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Improving Learning Outcomes by Developing Instructional Media-Based Adobe Flash Professional CS 5.5 on Principles of Business Subject

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Abstract: *This study aims to: 1) producing instructional media on the subject of business principles of X class Marketing, 2) determining the advisability of the used media based learning Adobe Flash Professional CS 5.5 on the lesson business principles of X class Marketing, 3) determining differences students' result after conducted learning media based on Adobe Flash Professional CS 5.5. Research and Development based on Sugiyono 2012 that used step of potential and problem, data collection, design product, design validation, product revision, product experiment, design revision, using experiment, product revision, and massive production. The percentage of product from expert media validation, expert material validation, student's group limited and student's group experiment showed very valid of the criteria or feasible to use without revision/improvement. Student result learning based on the post test showed high enough differences between the class experiment and class control which were evidenced by* t_{count} *greater than the score* t_{table}*. Based on the comparison of the results of the study it can be concluded that the learning media based Adobe Flash Professional CS 5.5 was very useful and can improve result of student's learning.*

Keywords: *Learning Media, Adobe Flash Professional CS 5.5, The Business Principles, Result Learning.*

I. Introduction

The greater demands of education, technology, and science make education no longer being managed using traditional patterns. In line with the change in society for the development of technology and science, education is required to utilize technology media in order to improve the quality of teachers. In accordance with the opinions of [1] stated that besides as a source of learning, teacher is required to use technology tools in accordance with the development and the demands of this era. The efforts are to fulfill the demands is by utilizing learning technology when the learning process through the technological approach. Learning technology itself is a medium which born from the change of communication that can be used for learning objectives beside the teacher as a facilitator, and learning media such as books and blackboards [2].

[3] explained that the instructional media are not just physical things, but everything that already contains learning materials such as textbooks, modules, real objects, newspaper, interactive video, multimedia systems and others, which allows one to use it to learn in order to acquire the knowledge, skills or attitude change. Media have a component of learning resources and physical objects that can be used to convey messages to have an interesting learning. It aims to increase stimulation students' interest in learning activities. The stimulation can be achieved if the teacher is able to select, develop and utilize various types of media with the help of multimedia learning during learning activities take place. In line with the function of which is to create your own multimedia presentations are dynamic and interactive by combining text, graphics, animation, audio and video. Similarly, the opinion of [4] stated that the media as a means of graphic, photographic or electronic that can be used to capture, process, and reconstruct the visual or verbal information.

[4] stated that the media as a means to convey the message of a communicator to the communicant. Meanwhile, according to [4] said that the media have an important role as a physical mean to convey the content of learning materials such as books, tape recorders, cassettes, cameras, videos, films, slides, photographs, images, graphics, television and computers. The use of instructional media contains sound and display components by providing many opportunities for students to conduct a quasi-experimental and exploration. It aims to provide a learning experience rather than just listening to the explanation from the teacher. Instructional media play an important role in getting students understand the material yet with packaging and style that is interesting, fun, and not boring. Besides, their learning uses computer-based media that enables students to learn independently without relying on teachers in schools. In line with the opinion of [5] stated that the media can also be used as a substitute teacher in the classroom so that learning does not depend on the teacher only.

The media were developed based on the standard of competence of Business Principles sets forth some of the contents in it to be more varied learning, so that students not only learn from the textbook or the module or a summary on the internet only. The rule from commercial law in Indonesia is a material that contains more

about theories, which affect students difficult to understand and students seem passive and the dependency of teacher in using power point, hand out, materials and a summary of learning resources across the Internet and conventional learning models such as lectures and discussion group will often make learning becomes monotonous and less varied. Along with the problem in a research [6] stated that teacher delivered material 'Adjusting Journal Trading Company' still use lecture, and a whiteboard and LCD as the instructional media as well as power point. In terms of display they media are unattractive and boring. In accordance with the problem in research [7] stated that the learning process is still frequently encountered more passive tendency of students so that they are more waiting teacher's explanation rather than seeking and finding their own knowledge, skills or attitudes that they need.

Thus, from the problem raised, there is a needs for developing instructional media on the subjects of Business Principles that can be used by students as independent learning and delivery of materials with different concepts so that learning material is easy to understand for the students. The product developed in this study is instructional media-based software of Adobe Flash Professional CS 5.5. Software Adobe Flash Professional CS 5.5 is computer software used to create animations, videos, images vector and *bitmap* and interactive multimedia [8], the components of images, animations can be processed into an interesting instructional media and can attract students' interest in the learning process.

