Problem-Based Audio-Visual Animation Media for Indonesian Language Learning in Elementary Schools

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A B S T R A K

Pemanfaatan media pembelajaran berbasis teknologi digital masih belum dioptimalkan sepenuhnya, sehingga siswa kurang antusias dan merasa bosan dalam menggunakan media tersebut, terutama dalam pembelajaran Bahasa Indonesia. Menghadapi permasalahan tersebut, diperlukan pengembangan media pembelajaran berupa animasi, yang akan mendorong siswa untuk berpartisipasi lebih aktif dan dengan semangat dalam proses belajar. Penelitian ini bertujuan untuk mengembangkan sebuah media belajar berupa animasi audio visual berbasis masalah pada subtema kebersamaan di rumah muatan Bahasa Indonesia sekolah dasar. Pengembangan animasi audio visual berbasis masalah dalam penelitian ini merujuk pada langkah-langkah yang tercantum dalam model ADDIE, yaitu analisis, perancangan, pengembangan, implementasi, dan evaluasi. Penting untuk dicatat bahwa penelitian ini hanya melibatkan tahap pengembangan (development) dalam model ADDIE. Subjek penelitian melibatkan 2 ahli materi, 2 ahli media, 2 ahli desain, 1 guru, dan 12 siswa untuk mengevaluasi animasi audio visual tersebut. Penelitian ini berfokus pada validitas animasi audio visual sebagai objek penelitian. Data dikumpulkan melalui metode kuesioner yang menggunakan skala likert. Proses analisis data dilakukan dengan menghitung persentase. Hasil perolehan persentase dari uji ahli materi, ahli media, ahli desain, responss guru dan siswa secara berurutan sebesar 95,83%, 93,74%, 88,54%, 92,21%, dan 93,74% dengan kualifikasi sangat baik. Dengan demikian dapat disimpulkan animasi audio visual berbasis masalah ini layak dan valid digunakan dalam proses pembelajaran.

A B S T R A K

Learning media that utilizes digital technology has not been fully utilized optimally so that students feel bored and less enthusiastic about using learning media that only relies on books, especially when learning Indonesian. Based on these problems, it is necessary to develop animated learning media that can accommodate students to be more active and enthusiastic in learning. This research aims to develop a learning media in the form of problem-based audio-visual animations on the sub-theme of togetherness in elementary school Indonesian language content houses. The development of problem-based audio-visual animation refers to the procedures contained in the ADDIE model, namely: analysis, design, development, implementation and evaluation. However, the stages carried out in this research only reached the development stage. The subjects in this research were audio-visual animations which were assessed by 2 material experts, 2 media experts, 2 design experts, 1 teacher and 12 students. The object of this research is the validity of audio-visual animation. The data collection process was carried out using a questionnaire method using a Likert scale. Data analysis was carried out using a percentage formula. The percentage results obtained from material expert, media expert, design expert, teacher and student responses were respectively 95.83%, 93.74%, 88.54%, 92.21% and 93.74% with very good qualifications. Thus, it can be concluded that this problem-based audio-visual animation is feasible and valid for use in the learning process.

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1. INTRODUCTION

Education is a deliberate action to prepare students for their future roles through a process of mentoring, teaching and training (Audie, 2019; Putri et al., 2022). Education is a process that changes the attitudes and behavior of individuals or groups of individuals with the aim of facilitating their development through learning, processing and shaping behavior (Saihu, 2019; Sulaiman & S, 2021). This means that education aims to improve competence and amplify the quality of human resources. In this advanced era, education is now a basic need for everyone. Rapid advances in technology and science, especially in the field of information technology, have a significant impact on the design and implementation of learning strategies. With the development of technology and science, teachers can utilize various types of media according to learning needs and objectives (Firmadani, 2020; Nurrita, 2018).The use of these media can increase efficiency in the educational process. Therefore, educators are expected to be imaginative to increase their learning inspiration. The progress of sophisticated human civilization not only depends on the abundance of natural resources, but also on the ability to develop human resources in the fields of science and technology. Countries with a strong literacy culture and high levels of intelligence demonstrate their capacity to work together, think critically, creatively, and communicate in the face of global competition (Agatha Kristi Pramudika Sari & Shinta Shintiana, 2023; Dwi Rahma Putri et al., 2022). Reading ability is an important element of language skills that should be mastered by all individuals, especially students. Especially in Indonesian language content, it contains four skills, namely speaking, reading, listening and writing. It is important to introduce reading habits to every individual from an early age, especially considering that in this digital age, the level of literacy in Indonesian society is still low (Husnawati et al., 2022; Yuwono et al., 2021).

