Making Learning Media Basedon Video Tutorials Using Camtasia Studio and Video scribe Software

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Abstract: The objectives of this study were (1) Producing video tutorial-based learning media using Camtasia Studio and Videoscribe software, (2) Knowing the feasibility of video tutorial-based learning media using Camtasia Studio software and Video Scribe. This study uses the stages of research and development that is adapted models 4D development, among others: (1) phase define through the search problem and analysis of needs ; (2) the design stage through designing video tutorial media by compiling the material, video flow and script ; (3) the stage of development through the manufacturing media tutorial videos using software Camtasia studio and Videoscribe; assessment by an expert/specialist materials and experts media; and student responses to the media; (4) stage disseminate. Namely, media learning-based tutorial videos in the eyes of college physics High School in multimedia have been produced in the form of a file and uploaded to the media youtube for use in the system of learning online. The results of this study indicate that the material expert's assessment stated that Video tutorial-based learning media met the very feasible criteria, with a percentage of 86 %. Based on the research that has been carried out, and the results of data analysis, several temporary conclusions can be drawn, namely: 1). The video tutorial-based learning media that have been produced are suitable for use in lectures with an average percentage of expert ratings of 79.6%. In detail, the percentage of expert assessments, among others, material experts with a percentage of 86.1%, learning experts with a percentage of 72.5%, and media experts with a percentage of 80.2%; 2). Student response to the resulting video tutorial-based learning media was good with a student assessment percentage of 78.3%.

Keywords: Media, Learning, Video, Tutorial, Camtasia Studio, Videoscribe

A. Introduction

At the time, this world was experiencing pandemic CoronaVirus Disease 2019 COVID-19 and had an impact on various sectors of life such as economic, social, and also education. Organizations Educational, Scientific, and Culture of the United Nations or the United Nations Educational, Scientific and Cultural Organization (UNESCO) stated that plague virus corona has an impact on the sector of education. Nearly 300 million students disrupted activity school in the whole world and the danger of an impact on the rights of education they are in the front. In Indonesia alone, the world of education also came to feel the impact. If conditions such as these continue to rise, it already could undoubtedly impact the sector of education and will further increase. The impact most felt was the participation of students in institutions organizing the ministry of education, as schools in all levels, institutions of education non-formal to university higher. (Irawan, 2020).

As efforts to increase and the prevention of the spread of COVID-19 Government gives an appeal as a whole to implement restrictions on social (social distancing). It has also been applied to the State University of Medan via Letter Circular Rector Unimed No. 000 947 / UN33 / SE / 2020 dated 26 March 2020 that one of the points that lectures and activities of academic more be implemented entirely in online (in the network / online) through the System of Learning Online (SIPDA) or application more. SIPDA is a renewal of the system of e-learning that is adapted to the development of technology. Application is based on open source and already supports the device's mobile. According to Thorne (2003), online learning is learning that uses multimedia technology, virtual classes, CD ROMs, video streaming, voice messages, email and conference calls, animated online text, and online video streaming.

Learning online has characteristics, among others: 1). requires learners to construct and create knowledge as a standalone (constructivism); 2). learners will collaborate with learners and others in building knowledge and solve problems together (social constructivism); 3). forming a community of learners (community of learners) are inclusive; 4). utilize media pages (websites) that can be accessed via the Internet, computer-based learning, virtual classes, and or digital classes; 5). Interactivity, independence, accessibility, and enrichment (Ditjen GTK, 2016).

In online learning, the learning process also needs to consider several principles of learning from connectivism (Downes, 2012). The process of learning online focuses on students, empowering the autonomy and independence of students, and is based on the principles of the four streams principal, namely behaviourism, cognitivism, constructivism, and connectivism. The process of learning online can be categorized into two types, namely, to learn independently and learn guided. In the category of study independently online, students follow a process of learning that is delivered through a network, both as individuals and or groups. For example, students obtain study materials in digital form (pdf, doc, ppt, Flv, etc.), do assignments over the network, receive and collect assignments over the network, obtain other information through mailing lists, and so on. (DitjenBelmawaRistekdikti, 2019)
In order to study online at the State University of Medan especially in the Department of Physics Faculty of Mathematics and Science Knowledge of Nature can be done with either, especially first lecturers should supplement ingredients lectures by way of uploading on account SIPDA each for each eye study of teaching. Lecture materials can be in the form of files (word, ppt, Video), ebook, page, video link. Learning online can be done either in interactive or non- interactive use of video tutorials. Online learning can be done in real-time by video conferencing. Lecturers and students must provide time at the same time to be able to conduct learning by video conferencing. But based on the experience of the team of researchers for carrying out learning by video conference, they often encounter obstacles in the interference network among some students even though they did not succeed to join until the lecture is finished so that the implementation of the lectures online becomes less effective. To overcome this problem, online learning can be done with video tutorial -based instructional media designs.