II. Research and Method

This research was for developing instructional media in the form of Adobe Flash Professional CS 5.5 software consisted of 2 media expert validation, one expert validation material, limited class try-out, and field testing of the experimental class. The test subjects used were conducted in two classes: Class X PM 1 as the experimental class that use the instructional media-based Adobe Flash Professional CS 5.5 while the Class X PM 2 as the control class that did not use media-based learning Adobe Flash Professional CS 5.5. This study used Research and Development model by [9], which suggested that a cycle composed in the 10-step study. Based on the explanation of the cycle that is more simple, clear (easy to understand), detailed and systematic investigator cover all stages of the research and development by [9]. The steps are as follows:

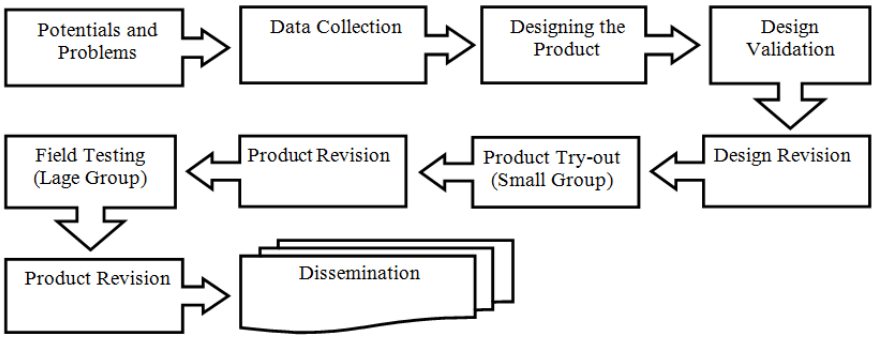

Figure 1: Steps of (R&D) *Research and Development* Method
(Source: Sugiyono, 2012: 409).

III. Findings

The results of research and development in the form of instructional media based Adobe Flash Professional CS 5.5 was supported by other software that helps in the development, such as Microsoft Power Point 2010, Movie Maker and Adobe Reader XI. Instructional media-based Adobe Flash Professional CS 5.5 was applied to the subject of Business Principles showing some combination of audio, images, text, vector images, animation, and video into material Commercial Law Regulations in Indonesia. Instructional media display is divided into two views that display start and display the main menu. The initial view contains an introduction of contain text, picture/logo University of Malang and effect opener in the form of showing the process of loading the intro passage leading to the main menu of instructional media. Furthermore, the display showed the main menu: home, menu SK / KD, about (objectives & indicators), materials, evaluation, glossary, speakers, and instruction to use, profile, and reference.

1. Results of Validation

Table 1 Results of Media and Material Validation

No	Subject	Percentage	Descriptor
1	Media Expert I	78 %	Valid
2	Media Expert II	89 %	Very Valid
Total		83,5 %	Very Valid
3	Material Expert	88 %	Very Valid

Based on Table 1 the results of calculation of the overall percentage of two media validation study showed a score of 83.5%, while the percentage of material expert validation results showed a score of 88%. Thus, it can be concluded according to the criteria of the percentage value of media validation [10], then the media-based learning *Adobe Flash Professional CS 5.5* can be said to be "very valid" and can be used in the learning process of the Business Principles without revision / improvement. The suggestions submitted expert validation of media and material experts to improve the media-based Adobe Flash Professional CS 5.5 which media experts suggested to add more relevant images on case studies and graphics, video, gif, graphics on the display media, as well as shrink the font size and remove square display on the menu "next" and "back". While the material expert suggested adding practice questions in the media, in particular for the description or essay type questions.

2. Try-out of Limited Group

Limited class of product try-out was conducted at Class X Marketing 2 in SMK Negeri 2 Kediri. The test was done on 9 students, which each 3-ability students of high, medium and low obtained from the value of the *post-test.* The indicators used for the assessment of media experts consist of four aspects, namely the quality of the content and objectives, instructional quality, technical quality, exercises. The results of calculation of the overall percentage of group try-out showed a score of 90.6%. Afterwards, it can be concluded that the media-based learning *Adobe Flash Professional CS 5.5* reached the criteria of "very valid or feasible" with descriptor can be used without revision/improvement in activity study subject of Business Principles of Marketing class X SMK Negeri 2 Kediri. The results of questionnaires distributed to students on group trial restricted some suggestions for the researcher including some students suggestions, instructional media can give pictures and animations so that the material is easy to understand. Then, the media is more attractive as well as the students suggested that the instrument and the audio to be adjusted to avoid different perception in understanding the material.