The low interest in reading of students is influenced by internal factors, namely factors that come from within the student, and also external factors, namely influences that come from outside the student (Hapsari et al., 2019; Sari, 2018). Apart from that, the current education system does not fully support the development of literacy traditions among students. The teaching methods that are generally applied still rely on the teacher's role in providing explanations, while students have limitations in their role as active listeners. Reading activities are also rarely integrated significantly into the learning process by teachers (Maryono et al., 2021; Wiradnyana, 2018). Animation as an option can provide students with a fun and interesting learning process, increase motivation and also enable students to understand the material being taught (Achmad et al., 2021; Nur Jannah, 2020). Not only that, this can also facilitate students' understanding of the subject matter and provide meaningful experiences that can increase students' learning motivation in the classroom. Audio visual media includes various types of media that combine elements of sound that can be heard and images that can be seen, such as sound presentations, various film formats, media recordings, and so on. Media is more attractive and effective because it combines media elements that support the learning journey (Aida et al., 2020; Sutrisno, A. et al., 2024). Characteristics of quality learning include active student participation in the learning process, development of thinking abilities, increased creativity in problem solving, collaboration between students, and achievement of learning goals. Using problem-based animation is one option to improve students' critical thinking skills. In this animation, there are situations or problems that allow students to generate ideas and respond to problems with meaning and quality, triggering the development of students' critical thinking skills (Maulidati et al., 2019; Wahyuni et al., 2018).

However, nowadays education in Indonesia, especially at the basic education level, still has a significant gap between reality and expectations. Teachers have not fully optimized the use and utilization of learning media. Teachers still prefer to use the lecture method when explaining learning material. In this modern era, advances in science and technology should be utilized by educators in creating learning media that can arouse students' motivation in participating in the learning process. With reference to the problems that have been mentioned, changes and innovation efforts are needed in the learning system so that the learning experience becomes more interesting, and so that it can improve students' learning abilities, especially in reading skills, so that students participate more in the learning process. Teachers need to have the ability to create a creative, innovative and entertaining learning process for students. The method that can be applied is creating learning media in the form of audio-visual animation.

This research is novel by developing problem-based audio-visual animated learning media specifically designed for the sub-theme of togetherness at home in Indonesian language content for class II elementary school. This innovation integrates a problem-based approach with audio-visual animation technology, which has not been widely implemented at the basic education level in Indonesia. This approach not only aims to improve students' reading and comprehension skills, but also to generate students' motivation and active participation in the learning process. By combining audio and visual elements, this media is designed to create a more interesting and interactive learning experience, different from conventional learning methods which are more one-way. Additionally, this research emphasizes the

media's validity as well as teachers' and students' responses to its use, providing deeper insight into the effectiveness and acceptability of this media in the primary education context. It is hoped that this update can be an innovative solution to overcome challenges in language and character learning, as well as enrich learning strategies that are more adaptive and enjoyable.

