# Increasing Fashion Design Creativity by Using the Ibis Paint X Application Module

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| Article Info | Abstract |
|---|---|
| | The development of technology in the world of education is very helpful, especially in improving the quality of learning. This requires the world of education to adapt it. The characteristics of students in the 21st century as the digital generation make teachers have to be able to understand them. Thus, the teachers need to provide learning media that is adaptable to technological developments. Specifically, this research aims to: Develop a module on the subject of Fashion Design; investigate the feasibility of the module on the subject of Fashion Drawing; and find the increase of students' creativity in Digital Fashion Design subject for Grade XI students by using the Ibis Paint X media. Research on Development of learning media in the form of this module uses the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation). The data analysis in this study consisted of: Determining the feasibility of the module; Determining the practicality of the module; and Determining the level of students' creativity. The feasibility test of the module resulted a very feasible category and the practicality test of the module showed a very practical category. The module that was developed was also tested for its effectiveness, it had an N-Gain value of 78, which means that the module was effective and the result of the students' creativity level was in the creative category. Based on the results of the study, it can be concluded that the module developed in this research is very feasible, very practical and creative to be used in Digital Fashion Design learning for vocational students of Fashion Design. |

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## INTRODUCTION

The rapid development of the digitalization era requires the world of education to keep up. This development has the impact of increasing openness of information and knowledge it possesses across time, distance, place, and space boundaries throughout the world. Technology has influenced and changed people in everyday life, increasing the added value of a job or product. If we close our eyes of this development, we will be late in mastering any information and will be left behind to get various opportunities to go advance because all current sectors are controlled by digital technology.

These changes have an impact on learning. Educational actors, both educators, staff, and students are required to have the ability to master technology according to their needs and their technological literacy. One of the priorities for improving education is related to the quality of education, especially the quality of learning. Learning is adjusted to the information and communication needs related to the competencies that students need to achieve, supported by increasingly sophisticated technological facilities.

According to the 2013 curriculum, one ability that needs to be developed is the students' ability to develop their creativity. In accordance with the Regulation of the Minister of Education and Culture of the Republic of Indonesia No. 69 of 2013 which states that the 2013 curriculum aims to prepare Indonesian people to have the ability to live as citizens who are faithful, productive, creative, innovative, and affective and able to contribute to the life of society, nation and state and to the world civilization.

In line with (Sudira,2016. ) it was stated that vocational learning must be dynamic following the challenges and demands of the world of work and the socio-cultural needs of the community. Vocational learning is required to be based on science, technology, and engineering as a learning that grows and develops the students' ability to do engineering with their creative ideas in solving problems.

Creativity is a process of gathering ideas together and presenting them in a way that has never existed before. One is looking around and exploring the world around, everything that is seen and heard becomes intertwined so as to create something completely new. In this life, creativity is very important because it is a very meaningful ability in the process of human life. Treffinger (in Reni Akbar Hawadi, et al, 2001:13) says that there is no one who does not have creativity. Basically, everyone is born in the world with creative potential. Creativity can be identified and nurtured through proper education. Creativity is one of the basic human needs, namely the need for self-realization and it is the highest need for humans.

Fashion Design learning is one of the vocational learning that utilizes digital technology. In learning Fashion Design, it is required to be able to develop creativity. Preliminary observations showed that in learning Fashion Design, the teachers themselves lack of mastery in teaching Fashion Design digitally. The students' scores in Digital Fashion Design subject are not good enough because the learning period in their school is limited and the media used is a computer or laptop which not all students possess it. Thus, it takes the right application as a tool in learning Digital Fashion Design. The right app is the flexible Ibis Paint X app that can be used by everyone.

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

The use of Ibis Paint X application as a learning medium is expected to increase the design creativity of Grade XI students of Fashion Design department of State Vocational High School 1 Brebes. The results of the study done by (Rachmawati,2020: 540-550) also proved that the use of web-assisted interactive learning media is

effective in developing creative thinking skills. According to (Irmayanti,2020:38-48) one of the ways to make the lessons taught is not easily forgotten by students, is to use media as a learning tool. The module that is used as a learning medium in the Fashion Design Computer Application course gives a positive impression in learning. From those two studies, the researchers tried to combine the use of digital-based media by using learning guides in the form of module.

Based on the description above, it can be seen that the use of learning medium in the form of module is very necessary to be applied in order to increase the creativity in learning Party Dress Design digitally by using the Ibis Paint X application.

