube. Many students find it hard to learn fashion design even though they have studied it through video tutorials.

Based on [7] As a learning medium, YouTube has several drawbacks, such as the need for an internet network to access videos. Without an internet network, the teacher has to download the video first. Some videos on YouTube also have a less clear image resolution if downloaded at a low capacity. Another weakness is that the material on YouTube is not fully in accordance with the needs of students based on the curriculum objectives that have been set. In order to optimize students' understanding of learning two-dimensional works of art, teachers should apply a video that is representative of the curriculum objectives. [8] stated that compulsive use of YouTube has a negative effect on academic aspect. It is because YouTube is more for entertainment purpose, students cannot understand the content presented.

The Ibis Paint X is one of the applications used in Fashion Design. The Ibis Paint X application can be operated either with a computer or a smartphone, making it easier for students. Most of the students have their own smartphones so that the learning process can run smoothly even though they don't have their own computers at home. The Ibis Paint X application was chosen because it has complete features, is easy to use, provides video tutorials, can be saved in various formats, is light, does not add to the burden on mobile phones, and it is a free application so that it does not burden the students.

Fig. 1. The Procedure of Module Development Using ADDIE Model

Some of the problems faced in the Fashion Design learning process are: Teachers use monotonous learning media; lack of students and teachers' digital design concepts; students are still not on time in completing assignments; students are less interested and less motivated to design in detail because they think they have no talent; the work result does not meet the evaluation criteria; students tend to only imitate the media images from the teacher; the use of fabric motifs and colors is still monotonous and lack of facilities in learning.

Based on the problems described above, it can be seen that a module needs to be used in learning activities. Thus, the purpose of this study is to determine the stages of developing a learning medium in the form of module and to determine the feasibility assessment of that learning medium in Fashion Design.

2 Methods

This study used a Research and Development approach which was adopted using the ADDIE model development consisting of Analysis, Design, Development, Implementation and Evaluation [9] The educational development research includes the development process, product validation, product testing, and evaluation. The ADDIE model is a class-oriented development model. The stages of module development with the ADDIE model can be seen more clearly in Fig. 1.

3 Results and Discussion

The development model used in this study is the ADDIE model, with the stages of Analysis, Design, Development, Implementation, and Evaluation. Based on the Research and Development carried out, the following results were obtained:

3.1 The Development Results

The product developed in this study is the module of Ibis Paint X application which is used for learning Fashion Design. Before designing the module, first, the needs of learning media of Vocational High School students in digital Fashion Design learning are analysed. The results of observations and interviews showed that the analysis of the needs to develop appropriate learning media is as follows: (1) Students' difficulty in learning digital design, which is due to the lack of facilities and teaching materials that can inspire and attract them to be able to learn independently; (2) Students' needs for the module, they need learning media that can assist them during the learning; (3) The topic used as the module content, i.e. Digital Fashion Design; (4) Basic Competencies and Achievement Indicators that are expected.

Next, the design phase includes the criteria for the preparation of the module framework, the collection and selection of references, the module design, and the preparation of module response instruments.

3.1.1 Module Systematics Preparation

The framework for the Ibis Paint X application module is based on the module preparation guidelines from the BSNP 2017. The module developed consist of learning activities that are arranged systematically. The initial part contains a cover, introduction, Core Competencies and Basic Competencies, Module Position Map, table of contents, list of pictures, and list of tables. The content section contains the Ibis Paint X application module. The final section contains the Glossary and Bibliography. The framework of the compiled module can be seen in the appendix.

3.1.2 Module Design

The preparation of the module design includes the beginning, content, and end. Figure 2 is the design of the initial part of the Ibis Paint X application module.

The next stage is to test the feasibility of the Fashion Design module with the Ibis Paint X application that has been designed by a material expert. As a follow-up to the design that has been carried out, the development steps are as shown in Fig. 3.

3.2 The Data Analysis of the Expert Validation Results

3.2.1 The Media Expert Validation

The aspects assessed in the media validation includes the module size, cover design, and content design. The module size aspect consists of 2 statement items, the module cover design aspect consists of 9 statement items, and the module content design aspect consists of 19 statement items. The results of the media expert validation can be seen in Fig. 4.

