



Physics Multimedia Development Using Camtasia Studio 8 Software Vector Material

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Abstract

Media in the teaching and learning process tends to be defined as graphic, photographic or electronic tools for capturing, processing and reconstructing visual or verbal information. This research aims to (1) develop physics learning videos using Camtasia studio8 vector material software for class X Senior high school. This research is motivated by the development of Information and Communication Technology (ICT) in the world of education to assist the teaching and learning process. One of the uses of ICT is the development of learning videos using Camtasia studio8 software. The steps in this research and development using the ADDIE model include: (1) Analysis, (2) Design, (3) and Development. But the implementation stage was not carried out because it was only a product trial. Learning video materials as physics learning media that have been completed are then validated by a team of media experts and a team of material experts. The result of this development is in the form of vector material physics learning video media. This media was declared suitable for use after being validated twice by media expert validators and material experts.

Keywords: Learning videos; Camtasia studio8; Vector

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INTRODUCTION

Education has an important role in improving the quality of human resources. For humans, education functions as a means and facility that makes things easier, capable of directing, developing and guiding towards a better life, not only for themselves but also for other humans. Conventional learning methods applied by teachers in the teaching and learning process have not been able to attract students' attention, with this method teachers tend not to involve students actively in learning. Meanwhile, for productive learning itself, appropriate and adequate media for delivering material is one that contains elements of movement so that the teaching process can be considered properly (Suryono & Hariyanto, 2014). In the teaching and learning process, for effective learning, media is needed that is appropriate to the character of the students, the subjects taught, the atmosphere and supporting infrastructure (Syaiful, 2011). With good learning tools, students will be able to improve their learning outcomes well. And students are more motivated to learn and are able to increase their understanding of the subject matter (Fechera, Maman, & Dadang, 2012).

In the Physics Subject there is vector material. So far, teachers tend to use books or PowerPoint media as teaching materials, but these books are not easily understood by students. Learning video

media is media or teaching aids that contain learning messages. According to Azhar (2009) the strength of visuals and their display on television-type screen (storing/recording images and displaying them on a television screen). It can be concluded that video is concerned with what is seen, especially live (moving) images, the process of recording and displaying which of course involves technology.

Video is non-printed teaching material that is rich in information and straightforward because it can reach students directly via LED TV, computer and cellphone (Ayuningrum, 2012). Video is concerned with what is seen, especially live (moving) images, the process of recording and displaying which of course involves technology (Adam, 2015). By using learning media, students are expected to be able to gain real experience so that the material presented can be absorbed well (Rayandra, 2011). Media using video is clearly more likely to be easily remembered and understood in the learning process because it does not use the senses. Learning using videos is effective in enabling children to accept the lessons given (Putri, 2012). Video is an audio-visual medium and has elements of movement that are able to attract students' attention and motivation in carrying out learning activities (Agus, 2012). This learning video media can create a more interesting, interactive and fun learning process (Cepi, 2013). Students are more interested in learning using video media than text and still image media (Fadhli, 2015). Another use of using various learning aids or learning media will be to create variations in learning so that students do not get bored.

One software that can be used as a learning medium is Camtasia Studio8 which was developed by the Tech Smith company which is headquartered in Michigan-USA. Camtasia studio8 is a multimedia software for making tutorials as well as for video editing. This software is quite light in operation with minimum computer specification standards, and easy to operate, this software is also suitable for use in interactive learning (making tutorials), Company Profiles, or presentations in teaching and learning (Daryanto, 2013). Based on these conditions, this research aims to produce a product that can be used as a media for physics learning videos.

RESEARCH METHODS

"This research is research with a development design using the ADDIE development model developed by Reiser and Mollenda in Jaka Mahendra (2012)." The ADDIE development model generally consists of five phases, namely: Analysis, design, development, implementation and evaluation.

At the analysis stage, a preliminary analysis is carried out consisting of student analysis. The development design stage consists of design specifications for the development instrument. The development stage consists of validation from the validator, design revision. The implementation stage is a concrete step to implement the design product that has been created, then product testing is carried out. Evaluation is carried out to test the extent to which the product has been developed at this stage. After the evaluation is carried out, the results of the product that have been developed are obtained. In this research, we only reached the development step because we had achieved the research objectives. At the development stage, media validation and material validation are carried out by experts. Then the validation data will be revised according to expert advice.

