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The Media Development of Pencak Silat Learning Multimedia Based at SMA/MA

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***Abstract*— The research aims at (1) developing learning software design as a learning resource on the subject pencak silat, designing material in appropriate learning media for use in instructional media Pencak Silat, (2) determining the feasibility of learning media learning to pencak silat. The study can be categorized as Research and Development. Pencak Silat learning software was packaged in compact disk format.. The trustworthiness was conducted using questionnaires to students of SMA Cendana Rumbai. The data were analyzed using quantitative descriptive analysis techniques disclosed in the distribution of scores and category rating scales that had been determined. Based on test results, it can be concluded that: (1) design of learning media that was developed are: intro page, the page guide, the main menu page, the page menu items, page content, pages and pages cover evaluation, (2) the results of expert evaluation of material received mean score of 4.0 and categories as " good". Media expert assessment results have a mean score of 4.15 and categories as "good". Responses students received an mean score of 4.35, and categories as " good". So it can be conclusion that the product developed is suitable for use in the learning process.**

Keywords*— Pencak Silat, Learning, Multimedia Based

I. INTRODUCTION

Physical education has a very important role in intensifying the implementation of education as a process of human development that lasts a lifetime. Physical education provides opportunities for students to be directly involved in various learning experiences through physical activity, play, and exercise which are carried out systematically, directed and planned. Preparing such learning experience is directed to fostering, while forming a healthy and active lifestyle throughout life. In the process of learning physical education the teacher must be able to teach a variety of basic motion skills, techniques and strategies of play / sports, internalize the values of sportsmanship, honest cooperation, and others, from healthy lifestyle habits. The implementation is not through conventional teaching in the classroom which is theoretical in nature, but involves physical, intellectual, emotional and social elements. The activities given in teaching must get a touch on the methods, so that the activities carried out can achieve the teaching goals. Through physical education it is expected that students can gain various experiences to express personal impressions that are fun, creative, innovative, skilled, improve and maintain physical freshness and understanding of human motion.

Therefore, a physical education teacher is very important to the education improvement of education in comprehensive manner. Being a physical education teacher means one must have a high ability to conduct learning activities, given the role held by a physical education teacher very important especially in the era of the Industrial Revolution 4.0 where everything works digitally .The rapid development of technology in the era of industrial revolution 4.0 is very influential on the characteristics of work that exists today, where skills and competencies are the main things that need attention because in the industrial revolution era 4.0 the integration of the use of technology and the internet is so sophisticated and massive it also greatly influences the change of behavior in the business world and the industrial world, the society and consumers in general.

According to the Minister of Research, Technology and Higher Education (Menristekdikti) Mohammad Nasir conveyed that the challenge of the industrial revolution 4.0 must be responded quickly and appropriately by all stakeholders within the Ministry of Research and Technology to be able to improve the skill of the Indonesians amid competition. For this reason, Higher Education is required to formulate strategic policies in various aspects ranging from institutions, fields of study, curriculum, resources, cyber university development, research development and innovation.

The teacher's ability in implementing the Industrial revolution 4 will be able to improve the quality of their students. The expected development is a whole development that includes cognitive, affective, and psychomotor abilities. The role of physical education teacher will be seen starting from the quality of students created after getting learning from the teacher. The duties and obligations of a teacher of Physical Education Sport and Health include regulating, directing and guiding students to achieve a set of goals from Physical Education itself and also to procreate a pleasant learning atmosphere by involving active students in following each learning process that is being carried out. Learning media is an

aid in teaching and learning. Instructional Media can be used to stimulate thoughts, feelings, attention and abilities or learning skills so that it can encourage the learning process be more effective. According to Rayanda Asyar [1] Learning media can be understood as everything that can convey or channel messages from a planned source, so that a conducive learning environment occurs where recipients can carry out the learning process efficiently and effectively . With the media, it is expected to improve the quality of learning and facilitate teachers and students to achieve educational goals.

The scope of physical education, sports and health subjects is among the games and sports which include traditional sports, games, motion exploration, locomotor non-locomotor and manipulative skill, athletic, kasti, rounders, soccer, basketball, volleyball, table tennis , tennis, badminton, martial arts and other activities. Pencak Silat is one of the materials taught in Physical Education subject in High School in Pekanbaru. This pencak silat material should be given in the form of theoretical and practical material, in its learning activities, students are expected to master various basic movements in accordance with the material taught in each semester and certain levels.

Based on observations and the results of interviews with teachers and students in the field, it is found that the perceptions of students about pencak silat material was not taught directly in practice. On the other hand, students are only required to understand through writing and drawing so that students have difficulty in learning it. Less effective learning is seen when students depend only on the teacher with conventional learning methods, causing students to experience difficulties in understanding the presented material. Another fact found in the field is that not all Physical Education teachers master all the material and be able to demonstrate to students. This is due to limited knowledge and due to physical limitations (age) which are not possible to carry out movements. From the results of observations and non-formal interviews above, it can be seen the importance of developing a multimedia-based pencak silat learning model so that it can overcome learning problems and support the achievement of learning objectives.