3.2.2 The Content Expert Validation

The aspects assessed in the content validation includes the aspects of content feasibility, presentation feasibility, linguistic feasibility, and contextual aspects. The content feasibility aspect consists of 13 statement items, the presentation feasibility aspect consists of

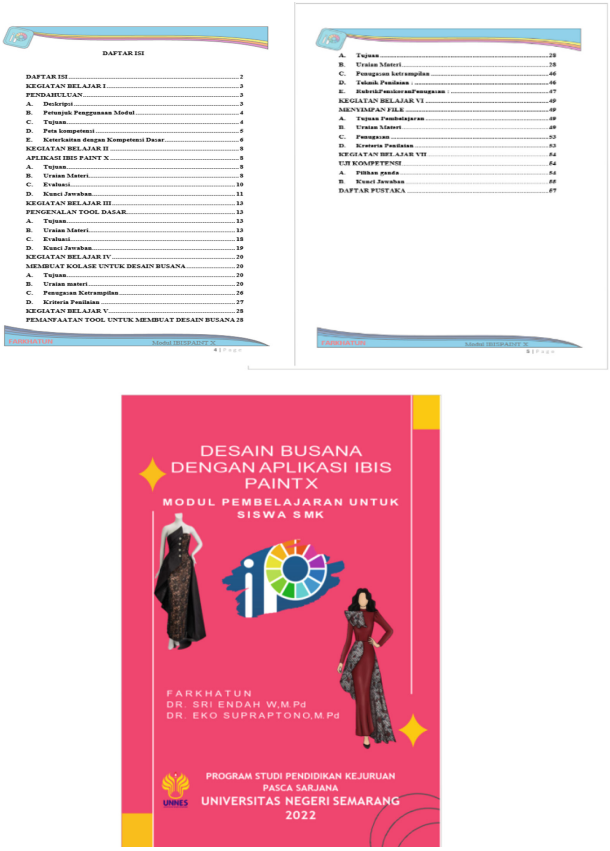

Fig. 2. The Module Design

7 statements, the linguistic feasibility aspect consists of 7 statements and the contextual assessment aspect consists of 11 statements. The results of the content expert validation can be seen in Fig. 5.

3.2.3 Revision

When the validation was done by the media expert and content expert, they provided valid and appropriate information for use, but there were some comments and suggestions given. Complementing the assessment above, there are several comments and suggestions given to improve this learning media.

3.3 Discussion

The feasibility study of the module development results is based on the response assessment sheets of Media Expert from the Center for Multimedia Education and Culture Development and the Content Expert from the design experts. The validity of the module developed in this study includes content validity in the form of conformity between

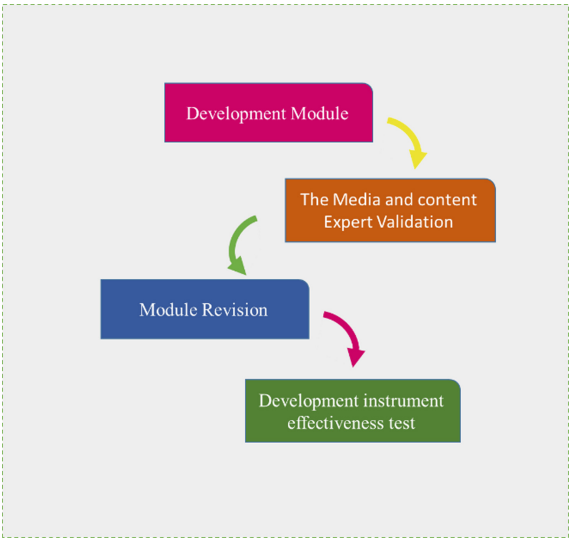

Fig. 3. The Module Development

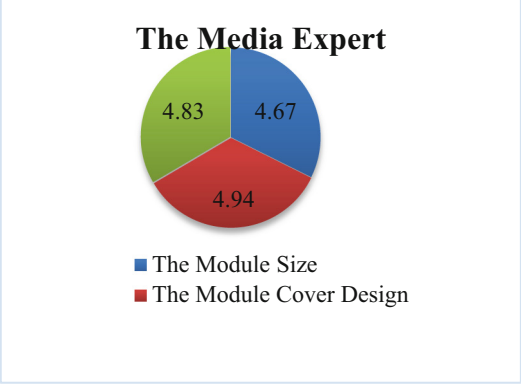

Fig. 4. The Result of the Media Expert Validation

the concepts presented and concepts and theories, as well as construct validity, i.e., the suitability of the transformation or translation of concepts and theories into an operational form [10]. The validity of a product developed can be determined based on the results of validation activities [11].