Media Learning is a thing that is important for the course of a lesson in class, learning the creative, communicative, and innovative that can support in improving the results of learning of students, in terms of this word "media" is derived from the language of Latin and is the plural of the word "medium", which it literally means " an intermediary or an introduction ". Media is a vehicle for channelling learning information or distributing messages. (Djamrah and Aswan, 2010).

A video is a tool that can present information, explain the process, explain the concepts are complicated, teach skills, abbreviate or slow down time and affect attitudes (Kustandi and Sutjipto, 2013). More advanced Paradise (2010) says that the Video or movie is a series of many frame images that are played as fast. From the opinion on the above, it can be drawn the conclusion that the Video is a picture of life that is displayed through the screen which can present the information and explain the concepts that are so complicated that even humans are not able to be arrested by the senses when a viewed process is directly or with the naked eye.

According to Riyana (2007), video media learning is a medium that presents audio and visual that contains messages of learning both that contain concepts, principles, procedures, theory, applications for help understanding towards a matter of learning. According to Susilana and Riyana (2009), the tutorial model is learning via computer where students are conditioned to follow the learning path that has been programmed with the presentation of material and question exercises. Then according to the Big Indonesian Dictionary (2012), tutorials are (1) class guidance by a teacher (tutor) for a single or a small group of students, (2) additional teaching through a tutor. So it can be said that the tutorial is a teaching that is done by an expert to a group of people. Based on the understanding of the above it can be drawn a conclusion that the video tutorials are a series of images of life that is capable of presenting information or materials learning interactive which is given by an expert or a tutor to a group of people so that a group of people can understand the process or add to his knowledge only to see the independent videos which are not limited by places.

Currency college physics High School in multimedia designed to develop the attitudes, knowledge and skills of physics who owned the students in general in designing learning physics SMA using multimedia. To improve the service implementation of online currency, college physics high schools in multimedia need to do the design of media learning-based video tutorials, so students were able to learn it independently via a video tutorial on preparing materials teaching physics degree of SMA using multimedia. If there is a material that is not yet understood, the student can repeat a portion of Video such. One of the software that can be used in making video tutorials is

Camtasia Studio 8.5. Camtasia Studio is one of the device software that was developed by TechSmith Corporation. Camtasia used fatherly to record all activities that exist on the desktop computer. The device software can also be used to create media learning -based multimedia and e-learning is to make a video tutorial or training and create video presentations are known by the term screencast.

B. Literature Review

Materials' teaching is any form of material that is used to assist in the process of learning (Mudlofar, 2012). Furthermore, Prastowo (2014) states the material taught in basically an all materials (both information, tools, and text) which are arranged in a systematic, which displays the figure of the whole of competence which will be controlled by students and used in the process of learning with the purpose of planning and review of the implementation of learning.

According to Setiawan (2007), the material resource is grouped into the two groups of large, namely the material taught printing and nonprinting. Materials teaching print consists of modules, handouts, and pieces of work. Some of the types of teaching materials above, each have their advantages and disadvantages. Materials teaching prints have the quality of the delivery of the goods; for example, can present a word - words, numbers - numbers, pictures and more. The use of printed teaching materials is self-sufficient, meaning that it can be used directly, or no other tool is needed to use it. Printed teaching materials also have several shortcomings, namely not being able to present movements, presenting material is linear, and it is challenging to guide readers. Materials teaching non- print can be interpreted as a device material that contains material or the content of the lessons to reach the goal of learning which is poured with using technology non-print (Prastowo, 2011). Non-printed teaching materials are Video, audio, display teaching materials, and the Internet. Video learning is a medium that presents audio and visuals that contain messages of learning both that contain concepts, principles, procedures, theory application to aid the understanding of a matter of learning. Video tutorials can be produced to explain in detail a certain process, how to carry out certain tasks, how to practice, and and so on in order to facilitate the tasks of trainers/instructors/teachers/lecturers/managers. In this video production process, information can be displayed in a combination of various forms (shooting Video, graphics, animation, narrative, and text), which allows the information to be optimally absorbed by the audience (Riyana, 2007).

Media is closely related to the learning process. The word media is derived from the language of Latin, namely medius. The meaning of the word medius is middle, intermediary or introduction (Wati, 2016). According to Sadirman (2011) media is anything that can be used to transmit messages from sender to recipient so that it can stimulate thoughts, feelings, attention and interests, as well as student attention in such a way that the learning process occurs. Learning is a tool that can distribute the message, can stimulate the thoughts, feelings, and the willingness of participants' learners so as to encourage the creation of a process of learning in self- participated students. Media Learning by Suryani and Court (2012) are all things that can distribute the message, stimulate the thoughts, feelings, and the willingness of participants' learners so as to encourage the creation of a process of learning in self- participated students. Based on the opinions it can be concluded that the Media Learning is an intermediary that is used to distribute messages, can stimulate the thoughts, feelings, and the willingness of participants' learners so as to encourage the creation of a process of learning in self- participated students. Media are selected and applied by teachers to help explain the material subject to the participant students in order to achieve the goal of learning that has been set.

