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VALIDITY OF DOCUMENTARY VIDEO LEARNING MEDIA BASED ON LOCAL CONTENT OF TRADITIONAL MUSICAL INSTRUMENTS ON THE MATERIAL OF SOUND WAVES

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Abstract: This study aims to determine the validity of the documentary video learning media based on local content of traditional musical instruments on material of sound waves. This type of research is a research and development which adopts a 4D (Define, Design, Develop, and Disseminate) model developed by Thiagarajan. The validity of the product development in this study was tested for validity by 3 physics education expert lecturers and 3 physics teacher practitioners. The results of this study indicated that the documentary video learning media is feasible to proceed to the operational trial phase of learning. Based on the assessment by the valutors, it obtained an average value of 93% with a very good category, while from the results of student responses by limited trial to this documentary video learning media, it obtained an average value of 89% with a very good category.

Keywords: *Learning Media, Video Documentary, local content, traditional music, sound waves.*

INTRODUCTION

Corona Virus Disease (COVID-19) which is caused by SARS-CoV-2 has been a global pandemic. The pandemic is impacting various sectors of life, including the education sector. Learning from Home implements Distance Learning system. All learning activities must be carried out by online communication. Based on research conducted by Purwanto [1] that students and teachers consider the online learning system to be less effective, some of the constraint factors include unsuitable learning models, unattractive learning media, difficulty to focus, many tasks, limited internet quota, and students' lack motivation in participating in learning activities. Meanwhile, most of the teachers can't keep up with changes, can't adapt to the online learning system, and can't apply and make a use of supporting devices properly [2]. Based on the things mentioned above, it can be concluded that both institution and students are not ready to this current situation, so does the Physics learning. Therefore, teachers are required keep up with the changes and continue to be innovative and creative.

Innovation to Physics learning is urgently needed to support the learning process. The Physics itself consists of abstract and conceptual materials which require students to visualize them [3]. According to research conducted by Kharisma et al [4] Physics is one of the subjects that experience problems during online learning. The online learning in which gives no direct explanation leads to students' understanding and motivation to decrease. Material of Sound Waves places first as the material students find difficult to understand, because the material contains many events which are hard to be visualized [5]. In visualizing

concepts and phenomenon on sound wave material, a learning media is needed because the existence of learning media can emerge interests, motivation, desire, and stimulation in learning activities [6].

The chosen learning media must be suitable for the conditions and delivered materials. Media used in the online learning must be flexible with no limits of space and time. In addition, the learning media must be useful not only to visualize the material but also to produce audio illustrations, making it a suitable media to the Sound Wave material. This is in line with research conducted by Hasmar et al [5] that video media is the right choice to help students' learning process, it can explain the material which is needed to yet hard to visualize, such as material of sound waves. There are various types of learning videos, one of which is a documentary video. The documentary video learning media was chosen because it has advantages in delivering the material content which contains physical events or phenomenon without having to practice it directly, this is in accordance with the concept of learning from home. In addition, students can directly view the physical phenomenon in simple experiments [7].

The documentary video can contain events and phenomena of everyday life that are close to students so that learning can be more meaningful and contextual if it is designed according to the way humans live [8]. In order to make a meaningful and contextual learning, it will be a good way of learning if the Physics material is integrated with the local wisdom around where the students live. Integrating physics material with local wisdom is not only aimed to make it easier for students to understand physics material but also to make students being familiar with their own

local wisdom which surrounds them which nowadays is gradually replaced by foreign cultures [9]. Each regional has its own potential and characteristic of local wisdom. One of the local potential of NTB is traditional instruments, such as Gamelan. Musical instrument base of Gamelan reflects many Physical concepts [10]. The use of this traditional musical instrument can be integrated with sound wave material to explain the concept of vibration as a sound source, the scales of strings and organ pipes, the Doppler Effect, the intensity and level of sound intensity. Local content of the traditional musical instrument is suitable to be integrated in the learning media of documentary video.