3. Try-out of Experimental Group

The test was conducted in Class X Marketing 1 SMK Negeri 2 Kediri as the experimental class. The test sample was conducted in the experimental group with total 27 students. Where the indicators used for the assessment of media experts consisted of four aspects, namely the quality of the content and objectives, instructional quality, technical quality, exercises. The result of the calculation of the percentage of test use of users (students) in the experimental class in instructional media showed a score of 84, 9%, it can be concluded that the instructional media-based Adobe Flash Professional CS 5.5 reached the criteria of "very valid or feasible" and can used without revision/improvement for learning activities on the subjects of the Business Principles of Marketing class X SMK Negeri 2 Kediri. Revisions were conducted based on suggestions submitted by students in the experimental group which was related to adjust the audio in instructional media.

To determine the differences in students; learning outcomes between the experimental class control class the researcher used post-test scores. The items in post-test can be said good or bad when analyzed using the test items and test the level of discrimination. The try-out was conducted in Class XI PM 2 with total of 35 students. The scores of students' post-test students were considered good when achieving the KKM (minimum score) on subject Business Principles is 75.

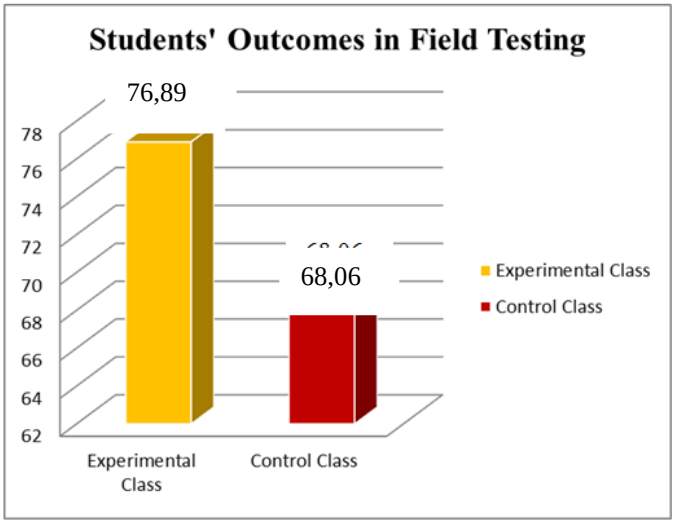

Diagram 1. Results of Students' Outcomes

Based on the data above, the average score of post- test results between experimental class and control class showed high difference, that were 76, 89 and 68.06. Overall, the scores of students in the class using instructional media-based Adobe Flash Professional CS 5.5 achieved mastery level of 70%. While the class using *Power Point* media simple achieved mastery of 40%. From the comparison of the results, it can be concluded that the instructional media-based *Adobe Flash Professional CS 5.5* was very useful and can improve learning outcomes.

Hypothesis testing in *post test* results of *SPSS 21* is using analysis of *Independent Sample t-test*, which showed that F_{count} equal to 1.426 with sign F value of 0.236. By signing F values> 0.05, H_0 was accepted, which meant there was no difference in variance between the experimental class control classes. So, for analysis used the *Equal Variances Assumed.* Analysis showed that the value $t_{count} > t_{table}$ (3.152> 2.000) with sig (2-tailed) < (0.002 <0.05), then H_0 was rejected. There was the average difference between classroom learning outcomes of control and the experimental class.

4. The Final Product

The product is in the form of instructional media-based Adobe Flash Professional CS 5.5 that has been considered effective by having several revisions. Then, the media can otherwise be used as instructional media in the subject of Business Principles Class X Marketing at SMK Negeri 2 Kediri, in the form data burned in compact disk (CD / DVD) and equipped with a manual book.

IV. Discussion

The product was produced in the form of research and development of instructional media-based on Adobe Flash Professional CS 5.5 on the subjects of the Business Principles. The procedure of Research and Development (R&D) adapted from [9]. The instructional media developed contained a material Commercial Law in Indonesia. This instructional media aimed to support learning activity in the classroom, which was in Class X Marketing program in SMK Negeri 2 Kediri.