The choice of problem-based audio-visual animation media in learning is considered as an option that can support students in the learning process, especially in the sub-theme of togetherness in the Indonesian language content house. Therefore, it is important to develop problem-based audio-visual animation learning media on the sub-theme of togetherness at home with Indonesian language content for class II SD Negeri 4 Yehembang Kauh. The development was carried out with the aim of, Firstly, describing the design and construction of problem-based audio visual animation learning media on the Sub-theme of Togetherness at Home in Indonesian for class II SD Negeri 4 Yehembang Kauh, Second, to determine the validity of problem-based audio-visual animation learning media on the Sub-theme of Togetherness at Home Indonesian language content for class II SD Negeri 4 Yehembang Kauh, and thirdly, to find out the response of teachers and students to problem-based audio-visual animation learning media on the Subtheme Togetherness at Home Indonesian Language content for class II SD Negeri 4 Yehembang Kauh.

2. METHOD

This research is a type of research that focuses on developing learning media in the form of audio-visual animation with a problem approach. The development method used as a basis for implementing learning media development is using the ADDIE development model. The ADDIE model consists of 5 stages, namely analysis, design, development, implementation and evaluation. The research subjects used were 6 experts, namely 2 learning material experts, 2 learning media experts and 2 learning media design experts. The test subjects were class II teachers at SD Negeri 4 Yehembang Kauh and class II students at SD Negeri 4 Yehembang Kauh, totaling 12 students. The data collection method and tool used is a questionnaire which aims to collect validation results. The questionnaire grid is presented in Table 1, Table 2, Table 3, and Table 4.

Data analysis uses two techniques, namely qualitative descriptive analysis and quantitative descriptive analysis. Qualitative descriptive techniques were used to process reviews, data, input, suggestions and criticism provided by the assessors, who consisted of two teachers and lecturers who had expertise in their fields. Meanwhile, quantitative descriptive analysis is used to process data in the form of numbers obtained from media assessment sheets given to teachers and lecturers who act as experts or assessors. This score was analysed using a Likert scale (Putra & Wulandari, 2021).

Table 1. The Learning Material Expert Validation Instrument Grid

No	Aspect	Indicator	Item Number	Number of Items
1	Learning	Competency suitability	1,2,3	3
		Providing motivation	4,5,6	3
		Evaluation	7,8	2
2	Contents	Material quality	9,10,11	3
		Material selection	12,13	2
		Relevance of the material	14,15	2
		Number of Items		**15**

Modified from (Sukarini & Manuaba, 2021)

Table 2. The Learning Media Expert Validation Instrument Grid

No	Aspect	Indicator	Item Number	Number of Items
1	Media Quality	Ease of use	1.2.3	3
		Language use	4.5.6	3
		Selection of music/background sounds	7.8	2
2	Media Presentation	Image quality	9.10.11	3
		Layout	12.13	2
		Illustration suitability	14	1
		Number of Items		**14**

Modified from (Indrayani et al., 2021)

Table 3. The Validation Instrument Grid for Learning Media Design Experts

No	Aspect	Indicator	Item Number	Number of Items
1	Accuracy	Suitability of media to student characteristics	1	3
		Suitability of material to learning objectives	2	
		Collapse of matter	3	
2	Clarity	Clarity of language	4	3
		Clarity of description and discussion	5	
		Clarity of content provided	6	
3	Interest/Concern	Motivate students' interest in learning	7	2
		Students' attention to learning	8	
4	Evaluation Quality	Suitability of quizzes to learning material	9	2
		The quizzes given are easy to understand	10	
5	Impact on students	Make it easier for students to understand the material	11	2
		Creating new learning experiences for students	12	
	Number of Items			**12**

(Modified from (Sprott et al., 2021)

Table 4. Teacher and Student Response Validation Instrument Grid

No	Aspect	Indicator	Item Number	Number of Items
1	Media Presentation	Ease of use	1,2,3,4,5	5
		Material	6,7,8	3
		Appearance	9,10,11	3
		Providing motivation	12,13	2
		Language use	14,15	2
	Number of Items			**15**

Modified from(Suwiantini et al., 2021)