The function of the media in the activities of learning by Darmawan (2013), namely 1) Supplements (extra). In the case of this student has the freedom of choosing whether to utilize the materials of learning that is provided in the form of Media Education or not. Although such teachers will continue to encourage, inspire, or encourage the students to access the materials of learning that have been provided. 2) Complement (complement). The material of learning which is programmed to complete the matter of learning that accepted students in the class as an enrichment that is enrichment or remedial for students to follow the teaching of conventional. 3) Substitution (Substitute). Provide several alternative models of learning activities to students to help make it easier to manage learning activities so that students can adjust their time and other activities. Based on this opinion, it can be concluded that the function of Learning Media is to provide convenience to educators and students in the learning process so that it becomes more effective, efficient in achieving learning objectives.

According to Gerlack and Ely in Asyhar (2012) the principle of election media among others suitability, clarity of grain, ease of access, affordability, availability, quality, there is an alternative, interactive, organization, novelty, and oriented students. So to make learning media that is good and effective for students, they must pay attention to the criteria for right media and have principles. Riyana (2007) mentions several criteria for developing and making learning videos that must be considered, namely: 1). Media Video suited for materials which describe a process particularly, a groove demonstration, a concept or describe something. For example, how to make the right cake, how to make clothing patterns, the body's metabolic process, and so on. 2). Media Video has a much shorter duration, namely about 20-40 minutes, different from a movie that generally lasts between 2-3 hours. Given the power to remember and the ability to concentrate, which is relatively limited between 15-20 minutes, making media Video can provide advantages in comparison with the film. 3). Movies in general served by dialogue format with elements of dramatic are more. Freelance films are mostly imaginative and less scientific. Hali is different from the needs of the grain for Video learning that prioritizes its clarity and mastery of the material. Video formats that are suitable for learning include narrative, interview, presenter, combined format. 4). Media Video is not detached from the aspect of technical, namely cameras, technically making drawings, engineering lighting, editing and sound. Learning more emphasizes on the clarity of the message, with such dish-dish that communicative need to support technically it.

The use of media video tutorials in learning is beneficial because with the use of media participants students can provide feedback, comment on, and also can be given the material that is presented. According to Cecep and Bambang (2011), learning media in the form of Video can be classified into the types of Audio Visual Aids (AVA) or media that can be seen and heard. Sanaky (2011) explains that audio-visual media is a set of tools that can project moving and sound images. Audio-visual technology is a way of delivering the material using a support tool, mechanical and electronic, to present messages of audio-visual equipment. Videos are pictures in the frame where the frame-by-frame is projected through the lens projector mechanically so that the screen looks at the picture of life. The media is in general used for the purpose of entertainment, documentation and education. Video can present information, explain the process, explain the concepts are complicated, teach skills and affect attitudes. Tools- tools that include audio-visual equipment are TV, VCD, soundslide, Movies, Computers, smartphones and laptops.

In the development of media in the form of video tutorials is using aid applications making of the Video. As stated by Arsyad (2013) that the use of Video in learning is the use of an application that consists of image motion and sound that is an entity that is assembled into a groove, and there are messages for the achievement of the objectives of learning that can be stored on tape media or disk. Type application for making a video that is used in the media learning eye study physics High School in multimedia this is the application Camtasia Studio 8.5 based on video tutorials. Camtasia Studio is application device software that provides a feature that is quite powerful and completes that goal primarily to create, edit and produce Video best. Ability Camtasia to manage audio and video into one single application that can develop learning Media that is keratin and innovative (Puput, 2016). Study Preliminary was performed referring to the few studies that are relevant among others Efendi et al. (2015), Saleh & Ramdani (2015) Utomo& Ratnawati (2018), Son et al. (2019), and Rahmat et al. (2018).

C. Research Methodology

This research was conducted in the Department of Physics, Faculty of Mathematics and Natural Sciences Unimed in the odd semester students of the Academic Year 2020/2021. This research will be conducted for six months. Stages of research are conducted, namely (1) the preliminary stage through literature studies and field studies, (2) the design stage media video tutorials, (3) the stage of making the media of video tutorials, (4) the validation of media through an assessment by experts/expert material, media experts, learning experts, (5) the testing phase of video tutorial media through limited trials. The development model in this study refers to Thiagarajan's (1974) 4D research and development model. The 4D research and development model consists of 4 main stages, namely define, design, develop, and disseminate.

