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Design of Straight Motion Subjects Based on Avs Video Editor Software

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Abstract
The aim of this research is to obtain a media result from the process of designing physics learning media for class X based on AVS Video Editor Software, and to find out the responses of class X teachers and students regarding the results of designing physics learning media using AVS Video Editor Software. This learning media is first validated by a team of experts, in this case lecturers, where the expert team consists of a team of media experts and a team of material experts. The design product was tested on small groups of students, namely 20 students. The perception level is calculated using a percentage formula. The results of the analysis of student responses to the designed physics teaching materials show that the educational dimension percentage value of 92 is classified as very good. The display dimensions of teaching materials are 92.5%, so they are in the very good category. Likewise, the percentage value for teaching material scenarios is 94.83%, which is classified as very good. Based on the results of this research, it can be concluded that the designed teaching materials can be declared as appropriate media for use in the learning process

Keywords: Designing; Teaching Materials; Physics; AVS Video Editor; Straight Motion

INTRODUCTION

The learning process in the classroom basically requires the teacher's ability to control student learning activities. By playing an active role in the learning process, you can help students interact and shape their character. Character education in order to help students not only to become smart but also to become good (Putri & Harto 2017). In character formation, the teacher is the main key that helps build character in students through the learning process. The success of the learning process is influenced by the quality and way of teaching a teacher (Darmaji et al, 2018). Therefore, one of the teacher's responsibilities is to present quality learning activities by designing and implementing the learning process in such a way as to increase knowledge. Sihadi, et al (2017) stated that the benefits of knowledge include various purposes: decision making, judgment, imagination, problem solving, classification and consideration, and all of the things mentioned above are mental processes. These efforts must be made by teachers considering that developments in information and communication technology are currently occurring very rapidly and require the support of quality human resources.

Today's rapid developments in the field of information and communication technology mean that conditions are always changing, uncertain and competitive. For this reason, universal science is

needed to deal with this. One of the universal sciences is Physics. Physics is a vehicle for developing thinking skills that are useful for solving problems in everyday life (Chodijah et al, 2012). Physics is part of Natural Sciences (IPA) which is a systematic effort in the form of explanations that can be tested and are able to predict natural phenomena (Giancoli, 2013). Physics is a natural science with the scope of knowledge that exists in nature (Jati, 2013). Physics is a universal science that underlies the development of modern technology. In physics, studying natural events and interactions of objects in nature physically, and trying to formulate them mathematically so that they can be understood (Trisianawati, 2016). Teacher expertise in spoken language is the main capital that teachers must have so that students can follow the learning process easily, have fun and be able to listen to what the teacher says.

According to Susilana and Riyana (2009), learning media is useful for complementing, maintaining and even improving the quality and ongoing learning process. Apart from that, interesting learning media can often increase students' attention, interest and motivation in learning. Based on research by Riantoni (2013), in the physics learning process as many as 80% of students find it difficult to understand physics learning. Therefore, learning media is needed that helps students understand the material.

The various advantages of using learning media above should be taken into consideration by teachers before carrying out the learning process. Often the required media is difficult to find, and the material in the media is not in accordance with the curriculum being taught. The problems above can be overcome by designing or creating learning media by the teacher. However, it must be acknowledged that designing or creating learning media is not an easy thing. Recently, there have been many learning aids that utilize electronic media. Media is anything that can convey and channel messages from sources in a planned manner so as to create a conducive learning environment (Munadi, 2008). These include: ICT technology, multimedia, television, and computer (Wahyuni, 2013). Various hardware and software are required, and mastery of the operation of the software used is also required.

One software that can be used to create learning media is AVS Video Editor. AVS Video Editor software also has various tools, but it is easy to understand and easy to operate even for novice users. Editing using AVS Video Editor is also made easier thanks to the presence of a timeline method that separates video, effects, text and audio so that users can separate or edit them one by one. Instantly, several effects are also included that can be used directly by dragging and dropping them into existing videos. (J-Com Team, 2008).

