Development of Learning Media Based on Adobe Flash CS6 in Vocational Theory Subjects of Clothing Decoration Making

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Article Info	Abstract
	This research was conducted based on the results of observations and interviews which found out that 65% of students in Fashion Design did not meet the minimum completeness criteria (KKM) in the subject of Clothing Decoration Making because the media used by the teacher did not motivate students to learn. The purpose of this research study is (1)developing learning media based on Adobe Flash CS6 in the Vocational Theory of Clothing Decoration Making, (2)analyzing the feasibility and practicality of instructional media, (3)analyzing the effectiveness of the use of instructional media. The research development of learning media based on Adobe Flash CS 6 uses the ADDIE development model (Analysis, Design, Development, Implementation and Evaluations). The data collection tool for the feasibility of instructional media uses expert validation questionnaires namely material experts and media experts. Data on the practicality of the media used an assessment questionnaire by teachers and students. Data on the effectiveness of the media used question instruments. The validity test of the questionnaire instrument used Aiken's V formula, and the question instrument was validated with the product moment correlation formula. The reliability test of the questionnaire instrument used Cohen's Kappa, while the reliability test of the question instrument used the Split-Half technique. The results of eligibility by material experts were known as 91% in the very feasible category and media experts at 81% in the very feasible category. The effectiveness of Adobe Flash CS6 based media using the t test showed that .the significance value was 0,000> 0.05. So it can be concluded that there were significant differences. The N-gain test result was 77.9% which is included in the effective category. Based on the results of the analysis of these data, learning media can be used by fashion students at SMK Negeri 1 Sayung as an effective learning media for Vocational Theory Subjects of Clothing Decoration Making.

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INTRODUCTION

Media is an important component in the teaching and learning process. Media has a function as an intermediary for delivering messages from teachers to students. Media is referred to as all forms of physical tools that can present learning material and stimulate students to learn Briggs (in Sadiman, 2008: 6). Media in the world of education is one component that can support the quality of graduates. One of the efforts to achieve competency attitudes, knowledge and skills in the learning process is the selection of the correct media so that the subject matter can reach students properly.

The characteristic of learning using the 2013 curriculum is the use of technology-based learning media The 2013 curriculum emphasizes the learning process with scientific methods. Technology in scientific learning methods is to improve the efficiency and effectiveness of learning. Currently the technology media needs to be considered because with technology, learning can be accessed more quickly and easily. The same opinion was also said by Hartanto (2016) in his research which produced the conclusion that information technology and telecommunications can eliminate the time and space limits that have restricted the world of Education, so it can be concluded that the use of technology-based media is very suitable to be used for the learning process with the 2013 curriculum.

Based on observations made at SMK Negeri 1 Sayung, the learning media used to convey the subject of vocational theory of dressmaking are print media in the form of modules and job sheets. The results of interviews with teachers and students of fashion, learning using print media did not trigger interest in learning, students feel there is no interaction in the learning process. Learning using print media is not student-centered, but focuses more on the theoretical explanation presented by the teacher, this results in students being bored during learning, so that vocational theory subjects have not been maximally achieved

Subjects in the Vocational Theory of Dressmaking that do not reach the minimum completeness criteria (KKM) are the subject of clothing decorations making (PHB), which is 65%. who are unable to achieve the minimum completeness criteria. The subject of clothing decorations making (PHB) has very many basic competencies. The basic competencies of clothing decorations making (PHB) include knowing about various types of fashion decorations and being able to distinguish fashion decorations such as decorative stitches, embroidery and image shapes so that it requires good thinking and memory skills.

Learning media should be a tool used by the teacher as a means of conveying learning information to students, as a stimulant for thinking, student attention and student interest in learning so that it supports the success of learning objectives. A good learning media according to Gerlach and Ely (in Arsyad, 2005: 11) is a learning media that is able to build the condition of students having knowledge, skills and attitudes as well as having visual and verbal abilities as well.

SMK Negeri 1 Sayung has facilities and infrastructure in the form of three practice rooms equipped with LCD projectors as well as a computer study room with a capacity of 30 computers that run well. The facilities owned by SMK Negeri 1 Sayung should be able to be of great potential as a support for the formation of an interesting and innovative teaching and learning process for students of Fashion Design. however, in its implementation, the facilities that are owned have not been fully utilized to support the teaching and learning process. Technology-based learning media that can display both visual and verbal is the use of computer-based media One of the development of computer-based media is using Adobe Flash program. Adobe flash is a graphic animation program that is used to produce works in the field of animation, presentations to learning media. The Adobe Flash program has the advantage of making 2-dimensional designs, making movies, games, animation buttons and interactive menus. Adobe Flash is also equipped with an Action script menu, custom easing and filters.