The stages are passed in the procedure of research development of this is as follows:

1. Define Stage

This stage is carried out to find sources of problems in implementing online learning, subject matter, as well as a needs analysis. This analysis is intended to find out how much a product is needed to solve the problems of implementing online learning. This is done through interviews with students and lecturers.

2. Design Stage

The stage is in the form of the preparation of the material, the material that is displayed in the product based on the results of consultations with a team of lecturers eyes of college physics high school in the multimedia and also based on literature that is appropriate to the material—having arranged with the systematic of the terms of the materials followed by the preparation of the grooves video and text tutorial videos for a video to be focused and organized and more quickly when the recording and minimize errors.

3. Development Stage

a) Media production

Production media video tutorials made by way of recording and editing on the display monitor by using the application Camtasia studio. The editing process includes the addition of text, sound, animation, music, and a button so that the video tutorials become more attractive.

b) Validation and Revision

Once the product is completed and developed, the steps below that will be taken by the researcher is validation by experts' materials and expert media. Test validation was carried out by experts of material to media study covering aspects of quality material and expediency material. Validation of the quality aspects of the material includes several things, among others: the accuracy of the material with the competencies to be achieved, the completeness of the material, the material clutter. Validation of aspects of material benefits includes material benefits and motivating quality.

Validation of media experts on learning media includes aspects of media quality, aspects of language use, and media layout. Validation of media quality aspects includes video quality displayed, ease of use, clarity of voice, and clarity of text/legibility. Validation of aspects of language use includes the quality of language use and the suitability of sentence placement. Validation of the media layout aspects includes: video presentation and layout.

Based on the results of validation of expert material and expert media as well as the input that has been received, subsequent researchers will use the data such as a reference to the improvement of product/revision of the product. The results of the validation of the experts will be used as benchmarks measuring about feasible or not media of learning to be tested in the field.

c) Test try limited

Test try unlimited implemented by way of asking students and faculty to use the product and evaluate it through a questionnaire that has been provided. Aspects that It is aimed to obtain votes, inputs and corrections of products which have been revised.

d) Final Production

On stage is a product of media learning-based video tutorials eyes of college physics High School in multimedia has been produced and is ready to be produced in the form of a CD or uploaded to the media of social youtube.

4. Disseminate Stage

On stage is a product of media learning-based video tutorials eyes of college physics High School multimedia has been produced in the form of a CD or video youtube is added as a material resource on account by a SIPDA lecturer for use in learning online currency college physics High School in multimedia.

From the explanation above, the stages of development research that will be carried out are as shown in Figure 1
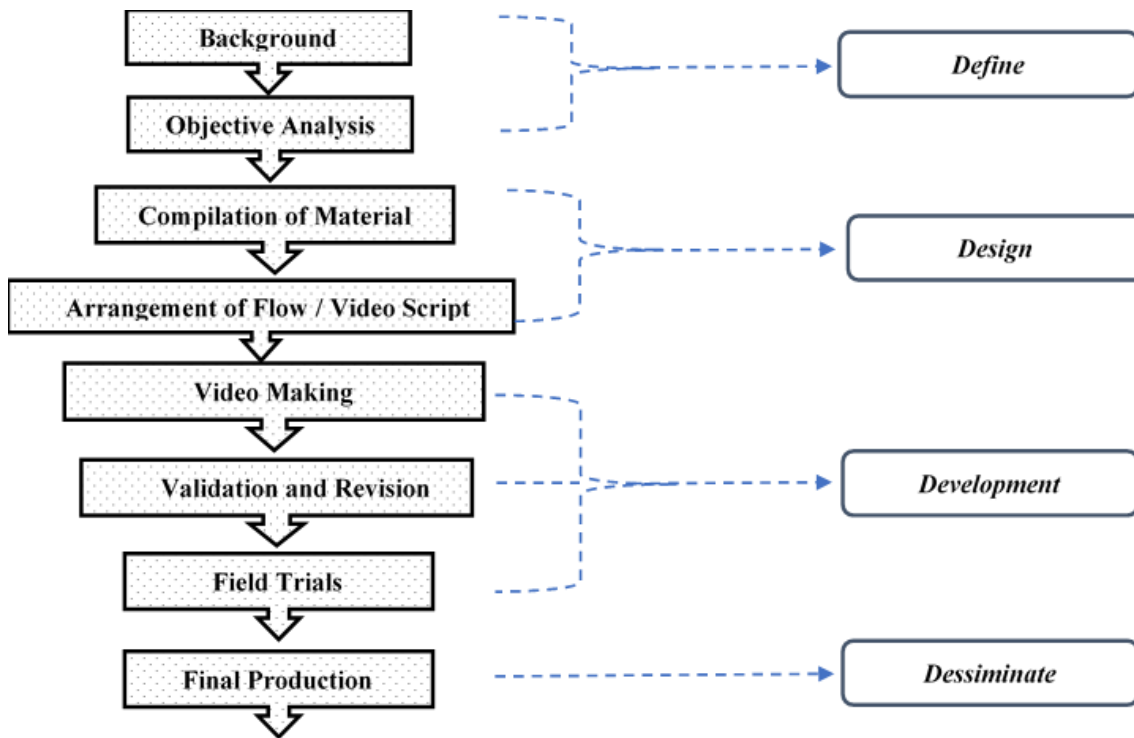