RESULTS AND DISCUSSION

The results of this research show that the development of physics learning videos using Camtasia studio 8 software can be used by students to deepen physics lessons in vector material at SMA PGRI 2 Jambi City. The initial stages carried out work gap analysis, student analysis and analysis of available resources. This stage results in students needing teaching materials in the form of videos using Camtasia studio8 software which is able to make it easier for students to understand vector material and teachers can use this media. This development is also supported by adequate facilities and infrastructure owned by the school, such as electricity, infocus and infocus screens.

Next, the design stage is carried out which consists of the development team and product design specifications. The work team consists of 3 people, namely researchers as product developers, and a team of experts Dwi Agus Kurniawan, M.Pd and Haerul Pathoni, S.Pd., M.Pfis as validators,

media experts and material experts. The team of experts validated the product that has been developed by this researcher who has competence in the field of education and learning and is a teaching staff at the Physics Education Study Program at Jambi University. The contents of this learning video media are as follows.

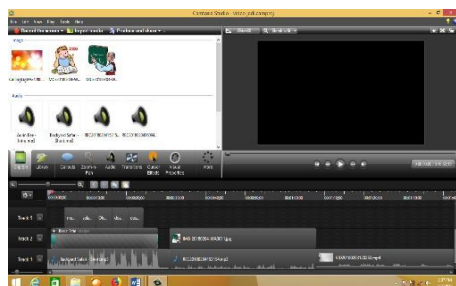


Figure 1. Application start menu



Figure 2. Opening view of the video

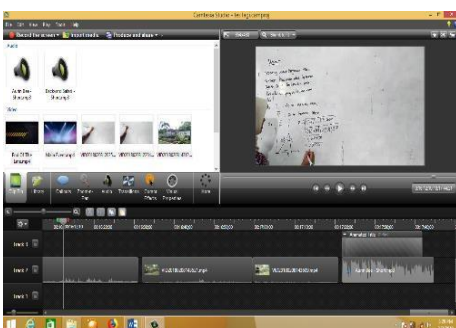


Figure 3. Video on the material

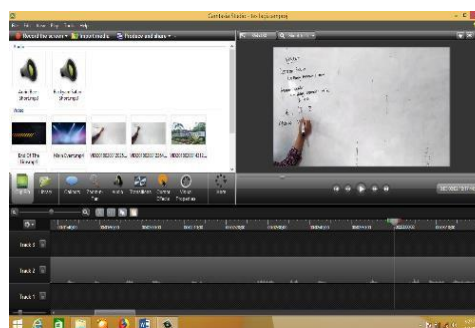


Figure 4. Video on example questions

At the development stage, namely design validation and product design. At the design validation stage, namely the expert team's validation of the product design through expert consideration of the product design results based on the expert team's input and suggestions, a revision of the product is carried out, product revision for the results of the first validation and second product revision for the results of the second validation. After revising the two products twice, positive comments were obtained from experts both verbally and in writing. Comments from the expert team stated that the product's theoretical validity and contents had been tested for validity and were suitable for use. The product revisions suggested and commented on by the media and material expert team were as follows:

Validator 1 team of media experts: Improve the type of letters, improve the size of the letters, improve the color combination of the letters and the background, and improve the brightness in the media. Validator 2 teams of media experts: Correcting the type of letters, correcting the size of the letters, correcting the color combination of the letters and the background, correcting the letters in the media, correcting the sentence structure in the media, correcting the background sound in the learning video media, correcting the videos contained in the media, improving the color of the text in learning video media, improving the combination of video and background in the media. After carrying out stage I validation, the author made revisions according to the validator's suggestions, then carried out stage II validation. After carrying out phase II validation, it was discovered that the validator had validated all the questions in the questionnaire. This means the media is declared fit for use.

Validator 1 team of material experts: After carrying out stage I validation, the author made revisions according to the validator's suggestions, then carried out stage II validation. After carrying out phase II validation, it was discovered that the validator had validated all the questions in the questionnaire. This means the media is declared fit for use. Validator 2 teams of material experts: Use good and correct language, improve the concepts contained in the media, and add videos to the media to make it more interesting. After carrying out stage I validation, the author made revisions according

to the validator's suggestions, then carried out stage II validation. After carrying out phase II validation, it was discovered that the validator had validated all the questions in the questionnaire. This means the media is declared fit for use.

CONCLUSION

Based on the research results, it can be concluded that the media was declared suitable for use after being validated twice by media expert validators and material experts. The product developed is in the form of a learning video on vector material in high school class X semester 1 in accordance with the syllabus and curriculum. This product can be run using a video player application such as gom player.

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