The Adobee Flash program is able to integrate the components of color, images, sound, music and motion animation more smoothly so that it is hoped that Adobe Flash-based learning will be able to process the subject of Clothing Decoration Making (PHB) to be attractive, easy to understand and able

to stimulate student interest and motivation. The development of Adobe Flash-based media is also expected to be able to improve students' understanding of Fashion Design at SMK Negeri 1 Sayung in the subject of Clothing Decoration Making (PHB). Based on the description above, the objectives of this research are (1) developing learning media based on Adobe Flash CS6 on the Vocational Theory Subjects of Clothing Decoration Making; (2) analyzing the feasibility and practicality of instructional media; (3) analyzing the effectiveness of using Adobe Flash CS6-based learning media on the Vocational Theory Subjects of Clothing Decoration Making

METHOD

The research method used is the Research and Development (R&D) development method with the ADDIE model approach. According to Warsita (2011: 7) the ADDIE development model was a development model based on an effective, dynamic system, and supports learning media development procedures. There were 5 stages of development, namely 1) Requirement analysis stage 2) Design phase 3) Development stage 4) Product trial phase 5) Evaluation stage. The flow of adobe flash CS6 based learning media development can be seen in Figure 1
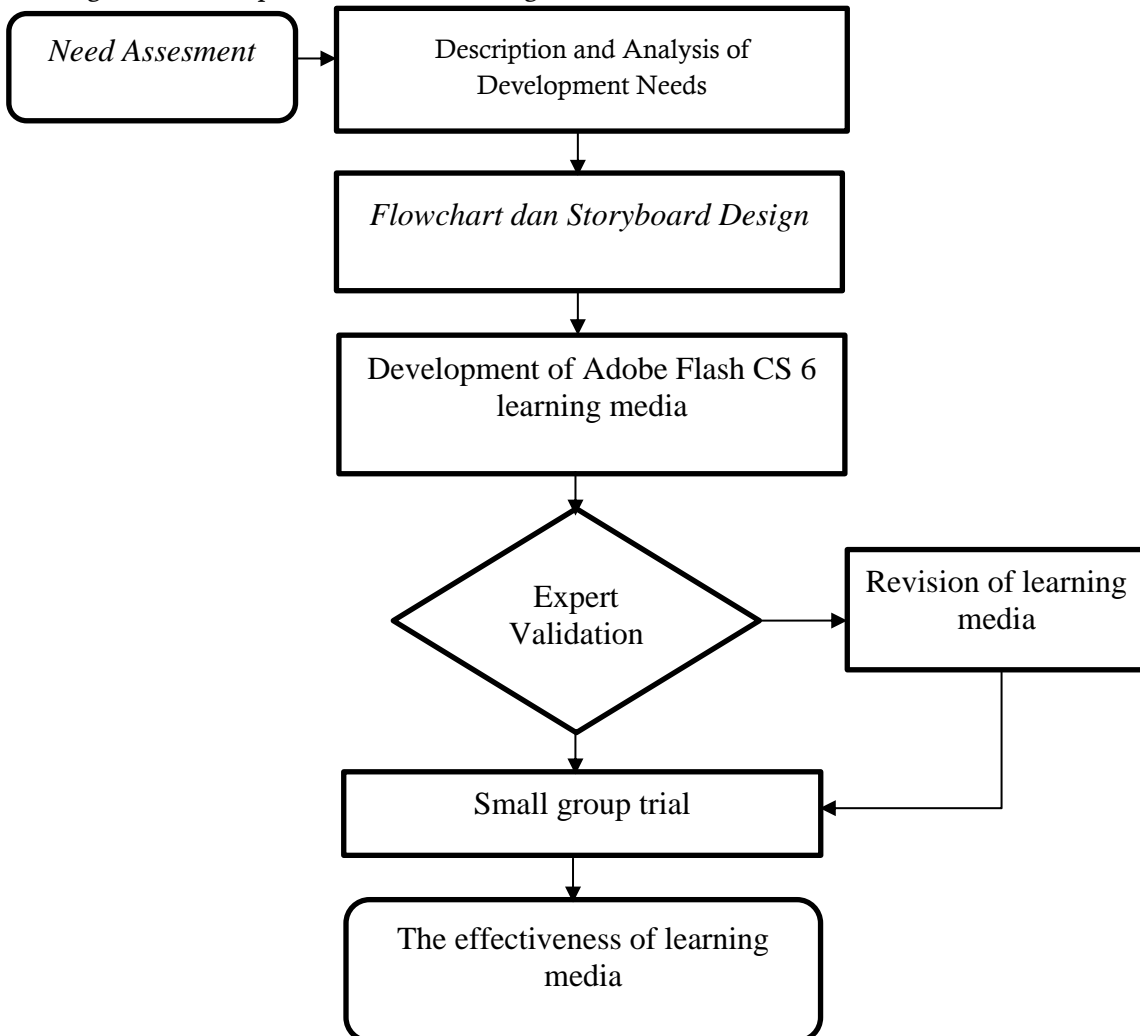