Figure 1. Research Stages

The data collection instrument used a questionnaire or questionnaire. Sugiyono (2015) explains that a questionnaire is a data collection technique by giving a set of written questions to respondents. Excess questionnaire or questionnaire is a character that is practical, saving time, effort, and cost. Instrument research questionnaires filled by experts' materials, expert media, and students. Questionnaires for expert media, expert content, and students are used as guidelines in the improvement and refinement of products.

The data obtained from this research are qualitative and quantitative data. Qualitative data is in the form of criticism and suggestions from media experts and material experts, while quantitative data is in the form of media feasibility data. To analyze the feasibility of learning, media do steps - the steps below:

1) Tabulating research data
2) Calculating the average percentage score of the material expert and media expert's assessment with the formula:

$$Score\ Percentage = \frac{\sum Acquisition\ Score}{\sum Maximum\ score}\ x\ 100\ \%$$

Category eligibility based on criteria as follows (Arikunto, 2009)

Table 1. Interpretation of Media Feasibility

No	Score (in %)	Eligibility Category
1	< 21	Very Not Worthy
2	21 - 40	Not worth it
3	41 - 60	Decent enough
4	61 - 80	Well worth it
5	81 - 100	Very Worth it

Calculating the average percentage score of student responses to Video tutorial-based learning media with the formula:

$$Score\ Percentage = \frac{\sum Acquisition\ Score}{\sum Maximum\ score} \ x\ 100\ \%$$

Student response categories are based on the following criteria (Arikunto, 2009)

Table 2. Interpretation of Student Responses to Media

No	Score (in %)	Response Category
1	< 21	Not very good
2	21 - 40	No good
3	41 - 60	Good enough
4	61 - 80	Well
5	81 - 100	Very good

D. Findings and Discussion

Results of the study are to describe the results of Media Design Learning-Based Video Tutorial To Improve Service System Learning Online At Eye Study Physics High School in Multimedia in the Department of Physics Faculty UNIMED model of research and development of 4D Thiagarajan (1974) which stages define, design, develop, disseminate. Description of all stages of the research that has been done can be seen in the description below it.
In define Stage We are carried out to find sources of problems in the implementation of online learning and the subject matter, through interviews with lecturers and students. From the results of interviews with lecturers and students, it was obtained the problems of implementing online learning, as shown in Table 3.

Table 3. Problems in Online Learning Implementation

No	Problems Faced
1	The limited-time use of web video conferencing is not licensed as a zoom just 40 minutes
2	Network Internet is not stable especially on students who were in the village
3	Costly package quotas internet and load quotas were high with the use of web video conference zoom, meet, Webex
4	Source l districts which sometimes goes out to the network the Internet does not exist that result in the student losing the opportunity to follow lectures online in synchronous (real-time)
5	Students experiencing difficulty learning in self- using materials teaching from pdf and ppt on e-learning media were prepared lecturers.

In Design Stage, the drafting of the material script, the draft video script and the draft of the scenario for making a video tutorial are carried out. It is done so that the Video is more focused and organized and more efficient when recording and minimizing errors. Scenarios were prepared to consist of: the title of the scenario, the author of the script, goals, duration of time, the format of the grain, the source material, synopsis/description, cut (slides), storyline (plot story), asset visual (pictures), narration (voice-over) and music illustrations, and the estimated duration.

In the Development Stage, they manufacture/produce media video tutorials of making media learning using SparkolVideoscribe and Camtasia studio. Production of videos is done by way of recording and editing on the display monitor by using the application Camtasia studio. The editing process performed includes adding text, sound, animation, and music to video tutorials. After the production of video tutorials complete, do test the validity