Based on the background of this problem, researchers are interested in conducting research on the design of learning media based on the AVS Video Editor program, which is expected to support student learning, so that student learning outcomes can be achieved optimally. For this reason, it is necessary and important to carry out research on alternative media as a learning support tool for students. So it is interesting to carry out research with the aim of obtaining a media result from the process of designing physics learning media for class X based on AVS Video Editor Software and knowing the responses of class X teachers and students regarding the results of designing physics learning media using AVS Video Editor Software.

RESEARCH METHODS

Based on the problem in terms of research objectives, researchers conducted development research. namely research used to produce certain products and test the effectiveness of these products (Sugiyono, 2010). Using the ADDIE development model with the Analyze, Design, Development, Implementation and Evaluation flows. According to Susilana and Riyana (2008), the development of physics learning media on rectilinear motion materials uses the AVS Video Editor software program. Before creating learning media, a draft of learning media is first created which has been adapted to the information and data that has been collected in the previous stage.

The next stage, after the design of the physics learning media has been improved, researchers carry out product trials as a reference in revising the product until it is suitable for use. The purpose of the

Evaluate phase is to assess the quality of the instructional products and processes, both before and after implementation. The common procedures associated with the evaluation phase are as follows: determine evaluation criteria, select evaluation tools, and conduct evaluation (Branch, 2009). Evaluation is a process to see whether the learning system that is being built is successful, in accordance with initial expectations or not. The trial subjects in this research were class X students at senior high school 6 Jambi City. The subjects in the small group trial were 20 class X students at senior high school 6 6 Jambi City. The procedure carried out in this research was to distribute the research instrument used by researchers, namely a perception questionnaire. The instrument used in this research was a questionnaire using a likert scale given to students and validation experts (media experts and material experts). In obtaining expert validation data, an open questionnaire was used. This instrument is intended to assess development products (physics learning media in straight lines) using the AVS Video Editor program.

Validation is a measure that shows the levels of validity of an instrument (Arikunto, 2006). Product validation is carried out by inviting several experienced experts or teams of experts to assess the designed product so that its strengths and weaknesses can be identified. The scale used is a five-point likert scale consisting of STS = strongly disagree, TS = disagree, N = neutral, S = agree, SS = strongly agree.

RESULTS AND DISCUSSION

Based on data that has been analyzed using descriptive statistics, the following results were obtained.

Table 1 Student Questionnaire Results on the Educational Dimensions of Teaching Materials

No	Question	Score	Information
1.	In your opinion, the suitability between the material in the media and the curriculum falls into the category	85	Good
2.	In your opinion, the suitability between the basic competencies contained in the media and the curriculum falls into the category	88	Good
3.	In your opinion, the media's ability to maintain conducive classroom conditions falls into the category	94	Very good
4.	In your opinion, the media's ability to control the class falls into the category	91	Very good
5.	In your opinion, the media's ability to maintain students' attention during learning falls into the category	94	Very good
6.	In your opinion, the media's ability to reduce student boredom falls into the category	88	Good
7.	According to you, media color contrast falls into the category	92	Very good
	Percentage	92	Very good

The test results show that all indicators get very high scores, with a percentage value for the education dimension of 92 belonging to the very good category.

Table 2 Results of Teaching Material Display Questionnaire

No	Question	Score	Information
1.	In your opinion, the color of the writing or text in the media falls into a category	90	Very good
2.	In your opinion, the use of words and language is included in the criteria	92	Very good
3.	In your opinion, the use of letters/characters falls within the criteria	92	Very good
4.	In your opinion, the use of graphics to explain material is included in the criteria	88	Good
5.	In your opinion, the graphics displayed to make it easier to	93	Very good

	understand the subject matter are included in the criteria		
6.	In your opinion, the animation display used falls within the criteria	95	Very good
7.	In your opinion, the amount of animation used falls within the criteria	93	Very good
8.	In your opinion, the form of animation is included in the criteria	97	Very good
	Percentage	92.5	Very good