Figure 1. Stages of the ADDIE Development Model

ADDIE method was used as a procedure for developing adobe flash based learning media cs6 on Vocational Theory Subjects of Clothing Decoration Making. The research development of instructional media was carried out at SMK Negeri 1 Sayung with the research subjects being grade 2 students

totaling 30 students. The instrument used in research development learning media aims to find (1) the feasibility of learning media; (2) the practicality of learning media; (3) the effectiveness of instructional media

1) Feasibility of learning media

Data on the feasibility of instructional media was obtained from a media validation questionnaire by two experts / experts namely material experts and media experts. Before the instrument was used as an instrument, the instrument was tested using Aiken's V formula to find out the validity of the items, and reliability uses Cohen's Kappa. The results of the validity test of the material expert instrument were 23 valid items and 2 invalid items. While the validity of the material expert instrument, namely 16 valid items and 4 invalid items.. The reliability test of the material expert instrument obtained a value of 0.73> 0.61 with a significance value of 0.000, and media expert instruments obtained a value of 0.70> 0.61 with a significance of 0.000. The cohen's kappa reliability results show a reliable instrument and can be used as a data collection tool.

Analysis of the feasibility of instructional media is calculated based on the assessment of material experts and media experts in the form of a Likert scale on a scale of 1-5, which is 5(very decent); 4 (feasible); 3 (decent enough); 2 (less feasible); 1 (not feasible). Assessment of the feasibility of instructional media by material experts obtains a percentage score of 91% in the category of very feasible and media experts that is 81% in the category of very feasible.

2) Practicality of learning media

The practicality data of the learning media were obtained through questionnaire responses of teachers and students after the use of instructional media in the form of a Likert scale on aspects (1) aspects of the quality of content / material; (2) learning aspects; (3) feedback and adaptation aspects; (4) motivational aspects; (5) design aspects; (6) ease of use aspects; (7) ease of access aspects and 8) convenience aspects were reused for the development of other media. The results of the instrument validity test used the Aiken's V formula, namely 32 valid items and 6 invalid items. Reliability Test using Cohen's Kappa obtains a value of 0.63> 0.61 with a significance value of 0.000. Cohen's Kappa reliability results show a reliable instrument and can be used as a data collection tool.

The practicality analysis of instructional media was assessed by teachers and students in the form of a Likert scale on a scale of 1-5, which is 5(very decent); 4 (feasible); 3 (decent enough); 2 (less feasible); 1 (not feasible). The score of practicality assessment of instructional media by teachers is 85.6% in the very practical category and students is 83.9% in the very practical category

3) Effectiveness of instructional media.

Data on the effectiveness of instructional media was obtained through instruments in the form of multiple choice questions on subjects fashion decoration making. The validity of the test instruments was tested using the product moment correlation formula with SPSS 22 software with a significance level of 5%. If $r_{xy} > r_{tabel}$ then 40 questions are said to be valid and 5 questions are invalid. Test the reliability of the questions used the Split-Half technique formula with SPSS 22, Reliability test shows the value of 0.91, which is a reliable instrument. the level of difficulty test is 24 questions in the easy category, 15 questions in the medium category and 1 question in the difficult category. Based on the different power test problems, obtained 11 excellent questions, 12 good questions, 18 moderate questions, and 4 bad questions

Data analysis on the effectiveness of instructional media was carried out by comparing pre-test and post-test scores. Data normality test calculated using SPSS 22 shows the significance value of Pre-test is 0.114> 0.05 and the significance value of Post-test is 0.158> 0.05, Normality test results show normally distributed data. Data normality test calculated using SPSS 22 shows the significance value of Pre-test is 0.114> 0.05 and the significance value of Post-test is 0.158> 0.05, indicating the data is normal. Homogeneity test known the significance value of the pre-test and post-test data of 0.531> 0.05 indicating the data is homogeneous

Analysis of the effectiveness of instructional media uses the t test and to find out how much effectiveness the learning media based on Adobe Flash CS 6 on the Vocational Theory of Clothing Decoration Making can use the N-Gain formula. T test analysis results obtained significance value of 0.000 <0.05, so it can be concluded that there is a significant difference between the value of student learning outcomes before the use of adobe flash cs 6 based learning media by 77.9%.