Conventional learning in its delivery is more likely in the form of words, written or oral which causes less interest to students. According to Arief S. Sadiman, et al. [2] the use of learning media can clarify the presentation of material so as not to be verbalistic. Learning media is very diverse. According to Cecep Kustandi [3] learning media can be grouped into four groups, namely (1) printed technology media, (2) audio-visual technology media, (3) media from computer-based technology, (4) a combination of printing technology and computers. Out of the four types of media, the media will be more optimized if it uses a combination of printing and computer technology because it contains several forms of computer-controlled media. The combination of several types of technology is considered the most sophisticated technique when controlled by a computer.

Learning media that can be used by students for independent learning is CD (Compact Disk) learning. Audio visual Pencak Silat material in Physical Education subjects can be packaged in CD (Compact Disk) learning. With the existence of learning media like this, it is expected to be able to help students to learn independently and to increase understanding of the material presented in it. For the media teacher this can be used as a form of development of textbook / handout learning media . which can help facilitate the delivery of Pencak Silat material.

As for programs (software, application) used by researchers to make learning media that is based on multimedia is adobe flash CS5. The Adobe Flash application was called Macromedia Flash. Adobe Flash was first released in 1996 with the name Macromedia Flash Ver 1.0, then expanded to version 8.0. Starting on December 3, 2005, it has been acquired by Adobe and is now known as Adobe Flash . The advantages of this application can be used to create interactive learning media and developed into interactive games. Adobe flash interactive learning media can be presented offline.

From the above problems, given the importance of pencak silat material and the obstacles experienced in learning as well as entering the Revolution 4.0 era, it is necessary to develop an audio visual media-based pencak silat learning model that can accommodate the needs of students who are able to increase understanding and motivation in study. Therefore, researchers try to develop media multimedia-based learning pencak silat for high school.

II. METHOD

This research is done by using the “Research and Development” according to Sugiyono [4] Development Research or in English *Research and Development* is a research method used to produce certain products and test the effectiveness of these products. *Research and Development* aims to improve the quality of education. In this study *Research and Development is* used to produce learning media. The data used in this study are qualitative and quantitative data. Qualitative data in this study are data obtained through validation from material experts, media experts, and from students. The data obtained is used to carry out the process of developing learning media products.

III. RESULT

A. Data Analysis of Material Validation Results

Based on the data that has been obtained, the assessment of material experts on multimedia was developed, in the aspect of learning in the criteria of "Good" with an average score of 4,1. Whereas the assessment given by material experts on aspects of content / material is included in the criteria of "Good" with an average score of 3,73 . A clearer explanation is summarized in table 1 below:

TABLE 1. FREQUENCY DISTRIBUTION OF ASSESSMENT ASPECTS OF LEARNING BY MATERIAL EXPERTS

Criteria	Frequency	%
Very good	0	0
Well	8	8 0
Pretty good	2	2 0
Not good	0	0
Very Poor	0	0
total	**10**	**100**

From the data above, it shows that out of the 10 items of the questionnaire on the learning aspects of the quality of media being developed, there are data that show 0% are very good categories, 80% are good categories, 20 % are quite good categories while in the category are not good and very poor each by 0%.

TABLE 2. FREQUENCY DISTRIBUTION OF CONTENT / MATERIAL ASPECTS EVALUATION BY MATERIAL EXPERTS

Criteria	Frequency	%
Very good	0	0
Well	7	70 %
Pretty good	3	30 %
Not good	0	0
Very Poor	0	0
total	**10**	**100**

From the data above shows that from the 11 items of questionnaire on the learning aspects of the quality of media being developed obtained data that 0% are very good categories, 70 % are good categories, 30 % are quite good categories, 0% are in the poor category, and in the very poor category at 0%. The overall average in the learning aspect by material experts is in the "Good" category.

TABLE 3. QUALITY OF LEARNING MEDIA PRODUCTS RESULTS OF MATERIAL VALIDATION

Assessment Aspect	Average score	Criteria
Learning Aspects	4.1	Well
Content / Material Aspects	3.9	Well
Average	**4 .0**	**Well**

B. Data Analysis of Media Expert Validation Results

Once through the revision, the evaluation was conducted with the results like the following; on the overall display aspect the score is "very good" with a mean score of 4,09 . While in the programming aspect which consists of 10 items as well get a " good" score with a mean score of 4,20 .

TABLE 4 . DISTRIBUTION OF FREQUENCY OF ASSESSMENT OF DISPLAY ASPECTS BY MEDIA EXPERTS

Criteria	Frequency	%
Very good	5	23.81
Well	13	61.90
Pretty good	3	14.26
Not good	0	0
Very Poor	0	0
Total	**21**	**100**

From the acquisition of data in the table above, the assessment percentage will be displayed in the form of a bar diagram. The following is a bar chart image of the aspect of display by media experts. From the above data, it shows that from 21 items of questionnaires on the learning aspects of the quality of media being developed, data obtained that 23.82 % category is very good, 61.90 % good category,3 % category quite good while in the bad and very poor category of 0%. The overall average on the display aspect by media experts is in the "good" category.