Based on the description above, researchers have developed a learning media of documentary video by integrating Physics material and traditional musical instrument to explain the material of Sound Wave. A sudden transition of the learning system impacts the system itself, not optimal adaption, less innovative and creative learning media to carry the learning process during the current situation emerges the researcher to develop a media which is a potential answers during this time. This far, the learning media of documentary video based on traditional music content on the material of sound waves has never been developed as one of the supporting media of Physics learnin. Based on these considerations, the researchers have developed a learning media which implements traditional musical instrument on sound wave material in the form of documentary video.

RESEARCH METHODS

The type of the study is a Research and Development study which adopts the model of 4D (Define, Design, Develop, and Disseminate) developed by Thiagarajan [11]. The developed product was a learning media in the form of documentary video based on local content which is traditional instrument media in the learning material of Sound Waves.

1. Development Stage of Learning Media

a. Define

Define is an early stage which aims to get information about the students' characteristic, the problems during the learning process, method of learning, learning media, and curriculum review.

b. Design

Design step obtained a draft of documentary video learning media.

c. Develop

The purpose of the develop step is to produce a validated learning media in the form of documentary video, been revised by the suggestions of valuator, and been passing a limited trial to

students of Physics Education Department of Faculty of Education and Teacher Training, Mataram University.

d. Disseminate

Disseminate step aims to disseminate the developed product to website and YouTube, the product can be accessed via the page bellow.

https://www.youtube.com/watch?v=5JWaf5eBy_1&t=3s.

2. Data Collection Instrument

The data collection method to determine the feasibility of the learning media based on the local content of traditional musical instrument in the form of documentary video on the material of Sound Waves is validity test. Validity sheet was used to determine the value of the developed learning media by valuator, also to get suggestions for the purpose of revision. The data was collected by sheets of expert judgment and students' responses and was analyzed using Likert scale.

$$P = \frac{f}{N} \times 100\%$$

Description:

f = gained score

N = maximum score

P = percentage

Questionnaire response applied 4 choices of answer according to the content of the question. The change of the results in the form of letter to score based on the provision of the Rating Scale shown in the Table 1 below:

Tabel 1. Assessment Score to the answer choices

Answer Choices	Score
Good	4
Satisfactory	3
Less than satisfactory	2
Not good	1

Validation questionnaire and response apply 4 choices according to the content of questions. The percentage data then was converted to the feasibility criteria of learning media, presented in the following Table 2.

Tabel 2. Feasibility criteria of Learning Media

Persentase	Feasibility criteria
80,1%-100%	Very feasible
70,1%-80%	Feasible enough
50,1%-70%	Less feasible
1%-50%	Not feasible

RESULTS AND DISCUSSION

The results of the study consist of the results of the 4D model research stages, namely define, design, develop, and disseminate stages. The initial analysis found various problems, one of which was the change of the learning system from normal to online, it has a great impact to the learning system itself, particularly the subject of Physics. Physics learning consists of many learning materials, one of which that is considered difficult and impacted a lot is Sound Waves material. The lack of teachers' capability is responsible to the

less effective learning process [12]. The concept identification of the Sound Wave learning material was carried next in order to design the initial draft of documentary learning video.

The result of the develop stage was documentary learning video based on the local content of traditional musical instrument. The feasibility of the media then tested and revised based on the assessments and suggestions of the valuator and the respondents. The details of suggestions and revisions are presented in the following Table 3 and Table 4.

Tabel 3. Revisions of Documentary Video Learning Media Based on the Local Content of Traditional Music Instrument from the Valuator Assessments

No.	Suggestion	Revision
1	The translation of the material subtitle should be more contrast and clear	Improve the color selection of the translation subtitle of the text
	The height of sound frequency doesn't always show the volume of the sound. High volume related to the intensity of the sound	Add the information and accentuation related to the volume of the sound

Tabel 4. Revisions of Documentary Video Learning Media Based on the Local Content of Traditional Music Instrument from the Respondents' Responses.