3.   RESULTS AND DISCUSSION

Results

The development model used as a basis for developing learning media is the ADDIE model, which consists of the stages of analysis, design, development, implementation and evaluation. However, this research only involves the development stage in the learning media development process, the implementation and evaluation stages were not carried out due to limited time, energy and costs. Bearing in mind that the implementation process requires adequate and complete supporting facilities so that all students can use this media for operation. Analysis Stage. The results of the needs analysis are that the media that is often used in learning Indonesian is books. So, this sometimes makes students feel bored and less enthusiastic about learning. Elementary school students in the age range of 7-12 years are in the concrete operational stage who need visual assistance to carry out the thinking process. For this reason, there needs to be innovation in packaging learning to make it more interesting, one of which is the use of animation media. Design Stage. The first step taken in this activity is to determine the material to be developed. After that, proceed with creating a narrative of the fable story that will be developed as well as determining the software that will be used in creating the media, and providing guidance to the supervising lecturer to obtain input or recommendations, so that it is possible to make improvements to the content or media that is in the development process.

Development Stage. At this stage, the process of creating audio visual media is developed. The animated video begins with an initial display containing the learning theme and lesson content. Then proceed with the display of basic competencies and indicators. Next, the learning objectives to be achieved are displayed. The content section contains Indonesian content material, namely fairy tales and quizzes as

problems to be solved. The final part contains a moral message conveyed in the animated video. The results of the development of audio-visual animation learning media are presented in Figure 1.

Figure 1. The Problem Based Audio Visual Animation Learning Media with Indonesian Language Content

The results of material expert validation calculations carried out by 2 experts obtained an average score of 95.83% which is in the range of 90% - 100% so it is in the very good category. The results of media expert validation calculations carried out by 2 experts obtained an average score of 93.74% which is in the range of 90% - 100% so it is in the very good category. The results of design expert validation calculations carried out by 2 experts obtained an average value of 88.54% which is in the range of 75% - 89% so it is in the good category. Input by experts is used to revise products that have been developed to perfect problem-based audio-visual animation learning media with Indonesian language content. The results of input from experts are first, improvements to the title to make it clearer. Second, improvements to the initial display, namely by filling in the name of the person who developed the media. Third, improvements to learning objectives, story narratives, and mentioning examples of fables. The results of the revision are presented in Figure 2. Problem-based audio-visual animation learning media with Indonesian language content was then carried out a media trial to determine student responses. The trial was carried out on 12 class II students at SD Negeri 4 Yehembang Kauh. results for several aspects such as ease of use at 95%, material at 91.66%, appearance at 92.35%, providing motivation at 94.79%, and use of language at 94.79%. The overall assessment of 12 students produced a percentage of 93.74% in the range of 90% - 100%, so it can be categorized as a very good qualification. It can be concluded that audio-visual animation learning media based on Indonesian language content problems is suitable for application in the learning process.

Figure 2. The Revision Results of Problem-Based Audio Visual Animation Learning Media

Discussion

This development research produced a learning media in the form of problem-based audio-visual animations on the sub-theme of togetherness in the Indonesian language class II elementary school class. The problem-based audio visual animation on the sub-theme of togetherness at home which was developed is different from other media because no one has developed similar media. This animation media does not only display animation, but it contains material and students are invited to listen and follow. Based on the findings of this research, it shows that, (1) the validity of the problem-based audio visual animation on the sub-theme of togetherness at home which was carried out by material experts obtained a score of 95.83%, very good qualifications, (2) validation carried out by media experts obtained a score of 93. 74% very good qualifications, (3) validation carried out by design experts obtained a score of 88.54% with good qualifications, (4) the percentage of teacher responses was 92.21% with very good qualifications, (5) the percentage of student responses was 93. 74% with excellent qualifications. Based on assessments carried out by material experts, learning media experts, design experts, teachers and students, the problem-based audio visual animation on the sub-theme of togetherness in the Indonesian language content house for class II SD Negeri 4 Yehembang Kauh that was developed is declared valid and suitable for use in learning process.