The product that was instructional media-based Adobe Flash Professional CS 5.5 to encourage students understand the material with attractive packaging and style, which was combined with text, vector images, animation, audio, and video on a matter of legal regulation of trade in Indonesia. The development of instructional media that combined theory and simulation in the form of a picture or video, it is expected that students can easily think and understand the material being taught. This is according to research conducted by [11] stated that multimedia application have to combine text, graphics and audio, to the multimedia application has the potential to link the activity with the object of media so that the media can be integrated with learning. In addition, it is linked to the study of [12] that multimedia technology adds a new dimension in the learning process, which is the concept that is easier to present the material using pictures and animations.

The media developed by the researcher has a role not only as tools for teacher in a learning process, but the media can be used by the teacher to deliver the messages of learning. This is in accordance with the opinion by [13] stated that as a presenter and channeling messages in certain things the media can represent teacher to convey information more precise, clear, and attractive. In addition to the research conducted by [12] states that the information submitted by using multimedia can stimulate change and to create a conducive learning environment and makes learning more meaningful and responsive to the needs of learners.

As a provider and message sender, the media function can be done well even without the physical presence of a teacher [13]. In accordance with media developed by the researcher, where learning media can be used by students in the classroom with the help of the teacher as a facilitator in delivering learning materials and can be used independently or individual students outside the classroom. Moreover, the working system of this media can support students to learn individually. This is according to a research conducted by [14] obtained the results of study showed that the implementation of the learning process by using instructional media HEL *(Hybrid E-Learning)* in which students' role was s as center of learning, the learning systems was done independently through the interactivity of the media. It aimed to develop students' knowledge and understanding.

The instructional media-based Adobe Flash Professional CS 5.5 in the display into two parts, namely the start screen and the final look. Each display contains learning activities as described in the previous chapter. The main element in this media contains a combination of colors, text, vector images, animation, audio, and video in order to motivate students to learn. Designing the media with the display aimed to the media look more attractive, easier and more fun, to decrease the level of student boredom on learning media provided by the teacher such as power point. The results obtained when students were learning using the media, it allowed students to quickly understand and process the learning material. Therefore, it will have an impact on improving students' learning outcomes. This is in line with the opinion expressed by [4] stated that the media as a means of graphic, photographic or electronic that can be used to capture, process, and reconstruct information visual or verbal, wherein the component includes a learning resource or physical vehicle containing instructional

materials in the student environment that can stimulate students to learn. Then added to the research conducted by [15] stated that a well-designed multimedia would provide an alternative to accelerate learning active, decision-making skills and problem solving, construct understanding system.

Development of instructional media aimed to produce media completed with the manual book. The manual book was also explained in the instructional media products, both media operating instructions or instruction of function buttons encountered when operating the media. Before studying content of the media, the students are required to read the manual instruction of the media so that the students easy to operate. Easiness of students to understand the media cannot be separated from the role of the teacher as a facilitator who guided every learning process by using instructional media-based Adobe Flash Professional CS 5.5. Guidance of the teacher to operate the media in the classroom is necessary so that students do not go out from the learning materials

The instructional media which developed using software Adobe Flash Professional CS 5.5 contains components that support media content in the form of navigation buttons, exercises that come with the controller as a controller for the user in using the media. The use of the navigation button is easy to use which the user only needs to click the desired menu option, and then the subject will appear properly. The existence of these keys can be easier for students to repeat the material without having to start from scratch again. This affects the effectiveness and efficiency of learning, because students can learn to minimize the time spent and can accelerate students' learning.

Instructional media can be perfect if they are equipped with feedback and reinforcement for students to correctly understand the material. The exercises on the instruction media contain three types: multiple choice, description/essay, and case studies. Problem cognitive can be categorized good if it contains aspects of easy, medium, and hard. The exercises of multiple choices which lay in the end of processing each question, students will be informed whether the answer is right or wrong. So that students can directly know the answers of the questions.