of the Video to the validator expert material and validators' expert media learning. The material expert suggestions/comments on the resulting video tutorial are 1). They are adding examples of the application of the Laws 1,2, 3 and Newton in everyday life, 2). The content of the material is shortened, and 3). Adding pictures / illustrations. Meanwhile, the media expert's suggestions/comments on the resulting video tutorials are 1). as a whole has been good, but I need to improve some posts so they are easily legible and 2). adjust narration with image transitions. Based on the suggestion feedback and comments, validator expert materials and expert media subsequently carried out the revision of the product to pass up the production of the video tutorials. After the video tutorial product was produced, a limited test was carried out by distributing video tutorials to 34 physics students and asking them to provide responses to the video tutorials through an electronic questionnaire using JotForm. The percentage score rating expert material as in Figure 2 below.
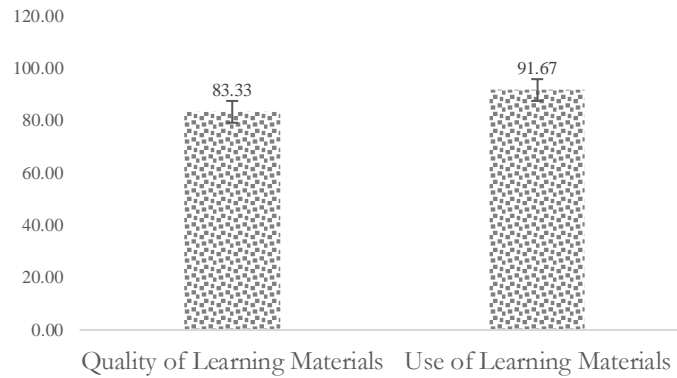

Figure 2. Material Expert Assessment

Figure 2 shows the results of the assessment by material experts for the quality of learning materials of 83.33% and the usefulness of learning materials of 91.67%.

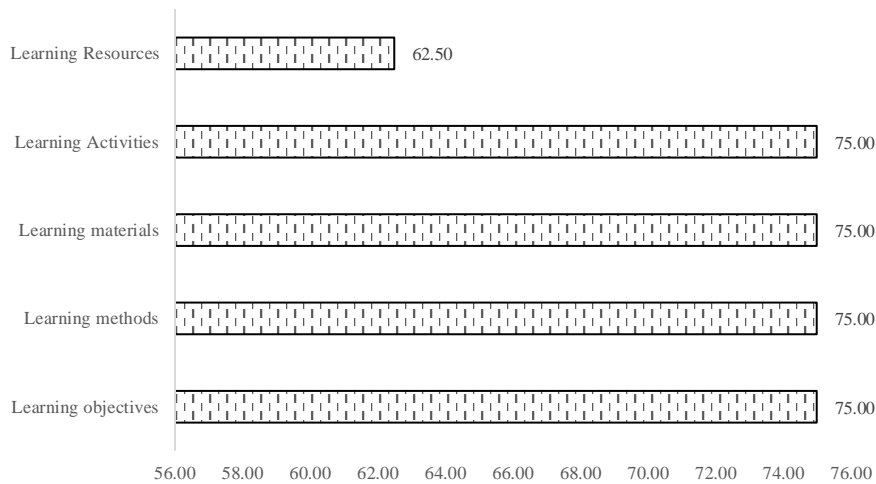The percentage score rating expert was learning, as in Figure 3 below

Figure 3. Learning Expert Assessment

Figure 3 displays the results of appraisal expert teaching for five indicators among other objectives of learning, methods of teaching, the material of learning, activities of learning each amounting to 75%, and a source of learning for 62.50%.

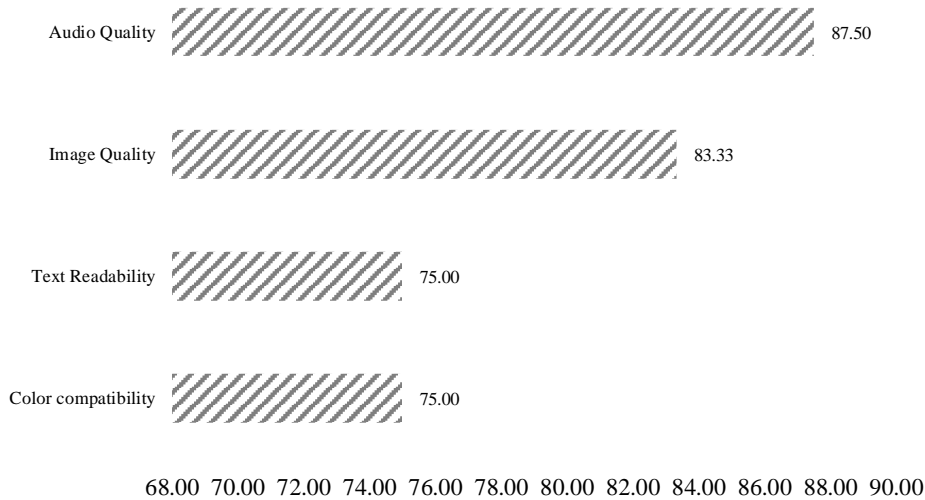The percentage score rating expert media as in Figure 4 below

Figure 4. Media Expert Assessment

Figure 4 showing the results of the assessment by expert media learning with four indicators among others the harmony of colour by 75%, the legibility of the text by 75%, the quality of the picture by 83.33%, and the quality of the audio by 87.50%.

