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Multimedia Development using Adobe Flash on Grading Course in Fashion Design Education Program

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***Abstract*— This research is a continuation of previous research, where this study produces multimedia of learning on grading course. In this second study, it still aims to develop multimedia because there is no media for advanced grading courses. The second research is still using adobe flash for its multimedia development, and it is still development research developed by Sugiyono. The population in this research trial were Fashion Design Education students who had attended the Grading course in the previous semester which amounted to 10 people, consisting of offering A and B. The data collection techniques that would be carried out were observation, questionnaire, and documentation. The research instruments were in the form of validation questionnaires for media experts, material experts, language experts and assessment questionnaires for students. Based on the results of the validation test from the experts and student assessment, showed that multimedia using Adobe Flash on the learning of advanced Grading course was declared feasible, and then it could be tested on a large scale. Based on the results of this study, this multimedia can be used in Grading courses, especially in the Fashion Design Education Program Universitas Negeri Malang. The impact of the results of this study is that teachers are motivated to make the media better than previous media.**

***Keywords*— Multimedia; Adobe Flash; Grading; Course**

I. INTRODUCTION

This research was conducted because all this time the teaching of Grading courses in the Fashion Design Education Program of Universitas Negeri Malang was done manually or only through the white board, so that this matter ignited for students and lecturers, especially for students who were sitting behind. Thus, it is expected that with the multimedia in the grading course will help the lecturer in the learning process, students will be motivated, so that it is expected to improve student achievement in Grading courses, because so far based on monitoring the value of students in the course is less than optimal. Based on this, multimedia is made using Adobe Flash in learning Grading courses, both for elementary and advanced levels.

As explained in the first study that the grading subject is a pattern making practice course, the subject is one of the techniques for changing patterns from small size (S) to large size (XL). This research is a continuation of the first research, where the second research aims to develop an advanced multimedia learning grading course. Advanced grading lecture material is more difficult than basic level lecture material, so multimedia is needed to make it easier for students to understand advanced lecture material. So far there has been no advanced multimedia grading courses especially using the Adobe Flash application, besides this research is follow-up research from us before.The development of advanced multimedia grading courses still uses the Adobe Flash application, because the presentation is very interesting because it can contain animation, images, videos and text, so that it will attract students' attention.

As explained in the first study mentioned Adobe Flash used to be called Macromedia Flash, this software can be used to create learning media, this software was chosen because it has many supporting features. With these advantages, it is expected that an attractive and visually attractive learning media application will be realized. Adobe Flash, as a multimedia and animation program, has several advantages compared to other animation programs. As written by Hidayatullah et al. [2] that if Adobe Flash is combined with the power of graphics and detailed scenarios, the software will be created that is very useful for millions of Indonesian children.

As is known the type of learning media is quite a lot, so that a teacher must be skilled in choosing the media to be used in the instructor. Especially with the development of the growing world in all fields. As Shola G. et al [5] mentioned, earnings are changing as well, especially the technologies of learning.

From various sources, many mentioned about the types of media that essentially complement each other. From some experts' opinions about the type of media, it can be concluded that learning media consists of visual media, audio media, silent projection media, motion projection media and audio visual, multimedia, and objects.

Multimedia-based learning has many advantages compared to whiteboards and chalk. Multimedia-based learning involves almost all elements of the senses. The use of multimedia can facilitate students in learning, also the time used is more effective and efficient. In addition, learning using multimedia will greatly improve student learning motivation. With high motivation, the achievement will be achieved more optimally.

Multimedia is a combination of several elements, namely text, graphics, sound, video and animation that produce excellent presentations. Opinions Salih Gümü and M.Recep Okurb [6] multimedia are defined as "a computer program consisted of texts, graphics, sound and images and animations". Having different tools to link various parts of the software and interaction with users and giving them feedback are among other properties of multimedia.

Irfan Naufal Umara and, Zabedah A. Aziza [3] can attract students attention and make them concentrate on learning. In addition, by using multimedia, students can have their own capabilities and enhance their creativity.). In recent years, we have witnessed the flourish of multimedia data on the Internet. To facilitate humans in accessing and managing the explosively growing multimedia contents, extensive research efforts have been dedicated to automatic multimedia analysis and processing in the past decades, such as categorization, annotation and indexing [10]. Multimedia involves a combination of multiple modes such as text, graphics, audio and video to present information for learners. Multimedia-based learning has increasingly proliferated in educational circles, having been shaped by rapid technological advancements [5].

Multimedia is very necessary today. For these reasons, teaching and learning is an important signal in tertiary education [4]. Flash for integrating and delivering animations for Internet applications such as radiologic electronic presentations. For this reason, detailed step-by-step instructions for creating Flash slide shows with common features such as text, images, arrows, buttons, movie loops, and transitions are provided [1].

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Thus, with the development of multimedia research for grading courses both basic and advanced level, is expected to facilitate lecturers in teaching and motivated students. Thus, his expectation by using multimedia in grading courses will further improve student achievement.