Feasibility of developing problem-based audio visual animation on the sub-theme of togetherness at home (Saputro et al., 2021; Tantina & Yulia Eka Yanti, 2022). Learning video media is a type of audio-visual media that combines image and sound elements. Compared to image-based media alone, the use of video learning media tends to have a more significant positive impact on students' achievement of learning outcomes. Therefore, the use of learning video media encourages increased learning motivation of students,

which in turn improves their learning outcomes (Maryanti & Kurniawan, 2018; Yendrita & Syafitri, 2019). The use of learning videos as learning media has a very good influence on students, making it easier for students to learn. Choosing learning videos as learning aids can attract attention in following the learning process. Learning videos can be used as teaching aids because learning videos are media that have elements of sound, movement and animation. This can arouse students' interest in participating in the learning process.

Problem-based audio-visual animation learning media products on the sub-theme of togetherness in the Indonesian language content house obtained very high validation results with "Very Good" qualifications from material experts, media teachers, students and "Good" qualifications from design experts due to the animation learning media development process The audio visual on the sub-theme of togetherness in the Indonesian language content house is carried out based on the structured and systematic stages of the ADDIE model so that the resulting media has a good and orderly design. Aspects that received very good marks from media expert assessments were aspects of media quality and media presentation. The quality aspect of the media is in very good qualifications because this animation media is easy to access and use. The selection of music is appropriate to the characteristics of the students and the music used can be heard clearly. The presence of pleasant sounds will affect brain performance and can be calming (Andita & Desyandri, 2019; Suci, 2019). Then, from the aspect of presentation, the media is in very good qualifications because this media has quality with good image resolution, the images correspond to each subject matter, and the colors used are appropriate and have attractive images. An interesting and fun presentation pattern can help students understand the material presented. The placement of images on this media is appropriate and the display of images and writing is clear. Apart from that, the use of images also helps facilitate understanding of the material. Aspects that received good marks from the design expert's assessment were aspects of accuracy, interest/attention, and impact on students. The accuracy aspect is in the very good qualification because the animation media developed is in accordance with the characteristics of students, the material is in accordance with the objectives and is arranged coherently. Content in the media can influence students' thoughts and feelings in learning (Achmad et al., 2021; Dwiqi et al., 2020)which states that content in the media can influence students' thoughts and feelings in learning. The interest/attention aspect is in the very good category because animation media is able to encourage students' motivation to learn and increase students' attention to learning. The impact aspect for students is also in the very good category because animation media is able to facilitate students' understanding of the material and create new learning experiences for students. The existence of animation media helps students construct knowledge according to their development (Divayana et al., 2016; Diyah & Syah, 2022).

The results of the assessment of teacher and student responses also obtained very good qualifications. Aspects that received very good marks from teacher and student assessments were aspects of ease of use, material, appearance, providing motivation, and use of language. The ease of use aspect of teacher and student responses is in the very good category because the media is easy to use, the writing on the media is easy to read, the text and form of writing on the media are clear, the displays on the media are easy to display, and the displays in animated videos are easy to understand. In line with this, a study conducted by, stated that media helps students absorb information quickly and efficiently. Furthermore, the material aspect of the teacher and student responses is in the very good category because the material on the media is easy to understand, the material is explained coherently, and the quizzes on the animated media are easy to understand according to the material. The display aspect of the teacher and student responses is in the very good category because the visual appearance in the media is very attractive, the images displayed are also in accordance with the material being discussed, and the images displayed can help students understand the material. The motivational aspect of teacher and student responses is in the very good category because the media displayed can make students enthusiastic about learning and can create interaction for students. Media can encourage students' enthusiasm for learning. The language use aspect of teacher and student responses is in the very good category because the language and sentences used are easy to understand (Ismail et al., 2021; Tafonao, 2018).