The module feasibility test done by the media expert from the Center for Multimedia Education and Culture Development refers to the research [12] which obtained a calculation with an average score of 4.88 in the very feasible category. The 2nd Media Expert Response gave an average score of 4.81 with a very feasible category. The average score of the two Media Experts was 4.84 which was in the very feasible category. The average score of the Ibis Paint X application module feasibility test done by three Content

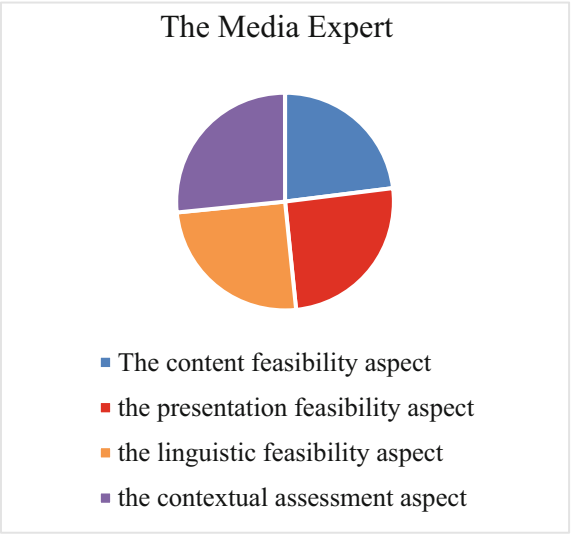

Fig. 5. The Results of the Content Expert Validation

Table 1. The Average Score of the Pre-Test and Post Test - *Performance Test*

Class	Pre-test	Post-test	N-Gain	Description
Experimental	72	91	0,78	Effective

Experts from Fashion Design, was 3.63 with very feasible criteria for the overall aspects, thus the Ibis Paint X application was declared valid and very feasible.

The Ibis Paint X application module is valid with revisions and does not require a significant revision and it is suitable for use as teaching materials for students' Competency in Fashion Design. This is in line with [13] the results showed that the training module obtained a high content validity score of 77.2% (0.77) and a satisfactory level of reliability (Cronbach's alpha coefficient value of 0.75).

The research conducted results the data in the form of quantitative data. Those data tested the effectiveness of the module. The increase in students' abilities was obtained from the results between the pretest scores and the posttest score in learning activities using a performance test. The following are the results of the assessment recapitulation of the performance test which are shown in Table 1.

Based on Table 1, the results of the score recapitulation of the performance test shows an increase as it can be seen in the average score of the pre-test and post-test. The average pretest score is 72 while the posttest score is 91. After being given the treatment, the module can improve the students' competence of Fashion Design. This research is in line with a research conducted by [14] that the module is assessed based on standard criteria: the 80/80 rule, t-test, and the results show that the post-test score is higher than the pre-test score. It proves that students who are taught using the model achieve better

learning outcomes with a statistical significance of 0.05. In conclusion, the use of the module can develop students' knowledge and skills in basic electronics.

4 Conclusion

Based on the results of this Research Development and discussion of the Ibis Paint X Application Module, it can be concluded that the module is very suitable for use in learning Fashion Design. The results of the content expert's feasibility test show that the overall aspect has an average score of 3.63 with very feasible criteria, thus the Ibis Paint X Application Module is declared valid and very feasible. Based on the validation results, it can be concluded that the Ibis Paint X application module is valid with revisions and does not require a significant modification and is suitable for use as teaching materials for students' Competency in Fashion Design. The Ibis Paint X Application Module that was developed is effectively used as a learning medium that can improve student competence. Before treatment, the average students' creativity is 72% and after treatment, it improves to be 91%.

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