TABLE 5. FREQUENCY DISTRIBUTION OF ASSESSMENT ASPECTS OF PROGRAMMING BY MEDIA EXPERTS

Criteria	Frequency	%
Very good	3	30
Well	6	60
Pretty good	1	10
Not good	3	30
Very Poor	6	60
total	**10**	**100**

From the data above, it shows that out of the 10 items of questionnaires on the learning aspects of the quality of the media being developed, the data concluded 30% includes the excellent category, 60% good category, 1% good enough category, 0% in the poor category , while 0% in the very poor categor. The overall average in the programming aspect by material experts is in the category of "very good" with a mean score of 4.20.

TABLE 6. QUALITY OF LEARNING MEDIA PRODUCTS RESULTS OF MEDIA EXPERT VALIDATION

Assessment Aspect	Average score	Criteria
Display Aspects	4.09	B aik
Programming Aspects	4.20	B aik
Average	**4.15**	**B aik**

C. Analysis of Small Group Test Results Data

Small group trials are conducted after evaluation from material experts and media experts. this trial conducted by ten respondents are Cendana High School Student Class XI with different characteristics. Data obtained from small group trials is multimedia quality data developed which includes several aspects including aspects of appearance, content / material aspects, and aspects of learning. From the trials that have been done to get the results of the assessment on the aspect of the display consisting of 10 items included in the criteria of "very good" with a mean score of 4, 27.

TABLE 7. FREQUENCY DISTRIBUTION OF DISPLAY ASPECT ASSESSMENTS IN SMALL GROUP TRIALS

Criteria	Frequency	%
Very good	8	8 0
Well	2	2 0
Pretty good	0	0
Not good	0	0
Very Poor	0	0
total	**10**	**100**

The results of the assessment obtained from small group trials regarding the quality of learning media developed in terms of appearance aspects included in the excellent criteria of 8 0%, and included in the good category of 20%, with a mean score of 4.27.

Judging from the aspect of content / material, student assessment shows that the media has good quality, as shown by a score of 4,47 . Assessment on this aspect includes 7 items listed in the questionnaire. Once converted into scale of five, it is included in the criteria of "very good".

TABLE 8. FREQUENCY DISTRIBUTION OF CONTENT / MATERIAL ASPECT ASSESSMENT IN SMALL GROUP TRIALS

Criteria	Frequency	%
Very good	9	90
Well	1	10
Pretty good	0	0
Not good	0	0
Very Poor	0	0
total	**10**	**100**

The assessment results obtained from small group trials regarding the quality of learning media developed in terms of the content / material aspects included in the criteria of "very good" as much as 90%, in the good category as much as 10%, while in the category quite good, less good and very lacking good at 0% each.

Assessment of students on aspects of learning shows that the media has very good quality, as evidenced by the average score of 4 ,32. Assessment on this aspect includes 7 items listed in the questionnaire. After being converted to scale five is included in the criteria of "very good"

TABLE 9. FREQUENCY DISTRIBUTION OF ASSESSMENT OF LEARNING ASPECTS IN SMALL GROUP TRIALS

Criteria	Frequency	%
Very good	8	80
Well	2	20
Pretty good	0	0
Not good	0	0
Very Poor	0	0
total	**10**	**100**

The results of the assessment obtained from small group trials regarding the quality of learning media developed in terms of learning aspects 80% included the category of "very good", 20% including good categories and 0% for the category good enough, not good and very poor . The results of the small group trial data analysis as a whole from the aspect of appearance, content / material aspects, and aspects of learning are included in the excellent category. The following is the assessment given by students more clearly in the table.

TABLE 10. PRODUCT QUALITY OF SMALL GROUP LEARNING MEDIA LEARNING RESULTS

Assessment Aspect	Average score	Criteria
Display Aspects	4.27	Good
Content / material aspects	4.47	Very good
Learning aspects	4.32	Good
Average	**4.35**	**Good**

D. Verdicts

This product is a multimedia learning material for physical education. Pencak Silat martial arts for students of class X CENDANA high school . This product is made using the professional Adobe Flash CS 5 software, with the help of other software to design writing and video images, namely Adobe Photoshop and Corel Draw. After the initial product is made, it is continued by evaluating to material experts and media experts to produce products that are suitable to be used as learning media.

Evaluation of material experts and media experts, product revisions were only carried out in one stage, because it was considered appropriate and feasible to conduct field trials. Field trials are carried out as material for product research when used directly by users, namely the students of Class XI Cendana High School . The trial carried out took place in one stage, namely the small group trial stage. In both trials there were many responses from users, either positive responses or related advantages and responses regarding the shortcomings of the product.

IV. CONCLUSION

Based on the research results generated learning multimedia products and physical education, pencak silat material using *software* adobe flash cs 5 Professional for class X SMA CENDANA in compact disc. The results of the expert assessment materials on multimedia quality teaching martial arts after going through stages of revision got a mean score of 4 0 of the learning aspect and the aspect of the content included in the criteria of "good", according to media expert regarding the quality of multimedia learning after a test phase small group gets mean score 4,34 from the aspect of appearance and aspects of programming included in the criteria of "good", as well as the assessment of students in small group trials as a whole includes the criteria of "Good" with a mean score of 4, 35.

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