No	Suggestion	Revision
1	Very good and easy to understand	-
2	Adding more problems examples to the learning media	Add problem examples
3	The font should be made larger	Adding the size of the fonts
4	Documentary video learning media motivates students a lot to, eases them to understand, learns the term of making video	-
5	The documentary video learning media is very good	-
6	The wind back sound can clearly be heard, therefore the sound should be given noise reduction while the rest is good	Fixing the sound problems and adding noise reduction to the video
7	The learning video is very good and gives insight about the traditional musical instruments in which we rarely hear about these days	-
8	The media is creative and it can be a supporting media of the Physics learning process	-
9	-	-
10	The developed learning media integrates the material of sound wave and local content, it gives motivation.	-
11	The sound noise can still be heard	Adding noise reduction
12	The video is good and attractive	-
13	An attractive media to be developed	-
14	The learning video is attractive with a series of good and clear animation, but the exploration of other traditional musical instruments should be done next.	Giving more examples of instruments
15	The sound noise can still be heard	Adding noise reduction

The feasibility of the learning media was measured based on the Likert scale. The assessments results of the developed learning media from valuator and practitioners are presented respectively on the Table 5 and Table 6. Based on the feasibility results of the learning media from valuator, the average value was 93% in the category of very feasible.

Based on the results shown above, the average value from the practitioners was 89% in the category of very feasible.

The assessments of the developed learning media is in the category of very feasible because the value is above 80.1%.

Documentary video of the learning media based on the local content was finished and valued very feasible. The development of the learning media adopts the 4D model consists of define, design, develop, and disseminate. The initial step of the media making was done by designing the learning media and material analyzing of Sound Waves material. The design of the media used several supporting software, namely *Adobe Premiere Pro Cc 2020*, *Adobe Photoshop CC 2020*, and *Adobe After Effect CC 2020*. The results of the step was the draft of documentary video which was valued by the valuator and practitioners. The data of the study was collected by validity sheet to valuator and questionnaire to practitioners namely students of Physics Education, and the Likert scale was used in the data collection score.

The validity sheet consists of several aspects namely, appearance, sound and audio, language, implementation and convenience, documentary video characteristics, validity, material, and local content characteristics. The aspects were being the standard to conduct the feasibility test.

Firstly, the appearance aspect of the learning media, the results showed that the learning media has good quality of images, animations, and texts. The video with a good quality can be a supporting media of students to learn and ease them to understand. This is in accordance with the previous study that explains that visuals can increase student interest and give a good bridge in between the learning material and its implementation. In addition, based on the valuator suggestions and respondents' responses, the size of the text had been revised, the media is expected to have a good readability [13]. This is in accordance to the previous study which stated that the size of the text affects the information, therefore the size of the text must be clear.

Tabel 5. The results of feasibility analysis of the documentary video learning media based on the local content of traditional musical instruments from valuator

No.	Aspects	Percentage	Category
1	Appearance	99%	Very feasible
2	Sound and audio	98%	Very feasible
3	Language	95%	Very feasible
4	Implementation and Convenience	90%	Very feasible
5	Documentary video characteristics	90%	Very feasible
6	Material	90%	Very feasible
7	Validity	88%	Very feasible
8	Local content characteristics	98%	Very feasible
Average percentage		93%	Very feasible

Tabel 6. The results of feasibility analysis of the documentary video learning media based on the local content of traditional musical instruments based on the limited trial

No	Aspects	Percentage	Category
1	Appearance	90%	Very feasible
2	Sound and audio	85%	Very feasible
3	Language	84%	Very feasible
4	Implementation and Convenience	91%	Very feasible
5	Documentary video characteristics	93%	Very feasible
6	Material	87%	Very feasible
7	Validity	90%	Very feasible
8	Local content characteristics	90%	Very feasible
Average percentage		89%	Very feasible