Instructional media can be tested in a large group that is done by the class X PM 1 as an experimental class is a class that was treated using instructional media-based on Adobe Flash Professional CS 5.5 while the Class X PM 2 as the control class was the class that did not receive the commission of using media learning. This large group test was conducted by the researcher aimed to determine the differences in students' learning outcomes between the experimental class and control class. This research is not only limited to measure the quality of the media developed, but also measure the ability of students with exercises and quizzes as a means to know the students' understanding. Measurement of students' learning outcomes is viewed from the cognitive domain by conducting a test at the end of study (post-test). Cognitive domain with regard to the learning outcomes of intellectual or knowledge consisted of six aspects; knowledge or memory, comprehension, application, analysis, synthesis, and evaluation [16].

The post-test results showed that the average of students' learning outcomes indicated differences between the experimental class and the control class. The result of the second study marketing class that showed the differences are quite high. Based on the comparison of these results, it can be seen that learning using instructional media-based on Adobe Flash Professional CS 5.5 can improve the students' outcomes of Class X PM 1 on subject of Business Principles at SMK Negeri 2 Kediri. The difference score of this study is in line with research conducted by [1] which stated that the students' learning outcomes whom use the medium of learning CBI (Computer Based Instruction) was significantly higher than on the students' learning outcomes whom did not use instructional media CBI (Computer Based Instruction). In this case the media developed was Computer Based Instruction (CBI) using Adobe Flash CS4 and DSCH2. Additionally, a research conducted by [7] obtained the results of study showed that aspects of the media and the material are very good used in learning process. While the students, learning by using this medium reached a level of completeness 70% and student learning using print media achieved mastery of 50%. A research by [11] stated that the development of multimedia application for the material by using algebra was the best solution to help the students with low achievement when studying algebra.

Based on results of the product try-out and development, instructional media of Business Principles-based on Adobe Flash Professional CS 5.5 has advantages and disadvantages as follows. The advantages of learning media Business Principles-based on Adobe Flash Professional CS 5.5 as follows: The first media developed can be used on all types of laptop / computer without installing it first and without having Adobe Flash Professional CS 5.5 software so that users can directly operate media learning, it can facilitate to disseminate the media for the researcher. Second, instructional media-based Adobe Flash Professional CS 5.5 which presented illustrations can help students understand the material.

While the weakness of instructional media Business Principles-based on Adobe Flash Professional CS 5.5 as follows: First instructional media can only be applied to schools that have supported facilities such as LCD projectors, laptop/computer and computer laboratories. In accordance opinions of [17] stated that the kinds of media depend on the supported facility and availability of the school. In addition, a research conducted in

[12] explained that the success of ICT is determined by five things: the infrastructure that supports learning, attitudes, in terms of technical support, administrative as well as the instructional media management, staff development and learning environment.

V. Conclusion and Suggestion

1.1 Conclusion

Based on the results of the study of the development, it can be concluded that (1) The product was developed in the form of instructional media based on Adobe Flash Professional CS 5.5 on the subject of Business Principles of Class X Marketing at SMK 2 Kediri equipped with a manual book, so that users do not experience difficulties when operating the media, (2) the instructional media had a series of try-out and product revision based on media material expert validation, try-out of limited group, and the experimental class product try-out. Therefore, the media has a criteria very valid or applicable to use without revision/improvement of learning activities on the subjects of Business Principles of Class X Marketing SMK Negeri 2 Kediri, (3) the results of student learning based on the post- test showed quite a difference in height between the experimental class with a grade control proven by t_{value} is more greater than the value of $t_{table.}$ Based on the comparison of the results of the study it can be concluded that the media-based learning Adobe Flash Professional CS 5.5 was very useful and can improve student learning outcomes.

1.2 Suggestions

Based on the research of developing instructional media based Adobe Flash Professional CS 5.5, it can be given some suggestions: (1) Instructional media is expected to be developed online is by plugging in html version on learning media. (2) Before the development of instructional media for other Competence Standard and Basic Competence as an alternative instructional medium and additional learning resources. (3) To add a form other more sophisticated application to support learning media products from Adobe Flash Professional CS 5.5. (4) By adding interactivity in the media, it indicates that the media have the capacity to accommodate user responses. (5) Future studies are expected to be more skilled and more creative in developing the instructional media. (6) A limited try-out should take a different class from the control class and experimental class, if the school has only two marketing classes, the future researcher should take the subject for limited try-out from another school with the same subject and grade. (7) To add the experts for validation of media and content. (8) Selection of the control and experimental classes should have the same requisite ability to learn.

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