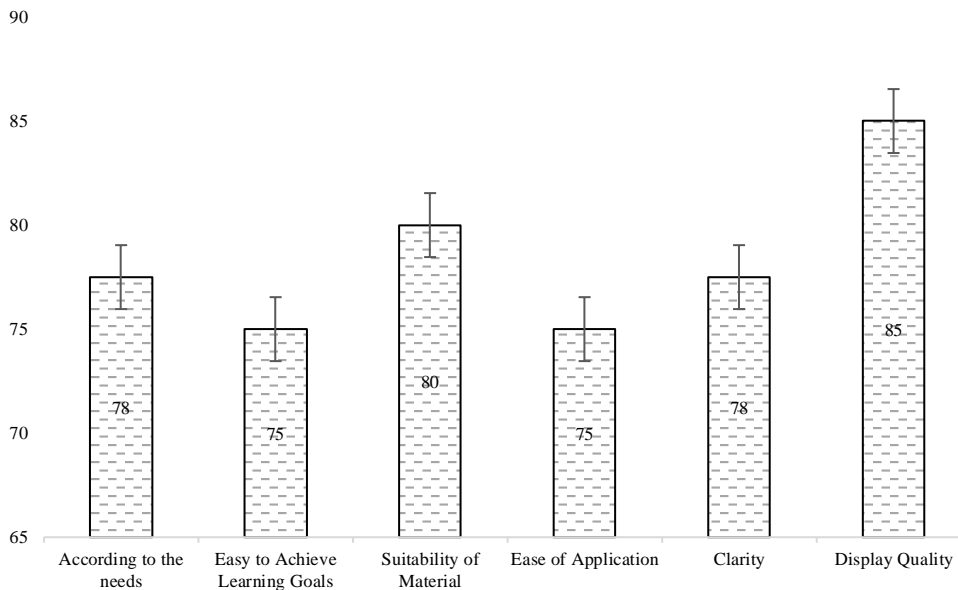The percentage score responses of students to tutorial videos like Figure 5.

Figure 5. Student Response

Figure 5 shows the results of assessment/response of students to the media learning-based video tutorials with six indicators that are in accordance with the requirement of 78%, the ease to reach the goal of learning by 75%, the suitability of the material by 80%, the ease of applying for 75%, the clarity of 78%, and display quality at 85%.

In the overall percentage of average rating validator expert material, the validator expert media and the response of students to tutorial videos Making Media Physics High School with Whiteboard Animation on materials Newton's Law as in Table 4

Table 4. The Average Result of Validator and Student Assessment Against Video Tutorials

No	Aspect	Assessment Results	Criteria
1	Material Expert Validation	86,1	Very Worth it
2	Learning Expert Validation	72,5	Well worth it
2	Media Expert Validation	80,2	Well worth it
3	Student Response	78,3	Well
	Overall average	**79,3**	Well worth it

In Disseminate Stage, the distribution of videos in the form of a youtube link was carried out on Medan State University Online Learning System. However, this study has not seen the effectiveness of using video tutorials in online learning systems.

The results of this study indicate rating matter experts who claim that media-based learning tutorial videos meet the criteria of very decent with a percentage of 86,1%. Expert assessment of the media-based learning instructional video tutorials with the percentage of the total of 72,5%, which meets the criteria of decent. Media expert assessment of the video-based learning media tutorials with a percentage overall by 80,2%, which meets the criteria of decent. Student feedback on limited trials acquires a percentage total of 78,3% who meet the criteria either.

E. Conclusion and Further Research

Based on the research that has been carried out, and the results of data analysis, several tentative conclusions can be drawn, namely: 1). The video tutorial-based learning media that have been produced are suitable for use in lectures with an average percentage of expert judgment of 79.6%. In detail, the percentage of expert assessments, among others, material experts with a percentage of 86.1%, learning experts with a percentage of 72.5 %, and media experts with a percentage of 80,2 %; 2). Student response to the resulting video tutorial -based learning media was good with a student assessment percentage of 78.3%.

The limited number of researchers in developing instructional media-based video tutorials, among others, are not all of the contents of materials physics SMA which is displayed on the steps of making a video tutorial by using software Camtasia Studio and Videoscribe appropriate time of making the normal, in a sense there is a part of the steps of making a video at an accelerated so that the duration video tutorial is not too long. In making Video further expected to be shown at the time of routine so that students can follow the step of making it whole. The novelty of this research lies in the resulting learning media in the form of video tutorials made using Camtasia Studio and Videoscribe software on high school physics learning materials.