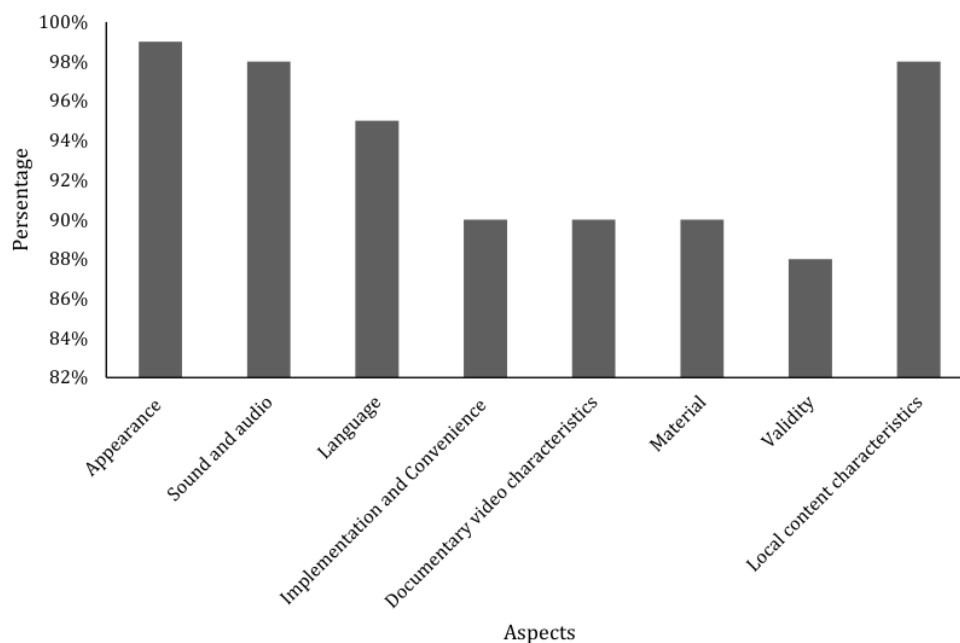


Figure 1. Feasibility analysis of the documentary video learning media based on the local content of traditional musical instruments

Secondly, the **sound** and audio aspect, according to the back sound, dubbing, and mixing of the back sound, vocal, and sample was valued very feasible. The supporting aspect is expected to deliver the learning material in a good way so that it can help student to understand the material better. The audio of narrator explanation aims to ease students understand the material and minimize the possibility of misunderstandings. The back sound also creates a supportive situation in the documentary video [15].

Thirdly, the language aspect was valued very feasible according to the selection of words which doesn't give double interpretation and easy to understand. The selected words of the video documentary should be consistent, communicative and efficient to help students understand [13]. Therefore, the language aspect is considered important.

The important aspect that should be considered in the making and the result of the documentary video is the implementation and convenience of the video itself. The aspect in the video was valued very feasible due to its flexibility in the implementation. The aspect of documentary video characteristics was also valued very feasible according to the content which provides information of the material implementation, it can make students feel interested and motivated, and

this is in accordance to the previous study that explained that the learning process should consider the needs of students, their characteristics and way of learning [14].

Learning media should provide learning material for students to learn. The material content aspect was valued very feasible according to the material it provides which is clear, relevant, well illustrated, and in accordance to the syllabus, basic competencies, systematic design of the learning material, learning purposes, concepts, and students' intellectual development level, which all are well designed to help students to understand. This is in accordance with the study conducted previously that the learning media should be based on the scope of the learning material itself [16].

The validity of the learning media was in the category of very feasible according to the presentation of the media which is not leading to double interpretation, the presented events in accordance to the principles, theories, and laws of the basic knowledge. This is in accordance to the previous study that the learning media should minimize the possibility of misunderstanding in a depth way [17].

Lastly, the aspect of local content characteristics was also valued very feasible according to the way the implementation of the learning media presented in the term of local

wisdom. It also gives insight of the local potential of traditional musical instruments. The result is in line with the previous study which explained that traditional musical instrument of Gamelan can be used to explain the Sound Wave learning material.

Based on the results, the average score of feasibility test obtained from valuers was 93% and 89% from the limited trial. The obtained average score was $P \geq 81\%$ leading the documentary video in the category of very feasible [18]. The result of the study is in accordance with the study conducted previously [7], [19] and [20] about the documentary video that is proved to be very feasible to apply as the learning media.

CONCLUSION

Based on the discussions above, the documentary video learning media based on the local content of traditional musical instruments is very feasible according to the results percentage from the valuers and students' responses respectively 93% and 89%, according to the results, it can be concluded that the developed documentary video can be implemented as one of the learning media of Physics subject.

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