



Animated Video Learning Media Oriented to the Tri Kona Concept on the Life Cycle of Living Things for The Fourth Grade of Elementary School

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ABSTRAK

Rendahnya kemampuan siswa dalam memahami materi pelajaran IPA disebabkan karena dalam proses pembelajaran guru kurang mampu memanfaatkan penggunaan media yang sesuai dengan kebutuhan siswa. Sehingga tujuan dari penelitian ini yakni untuk mengembangkan media pembelajaran video animasi berorientasi konsep Tri Kona pada topik siklus hidup makhluk hidup serta untuk pembelajaran siswa kelas IV yang telah teruji validitas, kepraktisan, dan respon siswa. penelitian ini tergolong kedalam jenis penelitian pengembangan, yang dikembangkan dengan menggunakan model ADDIE, dengan lima tahapan penelitian yakni tahap analisis, desain, pengembangan, pengimplementasian, dan evaluasi. Subjek yang terlibat dalam penelitian ini yakni 4 orang dosen sebagai ahli, 1 orang guru dan 12 orang siswa. Sedangkan objek penelitiannya adalah rancang bangun, validitas isi dan kepraktisan terhadap media pembelajaran video animasi berorientasi konsep Tri Kona pada topik siklus hidup makhluk hidup yang dikembangkan. Pengumpulan data dalam penelitian dilakukan dengan menggunakan metode kuesioner dengan instrumen yang digunakan untuk mengumpulkan data yaitu angket. Data yang diperoleh dalam penelitian kemudian dianalisis dengan teknik analisis deskriptif kualitatif dan analisis deskriptif kuantitatif. Hasil analisis penelitian menunjukkan bahwa media pembelajaran video animasi berorientasi konsep Tri Kona pada topik siklus hidup makhluk hidup dinyatakan valid. Persentase kepraktisan sebesar 98,75%, dan presentase respon siswa untuk uji coba perorangan dan kelompok kecil sebesar 94,17% dan 96,11%. Sehingga berdasarkan hasil tersebut dapat disimpulkan bahwa media pembelajaran video animasi berorientasi konsep Tri Kona pada topik siklus hidup makhluk hidup layak digunakan dalam pembelajaran.

ABSTRACT

The low ability of students to understand science subject matter is because, in the learning process, the teacher is less able to utilize the use of media that suits the needs of students. So the purpose of this research is to develop Tri Kona concept-oriented animated video learning media on the life cycle of living things and for class IV student learning that has been tested for validity, practicality, and student responses. This research belongs to the type of development research, which was developed using the ADDIE model, with five research stages, namely the analysis, design, development, implementation, and evaluation stages. The subjects involved in this study were 4 lecturers as experts, 1 teacher and 12 students. Meanwhile, the research object is the design, content validity and practicality of the Tri Kona concept-oriented animation video learning media on the life cycle of living things being developed. Collecting data, this study was carried out using the questionnaire method with the instrument used to collect data, namely a questionnaire. The data obtained in the study were then analyzed using qualitative and quantitative descriptive analysis techniques. The research analysis results showed that the Tri Kona concept-oriented animation video learning media on the life cycle of living things was declared valid. The practicality percentage was 98.75%, and the percentage of student responses for individual and small group trials was 94.17% and 96.11%. Based on these results, the Tri Kona concept-oriented animated video learning media on the life cycle of living things is appropriate for learning.

1. INTRODUCTION

Technology plays an important role in improving the quality of learning. Education is one of the needs in human life which plays a role in improving human resources (Sari & Khoiri, 2023; Sujana, 2019). Competent and superior-quality human resources are the main indicators of an education's success (Febriyanti, 2021). To achieve this success, it is necessary to have smoothness in the learning process. Learning at the elementary school level includes various subject contents combined in the form of themes and in which there are subject matter contents, one of which is Natural Sciences (IPA). Science learning is a lesson closely related to studying natural phenomena and requires students to think critically in the discovery processes in their learning. (Priyantini et al., 2021; Riwanto & Budiarti, 2021; Sukarini & Manuaba, 2021). One of the science learning materials that cannot be separated from human life is the life cycle material of living things. Science learning is inseparable from using various media because it relates to the wider nature. Not all events in nature can be conveyed at one time without media, for example, material about the life cycles of living creatures. It is by the aim of using media, namely being able to present events in different time spaces and be done anywhere and at any time (Semara & Agung, 2021; Sunami & Aslam, 2021).