II. RESEARCH METHOD

This research is development research developed by Sugiyono. The output is in the form of compact disk learning advanced pattern Grading subjects (variation blouse pattern grading, variation skirt pattern grading, and variation in dress pattern grading. This research has not yet arrived at mass production, due to time constraints. Thus the steps of the research are as follows [7]: 1) Potential and problems, 2) Gathering information, 3) Product design, 4) Design validation, 5) Design improvements, 6) Product trials, 7) Product revision, 8) Usage testing , and 9) Product revision

The population in this study were Fashion Design Education students who had attended Grading courses in the previous semester consisting of offering A and B. The samples used were saturated samples because all students were made into the population. For small-scale trials using 10 students, and for large-scale trials using students outside the trial. Data collection techniques to be performed are observation, questionnaires, and documentation. The research instruments were in the form of validation questionnaires for media experts, material experts, language experts and assessment questionnaires for students. To analyze the validation result from the experts and students' appraisal using the formula [8]:

$$\% \text{ Vs x} = \frac{Number\ of\ assesment\ scores}{Number\ of\ maximum\ scores} \text{x } 100\%$$

Content validity creteria

76% - 100%	: feasible
56% - 75%	: quite feasible
40% - 55%	: less fesible
0% - 39%	: not feasible

III. RESULT AND DISCUSSION

This study aims to produce: 1) compact disk in the form of learning multimedia advanced grading courses, 2) Results of expert validation, both material experts, media experts, and language experts, and 3) Student assessment results in small-scale trials.

Based on the validation of the experts, from material experts with a percentage of 93%, media experts with a percentage of 93%, and language experts 85%, then this shows that compact disk learning multimedia advanced grading courses are declared feasible. From the results of student assessment on a small scale also shows that compact disk multimedia learning advanced grading courses are worthy of use with an average percentage of 80%.

Based on the results of the validation test using product moment correlation, it can be seen that the correlation value for item number 2, the value is less than 0.576. because the correlation coefficient in item number 2 is less than r count, it

can be said that the item is not significantly correlated with the total score (declared invalid), so that the item will be discarded. Another item item value is larger than 0.576 and it can be said that the instrument item is valid.

Based on the results of the reliability testing above, it is known that the number of crobanch alpha is 0.818. So the number is greater than the minimum value of alpha 0.6 crobanch. Therefore, it can be concluded that the research instrument used to measure variables in this study is reliable or reliable. Thus, this assessment questionnaire is valid and reliable to be tested on a large scale.

Based on the results of the interview, for the first question about whether the advanced pattern grading lecture material is difficult, it is generally stated that the course material for advanced pattern grading is difficult. The second question about whether learning multimedia on advanced pattern grading subjects is very helpful in understanding the material, generally students answer that the advanced learning multimedia grading pattern patterns are very helpful for students in understanding the material. The third question about the students' opinions about the multimedia that was aired, the answers included were easier to understand, interesting and motivating, and the speed of learning could be adjusted. The fourth question about his suggestions, the answers include improvement of the picture and video quality, font size and color combination, completeness of basic grading theory, need for lecturer assistance, and additional evaluation. The fifth question about whether the multimedia is suitable to be used for grading lectures, students generally answer feasible.

This study aims to develop Adobe Flash multimedia on advanced pattern grading courses, which consist of variations of variations of blouse patterns, variations of polar skirt grading, and grading of variation dress patterns. The design of Adobe Flash multimedia development products on advanced pattern grading subjects that have been completed are then validated by media experts, material experts, and linguists who aim to determine whether the product design has been made feasible or not. There is advice from material experts, namely on the menu display to replace the dress form image into a pattern grading image, and has been revised. From media and language experts there is no improvement suggestion. Assessment questionnaire from students that aims to find out whether or not multimedia has been made, then before the questionnaire is disseminated in the content validation in advance by the learning media expert, and declared valid, and there are suggestions for improvements to the addition of questions for images and text, and have been corrected with suggestion.

Then the student assessment questionnaire is ready to be tested on a small scale, and the results are declared feasible. Then the student assessment questionnaire was tested for validity and reliability before being tested on a large scale. The validity test uses the moment product correlation, while the reliability test using cronbach alpha and the expressed results are valid and reliable. There is one item in the invalid validity test, then the item will be discarded. Of the 21 items of questions, after the recap as a whole, the average calculation of each item was 80%, and based on the validation criterion 80% included eligibility criteria.

Based on the recap of interviews with students, things that need to be revised include improving the quality of images and videos, less large font sizes, and non-existent evaluation menus. The things that need to be revised include image and video quality, font size and color combination, completeness of basic grading theory, multiplied evaluation, and need for lecturer assistance. Based on the suggestions from the students, improvements are made to better quality pictures and videos, enlarged font sizes with attractive color combinations, complementing the basic grading theory, for evaluation or training will be added, then the advice is to assist lecturers so this will be done.

IV. CONCLUSION

The results showed that the results of expert validation tests, both from media experts, material experts, Indonesian linguists, and student ratings in both small-scale trials stated that advanced Grading course multimedia is declared eligible for use in Grading lectures. It is expected with the multimedia learning grading course of an advanced level, it can improve student achievement and teaching and learning process can run smoothly, both from the faculty and students. Suggestions can be given are: 1) for all educational institutions to provide facilities for multimedia development, 2) Providing insight to educators about the benefits of multimedia and motivating to use them in teaching and learning process, 3) can be advanced research for larger scope, for example for all educational institutions that have grading courses.

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