**METHODS**

The research method used in this study is Research and Development (R&D). It is a

research approach used to produce certain products and to test the effectiveness of these products (Sugiyono,2016). The R&D model helps to produce new products in the form of module that is used as student learning guides in using the Ibis Paint X application on Fashion Design subject for the Basic Competence in Making Women's Party Dress Digitally with the collage concept.

The design of media development in this research is adapted from the ADDIE development model which consists of five stages of development, they are Analysis, Design, Development, Implementation, Evaluation (Alodwan,2018:43.) 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 Figure 1 below.



**Figure 1.** The Module Development Procedure Using ADDIE Model

**RESULTS AND DISCUSSION**

**A. Implementation of Module Development with the ADDIE Model**

The developmental 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 conducted, the following results were obtained:

**1. Analysis**

The initial stage carried out in this research is Analysis. At this stage, the writer analysed the needs of module and the increase in creativity of Vocational High School students in learning Fashion Design digitally.

Based on the data resulted from the observations and interviews, it was found that the analysis of the need to develop appropriate learning media is as follows: (1) Analysis of the

problems faced by students found the students' difficulty in learning Design digitally which is caused by the lack of facilities and teaching materials that can attract them to be able to learn independently; (2) Student needs for the module, they need learning media that can assist them in learning; (3) The topic used as the content of the module, it is about Digital Fashion Design learning; (4) Basic Competencies and Achievement Indicators which are expected.

**2. Design**

The second stage of this ADDIE development model is the Design stage. This stage is carried out to facilitate researchers in designing the module that will be compiled. The Design stage includes the criteria for the preparation of the module framework, collection and selection of references, module design, and preparation of module response instruments.

**a) Module Systematic Preparation**

The framework for the Ibis Paint X Application Module is based on the module

preparation guidelines from the National Education Standards Agency 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.

**b) Module Design**

The preparation of the module design includes the opening, content, and closing. The following is the design of the initial part of the Ibis Paint X application module.

**3. Development**

The next stage is to test the feasibility of the Fashion Design Module with the Ibis Paint X Application that had been designed. As a follow-up to the design that had been carried out, the development steps are as follows:
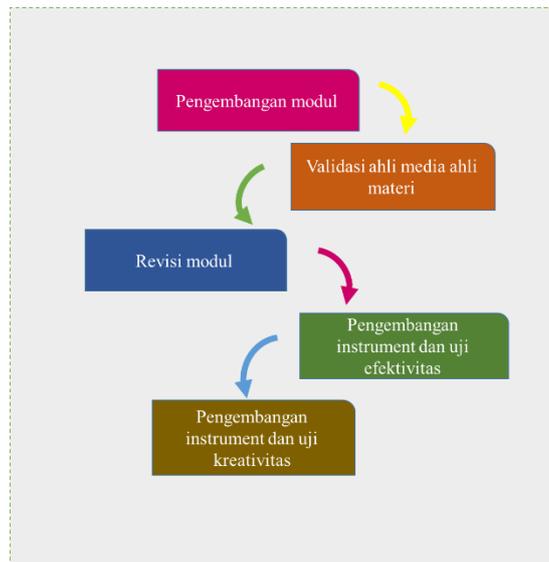


**Figure 2.** The Modul Development

**4. Implementation**

The implementation stage can run if the results of the expert test (feasibility test) and practicality tests done by users have met the feasible and practical criteria. Implementation is the stage of applying the Ibis Paint X Application Module in learning Fashion Design on the Basic Competence of Making Women's Party Dress. The respondents in this stage were 35 students of

State Vocational High School 1 Brebes Grade XI Fashion Design 1 who were given the treatment using the Ibis Paint X Application Module. The questionnaire response done by the students would be a consideration to test the effectiveness of the module. At the implementation stage, the instruments were also given to test the students' creativity. Like the module effectiveness test,

creativity test was also conducted before and after the treatment.

**5.    Evaluation**

The next stage in R&D research is the evaluation stage. At this stage, improvements are made for a better system by processing data that has been obtained from the previous stages. The stages evaluated in this stage are divided into two evaluations, they are formative evaluation and summative evaluation (Selegi, 2017). The formative evaluation in this study is related to the feasibility test and the practicality test of the module while the summative evaluation is related to the effectiveness test of the module. In the Evaluation stage, the data obtained were analyzed to find out the shortcomings of the module, the data from the Evaluation were in the form of suggestions and questionnaires. This evaluation was carried out after the four previous stages in the ADDIE model had been completed. The evaluation stage is an analysis of the effectiveness of in the Ibis Paint X Application Module as a learning medium for the vocational theory subject of Fashion Design. If there is no revision, then the medium is feasible to use. The effectiveness of the Ibis Paint X Application Module was analyzed using the t-test with a significance score of $0.000 < 0.5$ and an N-Gain test of 77.9.

