Tadulako Social Science and Humaniora Journal
Vol 2, No. 2, July 2022, pp. 35-42

Development of Audio Visual Learning Media Material on the Distribution of Flora and Fauna in Class XI at SMAN 6 Palu City

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Abstract

This research aims to: 1) develop valid audio-visual learning media at SMAN 6 Palu. 2) find out students' perceptions of audio-visual media at SMAN 6 Palu. The development method in this research is research and development (R&D) with the ADDIE (Analysis, Design, Development, Implementation, Evaluation) development model. The research and development procedure consists of five steps but only three are carried out. The object of this research trial was class XI students at SMAN 6 Palu. The research instruments used in data collection were divided into 2, namely validity test instruments in the form of validation sheets by media experts and experts. The data collection techniques used in this research were validity tests and practicality tests. The data obtained was then analyzed using descriptive analysis. Data from validation results in the form of suggestions and assessments as a basis for improving and perfecting the learning media products being developed. Based on the validation results obtained, the material expert validation data obtained with a percentage of 87% was in very good qualifications for use, and the validation results of learning media experts with a percentage of 91% were in very good criteria for use. The results of small group trials obtained an average of 77% with appropriate criteria. The field test results obtained were 73% with appropriate criteria. Thus, this product can be used as teaching material in schools which has an overall average score of 83% with very appropriate criteria and does not need to be revised. Then according to students, with audio-visual learning media, they understand the material in the learning process better.

Keywords: Development; Learning Media; Audiovisual

1. INTRODUCTION

The development of science and technology is becoming more sophisticated day by day, directly or indirectly having a significant influence on several aspects of human life. One aspect of human life that is influenced by the development of science and technology is the educational aspect (Fitriyani, 2019). Education is the basis for advancing a country. This makes education something that receives serious attention. So, to improve the quality of education, professional teachers are needed who are able to educate using various methods, strategies, and teaching techniques and are able to master and use technology.

One effort that can be made to improve students' understanding is by using. Learning media consists of several forms, one of which is audio-visual media. Audio visual media is media that contains elements of sound and also has elements of images that can be seen, such as video recordings, films, and so on. Good learning media is media that is able to activate students in providing responses, and feedback, and encouraging students to carry out correct practices. Based on facts in the field, when teachers teach the material in the form of pictures, teachers only deliver the material through lectures and conventional methods, while students only imitate what has been given by the teacher. Seeing this condition, students are less actively involved in learning activities in class. Through this audio-visual media, it is hoped that students will more easily understand the material provided by the teacher and

can also play a more active and less boring role in the teaching and learning process (Danizar et al, 2015)

Based on the results of observations and interviews conducted by researchers on 30 September 2022 at SMAN 6, Palu City, JL Padanjakaya, Duyu District, Tatanga, Palu City, one of the geography teachers revealed that there were many factors that influenced the lack of learning achievement of class XI students in geography subjects. In particular, the subject of the distribution of flora and fauna is still dominated by teachers using conventional learning models and only using printed teaching materials, while existing facilities in schools such as LCDs have not been maximized for the learning process so that learning is too monotonous and also teachers have not developed multimedia-based communicative learning media in learning activities. In addition, the surrounding environment disturbs students' concentration and other problems that can interfere with students' focus in receiving students' learning in learning.

Every teaching activity is characterized by several elements, including objectives, materials, methods, and tools (media), as well as evaluation. The elements of methods and tools (media) are elements that cannot be separated from other elements that function as ways or techniques to deliver learning materials to reach their destination. In achieving this goal, the role of media as a tool or teaching aid plays an important role, because with this media the learning material can be easily understood by students. Furthermore, Sudjana said that teaching aids are often called audiovisual, in the sense that they can be absorbed by the eyes and ears. In the teaching and learning process, teaching and learning tools (media) are used with the aim of helping teachers to make the student learning process more effective and efficient (Isran et al, 2018).

Audio-visual media plays an important role in the educational process, especially when used by teachers and students. Audio-visual media provides a lot of stimulus to students, because of its audio-visual/sound-image nature. According to Semenderiadis and Mortidou (2009), audio-visuals can enrich the learning environment, such as exploring things, conducting experiments and meetings, as well as encouraging students to develop communication skills and express their thoughts (Fitriyani, 2019).