F. Acknowledgements

G. References

1. Arikunto, Suharsimi, dan Safruddin AJ, Cepi. 2009. Evaluation of Educational Programs. Jakarta: Earth Literacy.
2. Arsyad, A. (2013). Learning Media, Jakarta: Rajawali Press
3. Asyhar, R. (2012). Creatively Developing Learning Media. Jakarta: Reference.
4. Cecep and Bambang. (2011). The Construction Approach In The Learning Process. Jakarta: Rineka Cipta
5. Darmawan, D., et al. (2013). Education technology. Bandung: PT RemajaRosdakarya.
6. Directorate General of BelmawaDikti. (2019). Spada Online Learning Process Guide 2019. Jakarta: Directorate General of Learning and Student Affairs, Ministry of Research, Technology and Higher Education.
7. Directorate General of GTK, Ministry of Education and Culture. (2016). National Instructor Training Handbook / Teacher Learning Mentor Book. Jakarta.
8. Djamarah, SB, and Aswan Z. (2010). Teaching and Learning Strategies. Jakarta: Rineka Cipta.

9. Downes, S. (2012). Connectivism and connective knowledge. Essays on meaning and learning networks. Accessed at https://www.downes.ca/files/books/Connective_Knowledge-19May2012.pdf on 10 May 2020

10. Efendi, A., Sumarni, S., & Efendi, A. (2015). Development of Video Tutorial-Based Learning Media on Soil Mechanics Subjects. Indonesian Journal Of Civil Engineering Education, 1 (1).

11. Firdaus, A. (2010). Complete Book Guide to Becoming a Professional Cameraman. Yogyakarta: Blue Book.

12. Irawan, H. (2020). Educational Innovation in Anticipation of the Spread of Covid-19. Accessed at https://ombudsman.go.id/artikel/r/artikel--inovasi-pend   Pendidikan-sebagai-ant[-penyebaran-covid-19 May 9, 2020

13. Kustandi, C., and Sutjipto, B. (2013). Second Edition Manual & Digital Learning Media. Bogor. Ghalia Indonesia.

14. Mudlofar, A. (2012). Application of Teacher Level Unit Curriculum Development and Teaching Materials in Islamic Teachers. Jakarta: Rajawali Press

15. Prastowo, A. (2014). Creative Guide to Making Innovative Teaching Materials. Yogyakarta: Diva Press

16. Puput. (, 2016). Is that Camtasia? Accessed on https://bit.ly/2Lou6vm on 10 May 2020

17. Putra, I., Ariawan, KU, &Sutaya, W. (2019). Development of Learning Media Based on Camtasia Interactive Multimedia Cd Video Studio for Web Programming Subjects in the Multimedia Department of SMK Negeri 3 Singaraja. Undiksha Electrical Engineering Education Journal, 6 (1), 1-8.

18. Rahmad, R., Yuniastuti, E., & Wirda, MA (2018). Learning Media Development Video Tutorials Using Camtasia Studio 8.5 in the Geographic Information Systems (GIS) course. Journal of Education and Learning Ilmiah, 2 (1).

19. Riyana, C. (2007). Guidelines for Video Media Development. Jakarta: UPI P3AI.

20. Saleh, RR, & Ramdani, D. (2015). Media Development Video Tutorials in Computer Learning for Server Making Skills in Smk. Journal of Equatorial Education and Learning, 4 (10).

21. Sanaky, H (2011). Learning Media. Teacher and Lecturer Mandatory Handbook. Yogyakarta: KaukabaDipantara

22. Sardiman AM (2012). Teaching and Learning Interaction & Motivation. Jakarta: Rajawali Press.

23. Setiawan, D et al. (2007). Teaching Material Development. Jakarta: Open University.

24. Sugiyono (2015). Combination Research Methods (Mixed Methods). Bandung: Alfabeta

25. Suryani, N., and Agung, L. (2012). Teaching and Learning Strategies. Yogyakarta: Ombak Publisher.

26. Susilana, R. & Riyana, C. (2009). Learning Media: Nature, Development, Utilization, and Assessment. Bandung: CV. Discourse Prima.

27. Thiagarajan, S., Semmel, DS, & Semmel, MI (1974). Instructional development for training teachers of exceptional children. Bloomington Indiana: Indiana University.

28. Thorne, K. (2003). Blended Learning: How to Integrate Online & Traditional Learning. London & Sterling, VA: Kogan Page Limited.

29. Phoenix Library Team. (, 2012). Big Indonesian Dictionary (sixth printing). Jakarta. PT. Phoenix Media Library.

30. Triyanto. (2011). Designing Innovative-Progressive Learning Models: Basic Concept of Implementation in the Education Unit Level Curriculum (KTSP). Jakarta: Golden.

31. Utomo, AY, & Ratnawati, D. (2018). Development of Video Tutorials in Learning Ignition Systems in SMK. VOCATIONAL PARK, 6 (1), 68-76.

32. Wati, ER (2016). Variety of Learning Media, Yogyakarta: Kata Pena.

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