Problem-based audio-visual animation learning media can be used by teachers as a learning media in delivering material about fables in elementary schools, especially class II. This media can also be used as inspiration and encouragement to hone abilities and skills in utilizing technology in the field of education. Ability and skills in utilizing technology are very important in the current era, this cannot be separated from the increasingly rapid development of technological science. Problem-based audio-visual animation learning media can help make it easier for students to learn the material. Apart from that, students also enjoy seeing this audio-visual animation media. So, this will be able to encourage students' attention, motivation and enthusiasm for learning. These findings are limited to the development of problem-based audio-visual animated learning media on the sub-theme content of togetherness in elementary school Indonesian language content. Based on these limitations, it is hoped that there will be studies that can

further develop these findings. This research has significant implications in the field of education, especially in developing more innovative and interesting learning methods for elementary school students. The use of problem-based audio-visual animation media can increase student learning motivation, enrich the learning experience, and facilitate understanding of subject matter in a more enjoyable way. Teachers can utilize this media to create a more interactive learning environment, which can ultimately improve the overall quality of education.

However, this research also has limitations. The implementation and evaluation stages were not carried out in full due to limited time, energy and costs. In addition, the use of this media requires adequate supporting facilities, such as computers, laptops and projectors, which may not be available in all schools. Therefore, further research is needed to test the effectiveness of this media on a wider scale and with various conditions of infrastructure. This research has prominent advantages. The validity of the learning media developed has received very good marks from various experts, indicating that this media is suitable for use in the learning process. Positive responses from teachers and students show that this medium is not only effective but also well received by end users. This research introduces a problem-based learning approach in the form of audio-visual media, which is an important innovation in efforts to improve the quality of basic education in Indonesia. Thus, the findings of this research can be an important reference for the development of other more creative and effective learning media.

The results of this audio-visual animation-based learning media can be said to be very valid because of the test results (Khasanudin et al., 2020; Novita & Novianty, 2020). The total observed material expert score was 68, and the expected score was 68 on 17 statement items. This means that the average material expert score obtained from the two aspects was 100%, which falls into the "very appropriate" criteria. With these results, it can be concluded that Animation-Based Audio Visual Media is suitable for use. Animation Media Animation media learning media shows a validity level carried out by validators of 86.5% with a very feasible category. This can show that animated learning media is suitable for use. The overall results obtained were a score of 168 with a percentage of 84% (valid category) (Isti et al., 2022; Ningrum et al., 2022). With these results, it can be concluded that the development of audio-visual media in the form of animation to improve the information analysis skills of fifth grade students at SD Tunas Pelita Binjai is suitable for use. The results of these findings are also comparable to the findings above which state that the validity of this problem-based audio-visual animation learning media can be determined based on the evaluation results from learning material experts with very good qualifications, learning media experts with very good qualifications, and design experts with good qualifications. The results of teachers' and students' responses to problem-based audio-visual animation learning media on the sub-theme of togetherness in the Indonesian language content house show that the media is suitable for use in the learning process. The advantage of this audio visual animation is that students can learn while listening, thereby encouraging student enthusiasm and attention in the learning process. Apart from that, the media developed is packaged with various interesting animated images, equipped with sound and background music provided with characters that children like. The novelty that can be found in these findings is the existence of problem-based learning in audio-visual media, especially in the sub-theme of togetherness in elementary school Indonesian language content. However, there is a weakness in this research, namely that the problem-based audio-visual animation developed can only be operated effectively via computers, laptops and projectors. Bearing in mind that the implementation process requires adequate and complete supporting facilities so that all students can use this media for operation.

4. CONCLUSION

This research succeeded in developing a learning media in the form of problem-based audio-visual animation for the sub-theme of togetherness at home, specifically for the content of Indonesian language lessons in class II elementary schools. This media is unique because it combines animated displays with interactive learning material and invites students to listen and listen. Based on validation results from material, media and design experts, as well as responses from teachers and students, this media received a qualifying score of "Very Good". The use of this media shows an increase in students' motivation and understanding of the learning material. However, this research also identified several limitations, such as the need for adequate supporting facilities for optimal implementation. Overall, this problem-based audio-visual animation learning media has proven to be effective and suitable for use, and has the potential to improve the quality of learning in elementary schools. This research makes an important contribution to the innovation of learning methods and can be a reference for developing more creative learning media in the future.

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