Bransford, et al (2015) explained the importance of using videos in class, namely, apart from providing interactivity, it also helps students to learn again by viewing and reviewing the material that has been presented. Meanwhile, Asra (2007) stated that audio-visual media is media that can be seen and heard, such as sound films, videos, television, and sound slides. Meanwhile, Rusman (2012) explains that audio-visual media is media that is a combination of audio and visual or can be called viewing-hearing media. Examples of audio-visual media are educational video/television programs, instructional video/television, and sound slide programs.

2. RESEARCH METHODS

The type of research used by researchers is research and development. The type of research and development was chosen by the researcher because this researcher will develop a product in the form of learning media. This research uses the ADDIE development model, namely from ADDIE itself which means Analyze, Design, Development, Implementation, and Evaluation. ADDIE is well known in the international educational technology community as a good systemic thinker. ADDIE is an instructional design system that has been widely used to improve various systems, including formal systems such as those used in education, as well as non-formal systems such as those used in tutoring to achieve certain goals. One of the main functions of ADDIE is to be a mentor in the development of educational programs that are effective, fun, and independent.

3. RESULTS AND DISCUSSION

Product Validation by Material Experts

1. Learning Aspects

Table 1. Results of Material Expert Assessment of Learning Aspects

No	Indicator	Score	Criteria
1	Appropriateness of the language used in audio-visual media	4	Very good

2	The interest of understanding material through audio-visual media	4	Very good
3	Ease of language to understand in audio-visual media	3	Good
4	Audio-visual media makes students more creative in creating learning media	3	Good
5	Match the image with the explanation in the description of each material	3	Good
6	Audio-visual media is easy to understand	3	Good
7	Appropriate use of images	3	Good
8	The attractiveness of placing images on audio-visual media	3	Good
	Amount	**26**	
	Average	**88 %**	**Very good**

Validation of the learning aspect is intended to determine the quality of class XI audio-visual learning media from the learning aspect. The assessment items assessed consist of 8 indicator items. Based on 15 indicators. Indicators that get a very good score are the suitability of the language used, and the ease of understanding the material through audio-visuals. Indicators of the good category are ease of language, making students creative in creating learning media, appropriateness of images and explanations, audio-visual media being easy to understand, appropriateness of using images, and attractiveness of using images.

2. Material Aspects

Table 2. Results of Expert Assessment of Material/Content Aspects

No	Indicator	Score	Criteria
1	The content of the material is in accordance with the objective indicators and basic competencies	4	Very good
2	The attractiveness of the suitability of audio-visual media with the material concept	3	Good
3	The breadth and depth of the content of audio-visual media material	4	Very good
4	The clarity of the material is in accordance with the audio-visual media, validating the overall content	3	Good
	Amount	**14**	
	Average	**87.5%**	**Very good**

Validation on the material aspect is intended to determine the quality of class XI audio-visual learning media from the material aspect of the assessment items consisting of 4 indicator items. Based on the indicators that get a very good score, namely: the content of the material is in accordance with the objectives and KD, the breadth and depth of the content of the material, and those that get a good score are attractiveness, suitability of the media to the concept of the material, and clarity of the material in accordance with audiovisual media, validation of the overall content.

Product Validation By Media Experts

1. Display Aspect

Table 3. Results of Media Expert Assessment of Display Aspects

No	Indicator	Score	Criteria
1	The content of audio-visual media is in accordance with objective indicators and basic competencies	4	Very good
2	The attractiveness of visualization in audio-visual media	3	Good
3	Suitability of audio-visual media to student characteristics	3	Good
4	Efficient use of media in relation to time	3	Good
5	Ease of understanding the description of the material in each sub-topic discussion	4	Very good
6	The content of the material on audio-visual media as a whole	4	Very good
	Amount	**22**	
	Average	**91 %**	**Very good**

According to material experts, this media is very good for learning because it suits the condition of students who quickly get bored if they only explain theory without visualization. Apart from that, material experts also suggested adding several more extensive explanations and displaying a map of the distribution of examples so that students would be more motivated.