Table 3. Results of Student Questionnaires on Teaching Material Scenarios

No	Question	Score	Information
1.	In your opinion, the relationship between one story and the next story falls into a category	94	Very good
2.	In your opinion, the ability of one story to the next to clarify knowledge as a whole falls into the category	95	Very good
3.	In your opinion, the clarity of the storyline built by the media falls into the category	93	Very good
4.	In your opinion, the media's ability to describe the entire material falls into the category	94	Very good
5.	In your opinion, the relationship between one story and another story falls into a category	95	Very good
6.	In your opinion, the ease of understanding story lines in media falls into the category	98	Very good
	Percentage	94.83	Very good

The test results show that all indicators get very high scores, with a percentage value for teaching material scenarios of 94.83 %, belonging to the Very Good category. Based on the media expert validation results above, it can be seen that in the first validation stage, the media validation expert gave an assessment that the font size was appropriate and easy to read. Apart from that, the colour of the letters used is still not quite right and tends to be dark, so it is quite difficult to see, so it needs to be improved so that the text is easy to read. In this first validation process, of the 12 items validated, 2 items were declared to still need improvement, while 9 items were declared feasible.

The results of the validation process in the first stage are then revised to the media according to the assessment results and suggestions or input provided by media experts. After going through the media revision or improvement process, a second validation process is carried out. Based on the advice given by media experts in the second validation process, the focus of media revision or improvement was directed at text colour problems which were still not clearly visible. After media improvements have been made, the next step is to ask media experts again to provide an assessment.

Based on the results of the material expert validation in the first validation stage, the material validation expert still considers four assessment items to be improved, namely the media still does not have a clear topic, the media does not represent the material in the 2013 curriculum, the practice questions are not suitable and there are not enough of them, and the language is poor, used too long and not informative enough to make it difficult to understand. In this first validation process, of the 10 items validated, 4 items were declared to still need improvement, while 6 items were declared feasible.

The results of the validation process in the first stage are then revised to the media according to the assessment results and suggestions or input provided by material experts. After going through the media revision or improvement process, a second validation process is then carried out. So it can be seen that the items related to the example practice questions still receive a rating of no or less appropriate. Material experts provide suggestions that the sample questions should be increased and can represent each sub-discussion of the material published in the media. Based on the suggestions given by material experts in the second validation process, the focus of media revision or improvement was directed at the problem

of adding examples of practice questions. After the media has been repaired, the next step is to ask the material expert again to provide an assessment.

Based on the results of tests that have been carried out, it is stated that this program can be used in studying physics on the subject of Straight Motion for high school class screen. This program has met the eligibility requirements with the criteria, education of 90.29% or included in the good category (SB), program appearance of physics teaching materials on the subject of Straight Motion for Class X SMA of 92.5% or included in the good category (SB), and the scenario of 92.43% is included in the very good (SB) category. So from the results of these tests, the program developed is suitable as a learning medium for physics on the subject of Straight Motion for class X high schools. Evaluations, comments and suggestions from students and students are then analyzed by learning media developers. After analyzing the suggestions and comments, the next step is to revise the product that has been developed. In general, the media developed is good, but there are still things that need to be added and reduced, this is done to ensure the perfection of the product produced.

Based on the results of questionnaire analysis from students regarding the learning media program developed, the percentage was 92.43%, which was classified as very good. Thus, it can be concluded that in terms of appearance and technical aspects, the learning media developed is suitable to be used as a physics learning media on the topic of straight motion regarding motion for class X high school.

CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that the product produced is a physics learning medium on the subject of rectilinear motion. This media consists of a title page, an explanation of the concepts of motion, displacement, distance, acceleration, speed, uniform straight motion and irregular straight motion. Then students' perceptions of the AVS Video Editor-based physics learning program on the subject matter of rectilinear motion for high school class (92.5%), and students' perception of the scenario was in the very good category (92.43%). Thus, the program developed is worthy of being used as a learning medium and can be used in learning Physics on the subject of Straight Motion for class X high school students.

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