**B.    The Data Analysis of Feasibility, Practicality, and Creativity**

**1.    The Module Feasibility**

The feasibility test of this module refers to the research (Karend,2020) obtained from filling out a questionnaire of the media experts validation including the two experts from the Center for Multimedia Education and Culture Development. Based on the data calculation from the Media Expert 1, an average score of 4.88 was obtained which was in the very feasible category. The Media Expert 2 gave an average of 4.81 in the very feasible category. The average score of those two Media Experts was 4.84 and it was in the very feasible category. Based on the assessment results of the Media Experts from the Center for Multimedia Education and Culture Development, it can be concluded that the Ibis Paint X Application Module is in the very feasible category.

Based on the results of the feasibility study, the content experts gave an average score of 3.63 with a very feasible category. The results of the content expert validation indicate that the development of the module is relevant and feasible as a medium for Digital Fashion Design competencies for vocational students in the Fashion Design program.

**2.    The Module Practicality**

The practicality test of the module was done by the users, they were the teachers and students. In this study, the results of the practicality test of the module were confirmed in the scalability test, the Scalability Coefficient or Sc. The teacher's Sc score was 0.77 and the Student's Sc score was 0.89 with the criteria that meet the requirements, it was $> 0.60$ (Nazir & CIA,2005:99-113). The results of the practicality test done by the teachers and students had an average score of 92% with very practical criteria. It can be stated that the Ibis Paint X Application Module is worthy to be used as a teaching material for Fashion Design in the Competence of Fashion Design Skill.

**3.    The Students' Creativity**

The creativity is obtained from the assessment sheet given to students. The creativity assessment sheet consists of four indicators, they are fluent thinking with 2 statements, flexible thinking with 3 statements, original thinking with 2 statements, and elaborative thinking with 4 statements.

Whether or not there is a significant difference can be seen from the results of the Post-test scores on the students' creativity assessment sheet using the Paired Sample T-test. Based on the calculation, it was found that the significance score (Sig) was $0.000 < 0.05$. It can be concluded that there is a significant difference between the student learning outcomes before and after the use of the learning medium. The result of the calculation was that the calculated T count was 15.395 with the T table score at (df = 34; = 5%) was 2.042. Because T count is greater than T table, it can be concluded that there is an improvement in students' creativity after using the Ibis Paint X Application Module as the learning medium.

The increase in creativity can be seen in the following table:

**Table 1.** Average Score of Creativity

|  | Very Creative | Creative | Less Creative |
| --- | --- | --- | --- |
| Fluent Thinking | 80% | 20% | 0 |
| Flexible Thinking | 62% | 38% | 2% |
| Original Thinking | 46% | 54% | 0% |
| Elaborative Thinking | 38% | 57% | 5% |
| Average | 56% | 42% | 2% |

The level of students' creativity shows that as many as 56% of students were very creative, 42% were creative, and 2% were less creative.

The results of the calculation of the N-Gain score in this study showed that the average N-Gain score was 84.47, the minimum score was 39.13% and the maximum N-gain score was 94.44%. It can be seen that the average N Gain score was 84.47% so it can be concluded that the use of the Ibis Paint X Application Module in Vocational High Schools is able to increase student creativity.

The use of this module that can increase students' creativity can also be seen in the application used, i.e., the Ibis Paint X Application which has advantages, including 1) there are more than 2000 realistic brush styles, 2) it can create and add 40 types of screen tones, 3) there is a frame separator feature which function for design adjustments, and 4) it is equipped with text tools to create beautiful title texts and dialogs in image designs.

**Discussion**

The purpose of the research is to develop a learning medium in the form of Ibis Paint X Application Module in learning Fashion Design with the Basic Competence of Making Women's Party Dress digitally. The method used in this study was Research and Development (R&D) with the ADDIE approach developed by Dick and Carrey. This developmental model consists of several stages, they are Design, Development, Implementation, and Evaluation. The advantage of the ADDIE developmental model is that there is an evaluation at each stage so that it can minimize the error rate or product shortage at the final stage of this model (Tegeh,2014).