2. Editing Aspect

Table 4. Results of Media Expert Assessment of Editing Aspects

No	Question	Score	Criteria
1	The attractiveness of the opening design packaging in audio-visual media	3	Very good
2	Clarity of voice acting in audio-visual media	4	Very good
3	Audiovisual media design that is easy to understand	3	Good
4	Appropriate use of colors and letters used in audio-visual media	3	Very good
5	Clarity of sound in audio-visual media	3	Good
6	The attractiveness of placing material content on audio-visual media	3	Good
7	The attractiveness of visualization in audio-visual media	3	Good
	Amount	**22**	
	Average	**91%**	**Very good**

The display aspect includes 6 assessment indicators. Indicators that are categorized as very good are: media in accordance with the objectives and KD indicators, ease of understanding the material on each subject of discussion, the overall content of the material, and the good categories are: attractiveness of visualization in the media, suitability of the media to student characteristics, efficiency of the media over time.

Product Trial

A. Mass Group Trial Questionnaire Results

1. Learning aspect

Table 5. Results of Field Trial Responses on Learning Aspects

NO	Aspect	Score				by	Dx
		4	3	2	1		
1	Does using audio-visual learning media make students understand the lesson material more quickly?	12	9	2	-	79	92
2	Does learning using audio-visual media make students more active when studying?	7	14	1	1	73	92
3	Does learning using audio-visual media make you more creative?	9	12	1	1	75	92
4	Does using learning media motivate you to participate in learning?	7	13	2	1	72	92
5	Is the learning media less interesting and makes you feel bored when learning?	11	11	1	-	79	92
6	Do you feel happy when learning using the audio-visual media that has just been implemented?	12	8	1	2	76	92
7	Is learning in class more interesting if you use audio-visual learning?	2	3	6	12	41	92
8	Do you not understand the material presented if you use audio-visual learning?	1	4	10	8	44	92
9	Are you still interested in using audio-visual media learning?	9	10	3	1	73	92
TOTAL						**by**	**Dx**
						612	**828**

In Table 9 it is known that the audio-visual media developed in terms of the learning aspect received an overall score of 612 with an eligibility percentage of 73% with good criteria categories so they were grouped into 1 table as follows:

Table 6 Percentage results on learning aspects

No	Aspect	Score	Percentage	Category
1	Indicator 1	79	Eligibility 85%	Very good
2	Indicator 2	73	Eligibility 79 %	Good
3	Indicator 3	75	Eligibility 81%	Very good
4	Indicator 4	72	Eligibility 78%	Good
5	Indicator 5	79	Eligibility 85%	Very good
6	Indicator 6	76	Eligibility 82%	Very good
7	Indicator 7	41	Eligibility 44%	Enough
8	Indicator 8	44	Eligibility 47%	Enough
9	Indicator 9	73	Eligibility 79%	Good

2. Material/Content Aspects

Table 7. Results of Field Trial Responses on Material Aspects

NO	Aspect	Score				dy	Dx
		4	3	2	1		
1	Is studying using audio-visual learning media a waste of your time?	13	8	1	1	79	92
2	Is the audio-visual media learning used less interesting?	-	4	11	8	42	92
3	Does the selection of images and videos make you interested in listening to the lesson?	8	12	3	-	74	92
4	Is the placement of the sound and audio used in accordance with the material described?	12	10	1	-	80	92
5	What is the level of suitability of the image to the interesting material?	8	13	2	-	75	92
6	Is the material on the distribution of flora and fauna in Indonesia using the audio-visual learning model easier for students to understand than using the conventional learning model?	11	8	3	1	75	92
TOTAL						**dy**	**Dx**
						425	**552**

In table 10 it is known that the media developed in terms of the material aspect obtained an overall score of 425 with a feasibility percentage of 76%, good criteria. In question number 1, a score of 79 was obtained with a feasibility percentage of 85%, very good criteria, in question number 2, a score of 42 was obtained with a feasibility percentage of 45. % sufficient criteria, in question number 3 a score of 74 was obtained with an eligibility percentage of 80% good criteria, in question number 4 a score of 80 was obtained with an eligibility percentage of 86% good criteria, in question number 5 a score of 75 was obtained with an eligibility percentage of 81% very good criteria, in question number 6 obtained a score of 75 with an eligibility percentage of 81%, very good criteria.