RESULTS AND DISCUSSION

1) Feasibility of Learning Media Based on Adobe Flash CS6
 a) Material Expert Validation
    The results of the expert validation of the material viewed from the aspects of content quality, learning goals, accessibility, reusability, feedback and adaptation, and motivation are 91%, that is in the very feasible category. Description of the feasibility data by material experts can be seen in table 1

Table 1. Expert Test Material

Feasibility Indicator	Average score	Category	Percentage Score (%)
Content Quality	19	very feasibility	95
learning Goal	22.6	very feasibility	90.4
Accesibilty	18	very feasibility	90
Reusability	13.6	very feasibility	90.6
feedback and Adaptation	13	very feasibility	86
Motivation	18	very feasibility	90
Total	104.3	very feasibility	91

 b) Media Expert Validation
    The feasibility of learning media based on Adobe Flash CS 6 by media experts seen from aspects of Presentation design, interaction usability, accessibility, reusability. The results of the feasibility test were 81% in the very feasible category, the description of the feasibility data by media experts can be seen in table 2

Table 2. Media Expert Test

Feasibility Indicator	Average score	Category	Percentage Score (%)
Presentation design	17	very feasibility	85
Interaction Usability	20.6	feasibility	82
Accesibilty	16.6	feasibility	83
Reusability	10.6	feasibility	71
TOTAL	65	feasibility	81

2) Practical Learning Media Based on Adobe Flash CS6
    Data analysis on the practicality of learning media based on Adobe Flash CS 6 on vocational theory subjects making fashion ornaments based on teacher and student assessments in terms of content quality, learning goals, feedback and adaptation, motivation, presentation design, interaction usability, accessibility and reusability is explained in table 3

Table 3. Questionnaire Results of Teacher and Student Responses

Feasibility Indicator	The response Teacher	The response Student	Average score	Category
Content Quality	82.5	90	86.2%	Very practical
Learning Goal	82	85.7	83.8%	Very practical
Feedback And Adaptation	82,5	83.5	83%	Very practical
Motivation	90	84.6	87.3%	Very practical
Presentation design	88	82.1	85%	Very practical

Interaction Usability	90	82.9	86.4%	Very practical
Accesibilty	85	81.5	83.2%	Very practical
Reusability	86.6	80.2	83.3%	Very practical
TOTAL	85.6	83.9	86.2%	Very practical

The results of the questionnaire responses of teachers and students obtained a total score of 86.2% indicating that learning media is very practical to be applied to vocational theory subjects making fashion ornaments. Based on teacher and student assessment data, the highest order of aspects is in aspects of motivation, then interaction usability, content quality, presentation design, learning goals, reusability, accessibility and finally is feedback and adaptation.

3) Effectiveness of Learning Media Based on Adobe Flash CS6

The effectiveness of Adobe Flash CS6-based learning media in vocational theory subjects of clothing decorations making is proven through the t test on student learning outcomes.Based on the t test it is known that the significance value is 0,000 <0.05 and the N-Gain Test is 77.9%. The data analysis shows that there are significant differences in student learning outcomes before and after the use of Adobe Flash CS 6-based learning media.

This development research produces adobe flash cs6 based learning media which is feasible, practical and effective, so that the media can be implemented as a learning media for vocational theory of clothing decoration making (PHB). According to Azhar (2011) media is a tool in the learning process inside and outside of school and is a means that can stimulate students to learn. The advantages of using media include that the media can change the learning process to be more attractive, improve the quality of learning outcomes, foster a positive attitude towards the learning process, and can be used anywhere (Kemp and Dayton, in Arsyad, 2010)

The advantages of adobe flash-based learning media CS 6 are the media are able to integrate the components of color, images, sound, music and motion animation more smoothly, therefore the media is able to process vocational theory subjects to make fashion ornaments more attractive, easier to understand and able to stimulate interest and student motivation. The advantages of media based on Adobe Flash CS 6 are in line with the test results of material experts and media experts which show that learning media based on Adobe Flash CS 6 is very feasible to be used as a learning medium in the subject of vocational theory of clothing decoration making.

The feasibility of learning media based on the aspects of content quality, learning goals, feedback and adaptation, motivation, presentation design, interaction usability, accessibility and reusability is also in accordance with research conducted by Ampere, D (2017). Adobe Flash based learning media is declared feasible in terms of ease of use of learning media, as well as the contents of interactive learning media products

CONCLUSION

The development of learning media for the Vocational Theory of Making Clothing Decoration using the Adobe Flash CS 6 program, produces a software applications that can run on computers or laptops and mobile phones based on Android The development of learning media based on Adobe Flash CS 6 on the Vocational Theory for Clothing Decoration Making is declared feasible by material experts and media experts, respectively 91% and 81%.Learning media are also declared practical by teachers and students, respectively 85% and 83%. The results of the pre-test and post-test showed adobe flash based learning media cs 6 in the effective category. Based on the development of adobe flash learning media CS6 can be implemented in Vocational Theory Subjects of Clothing Decoration Making.

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