One of the learning media that can be used is printed teaching materials in the form of module. The use of module in learning will be more effective, efficient, and relevant. Students are required to study independently and be able to solve problems (Sari & Novrita,2020:13-26). The weakness in this study is that when the module is used with the help of the application, if there is a typo of the symbol, the application will not find a solution to the question. In addition, it can't be opened on a mobilephone. Modules are also called media for independent learning because they are equipped with instructions for learning that are summarized completely in the form of learning tools or facilities that contain materials, methods, limitations, and ways of evaluating which are designed systematically and attractively to achieve the expected competencies.

The final result of this R&D is in the form of Ibis Paint X Application Module. It has the advantage that the module is made in a language that is easily understood by students, it becomes a guide in making digital designs so the students can use it directly, it provides coherent procedures, and it contains material and evaluation.

Akker et al. (1999) stated that one of the objectives of R&D is to promote scientific and practical final product. Learning media are tools, facilities, or various types of components of the student environment that can stimulate learning (Sudjana,2009). According to (Depdiknas,2008) a module can be stated to be good and attractive if there are characteristics of self-instruction, self-contained, stand-alone, adaptive, and user friendly. Based on the explanation above, the practicality test of the module was done by the module users, i.e., teachers and students of Fashion Design in Vocational High School.

The user validation stage is done by the teachers and students of Fashion Design department. The results showed the interest indicator got a score of 100% with very practical criteria, the content indicator got a score of 90% with very practical criteria, the language indicator got a score of 86% with very practical criteria, and the competency indicator got a score of 94% with very practical criteria. Based on all the indicators that have been mentioned above, it is then included the aspect of students' responses. The user validation results got an average score of 92% with very practical criteria.

The main purpose of using module as a learning medium is to increase the effectiveness of teaching and learning activities in schools including time, funds, facilities and personnel, in order to achieve goals optimally (Susanti,2020:45–53). This study aims to increase students' creativity in learning Fashion Design with the topic of Making Women's Party Dress Digitally for Vocational High School students, especially the students of Fashion Design department.

The increase in students' creativity is seen from the psychomotor aspect, i.e., the skills of making product activities. In this case, the students are directed to make fashion designs with Basic Competence in Making Women's Party Dress digitally. Assessment on the students' creativity aspect was done before and after the treatment which was in the form the use of the Ibis Paint X Application Module. The data resulted before the treatment were 56% of students were in the very creative category, 42% of students were in the creative category, and 2% students were in the less creative category. The average creativity of students before the treatment was 68.86% while after the treatment was 89.03%.

**Table 2.** The Average Score of Creativity Pre-Test and Post-Test

|  | Pre-test | Post-test | N-Gain | Description |
|---|---|---|---|---|
| Experiment | 77,16 | 90,79 | 0,84 | High |

Based on the results of the calculation of the N-Gain score test in this study, it showed that the average N-Gain score was 84.47, the minimum score was 39.13% and the maximum N-gain score was 94.44%. Based on the interpretation of the effectiveness of the N-Gain score above, it can be seen that the average Gain score was 84.47% so it can be concluded that the use of the Ibis Paint X Application Module in Vocational High Schools can increase the students' creativity.

The results of this study are in line with (Long,2020) that the effect of the developed module was found from the Pre-Test and Post-Test research method, Paired Sample T-Test and Wilcoxon Signed-Rank test which were used to analyze scores. The results showed the developed module had significantly increased the creativity of the students.

In addition, this research is also in line with (Horng,2005:352 – 358). He stated that teaching strategies to improve students' creativity skills that have been proven successful include: (1) student-centered learning; (2) the use of aids in learning; (3) good classroom management; (4) link and match between teaching content and real-life context; (5) opening statements that encourage students to increase their creativity.

The use of the Ibis Paint X Application Module by Vocational High School students can be categorized as very feasible, very practical, effective, and significant to increase their competence and creativity. The latest development of this module are: (1) The development of the Ibis Paint X Application Module which is used as a guide in Making Women's Party Dress Designs digitally (2) The module is in the form of printed media that makes it easier for students to learn independently (3) There are coherent procedures accompanied by colorfull pictures (4) It can be accessed directly by the students' smartphones.

**CONCLUSION**

Based on the results of this R&D and the discussion of the Ibis Paint X Application Module, it can be concluded that the use of the

module as a learning medium is very helpful with an influence on students' creativity in learning. The results of the analysis explained that the module can be used for independent learning this is due to the characteristics of the module as a medium that contains procedures in learning activities accompanied by an evaluation. The developed module can increase students' creativity. Before the treatment, the average score of students' creativity was 68.86% while after the treatment, the score increased to 89.03%.

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