3. Display Aspects

Table 8. Results of Field Trial Responses on Display Aspects

NO	Aspect	Score				dy	Dx
		4	3	2	1		
1	Does the explanation of the material match the slides and images displayed?	10	11	1	1	75	92
2	Is the display font/letter size in the material text appropriate?	10	12	1		76	92
3	Is the selection of music appropriate to the appropriate material?	12	10	1	-	80	92
4	Does the video duration display match the learning time?	1	-	13	9	39	92
TOTAL						**dy**	**Dx**
						269	**368**

In Table 11 it is known that the media developed in terms of the appearance aspect got an overall score of 269 with a feasibility percentage of 73% good criteria, in question number 1 a score of 75 was obtained with a feasibility percentage of 80% good criteria, in question number 2 a score of 76 was obtained with a feasibility percentage of 82 % criteria are very good, in question number 3 a score of 80 is obtained with a serviceability percentage of 86%, very good criteria, in question number 4 a score of 39 is obtained with a suitability percentage of 42% sufficient.

4. Editing Aspect

Table 9. Results of Field Trial Responses on Editing Aspects

NO	Aspect	Score				dy	dx
		4	3	2	1		
1	Does the video duration display match the learning time?	2	-	9	12	38	92
2	Does the explanation of the material match the slides and images displayed?	8	15	-	-	77	92
3	Is the level of suitability of the image to the interesting material?	13	8	2	-	80	92
4	Is the evaluation given in accordance with the material in the audio-visual?	14	5	3	1	78	92
TOTAL						**dy**	**Dx**
						270	**368**

In Table 12 it is known that the media developed in terms of the editing aspect obtained an overall score of 270 with a feasibility percentage of 73% good criteria, in question number 1 a score of 38 was obtained with a feasibility percentage of 41% very good criteria, in question number 2 a score of 77 was obtained with a feasibility percentage 83% very good criteria, in question number 3 a score of 80 was obtained with a serviceability percentage of 86% very good criteria, in question number 4 a score of 78 was obtained with a serviceability percentage of 84% very good criteria.

Based on the analysis of the data obtained as a whole, namely from validation and trials, it is stated that the audio-visual media products developed do not need to be revised with a percentage of 83% and are very suitable for use. In this way, the audio-visual media product material on the distribution of flora and fauna in Indonesia that was developed received approval from validation experts with the decision that no revisions were needed. In general, respondents or trials can accept the learning media resulting from development, with qualifications at the "decent" level and "no need for revision". This means that audio-visual learning media can be used throughout SMA/ALIYAH in geography subjects in accordance with the basic competencies that have been determined. It can be seen in the diagram and also the results of the recapitulation of all respondents after analyzing the responses by material experts, media experts, and students.

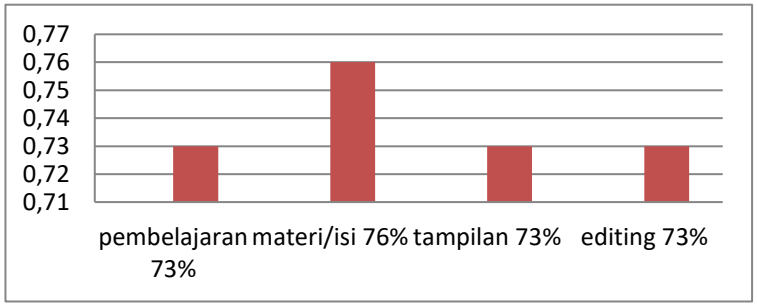

Figure 1 Diagram of Mass Group Trial Results

Table 10. Recapitulation of Assessment Results for All Respondents After Analysis of Per-item Responses

No	Respondent	Criteria %	Qualification				Test decision
			SK	K	B	SB	
1	Material expert	87	-	-	-	√	No need to revise
2	Media Expert	91	-	-	-	√	No need to revise
3	Small group trials	77	-	-	√		No need to revise
4	Field trials	73	-	-		√	No need to revise
	Amount	83%				√	No need to revise

4. CONCLUSION

Development and research on audio-visual learning media with material on the distribution of flora and fauna developed through the ADDIE model. The development of audio-visual learning media is included in the very suitable category for use with an overall average score of 83%. Thus, the media development carried out by researchers is feasible and can be used as a supplement to learning in class XI at SMAN 6 Palu City. audiovisual development with material on the distribution of flora and fauna in Indonesia was good in a small group trial involving 10 students with a percentage of 77% with very good criteria. Mass group trial of 23 students with a percentage of 73% with very good criteria. This can be seen from the results of the material aspects and media aspects, showing that students' perceptions of the learning media developed are very interesting and can be used as a support in learning Geography subjects.

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