However, the reality in the field shows that teachers have not optimized the use of technology to support the technology-based learning process (Kasturi et al., 2022; Nailiah & Saputra, 2022). Teachers tend to design and use conventional learning media more often, such as using the lecture method or only sourcing from books, so that learning activities are less interesting, and students tend to be passive and only record the teacher's explanation as it is (Dewi & Handayani, 2021; Lukman et al., 2019). It aligns with the results of observations carried out with the teacher. In observation activities, it was discovered that the teacher only used the lecture method and book media as the sole intermediary for learning activities without being supported by concrete media. It is because the availability of learning media is very lacking. Of course, this results in students memorizing more theory than understanding practice directly. Interviews were also conducted with several fourth-grade students. As a result of the interview, information was obtained that science is a difficult subject because the concept of science material is very broad, so students experience problems understanding the concepts. It causes students' inability to connect the knowledge learned in class with its application to solve problems outside the classroom. Based on this, if the teacher does not develop media, it will affect students' interest and learning outcomes.

One effort that can be made to overcome this problem is by utilizing technology-based learning media. It is because technology-based learning media influences the learning process, such as facilitating communication, creating a pleasant learning atmosphere, attracting students' attention, fostering student activity, providing convenience in the learning process, and providing more knowledge to students (Candra & Negara, 2021; Sunami & Aslam, 2021). Learning animation video media is an example of technology-based media that can be used as an alternative learning media by the characteristics of elementary school students (Andrianingsih et al., 2022; Nailiah & Saputra, 2022). It is because video animation is a moving image that comes from a collection of objects (such as human images, text writing, animal images, plant images, and so on) that are specially arranged so that they move according to a predetermined path (Apriansyah & Maulana, 2020; Semara & Agung, 2021; Siddiq et al., 2020). In learning natural sciences, the material for the life cycle of the video animation used can be developed based on local culture, namely Tri Kona. Tri Kona is a Hindu religious philosophy that contains teachings about the omnipotence of God as a source of guidance in living life (Wiraputra, 2022). Tri Kona comes from the word "tri" which means three, and "Kona" which means God's omnipotence, so Tri Kona is defined as three forms of God's omnipotence which are divided into the power to create (utpati), maintain (sthiti), and dissolve (pralina) (Sugita & Pastika, 2021). In Tri Kona science learning, this means the life cycle of living things from birth, to life, to death.

The concept of media based on Tri Kona emphasizes that the process of creating nature and its contents will never be separated from the three manifestations of God as creator in the form of Lord Brahma, preserver in the form of Lord Vishnu, and fuser in the form of Lord Shiva (Wiratmaja et al., 2021). Several previous studies have revealed that the learning animation media developed with the Tri Hita Karana concept is in the valid category and is very suitable for use (Didik et al., 2021). Other research results reveal that animated character education videos based on Tri Kaya Parisudha can provide new experiences for children to use as learning in character formation (Lawe et al., 2020). Further research revealed that the Tri Hita Karana local wisdom-based learning animation video was valid and suitable for use (Artayana et al., 2022). Based on several research results, it can be said that animated video media based on local Hindu wisdom can positively influence student learning outcomes. In previous research, no study specifically discusses the development of Tri Kona concept-oriented animated video learning media on the life cycle of living things for the fourth grade of elementary school. So, this research focuses on this study to produce animated video learning media oriented to the Tri Kona concept of the life cycle of living things.

2. METHOD

This research belongs to the type of development research that was developed using the ADDIE development model. The ADDIE development model comprises five stages: analysis, design, development, implementation and evaluation. The subjects in this research were material experts, media experts, fourth-grade elementary school science teachers, three individual test students from fourth-grade elementary school, and nine small group tests from fourth-grade elementary school students. Meanwhile, the object of the research is the validity and practicality of the Tri Kona concept-oriented animated video learning media on the topic of the life cycle of living creatures being developed. The data collection method used in this development research is the questionnaire method with the instrument used to collect data, namely a questionnaire. For this research, a closed questionnaire was used, meaning that the questionnaire provided answer choices and respondents only needed to put a checklist mark (√) on each statement in the questionnaire. To ensure the instrument's validity can be accounted for, the instrument compiler is expected to create a grid table, consult the grid with the supervisor, and compile the instrument. The research instrument grid can be seen in [Table 1](#), [Table 2](#), [Table 3](#), and [Table 4](#).

Table 1. Instruments for Material Experts

No.	Aspect	Indicator
1	Learning objectives	Learning objectives are presented clearly. The material is appropriate to the learning objectives. The content of the material presented in the animated video learning media is correct and free from conceptual errors. The material in animated video learning media is delivered coherently.
2	Submission of Materials	The material presented in the animated video learning media is covered. The choice of words according to the material presented. Students can easily understand the submission of animated video learning media material. The material in animated video learning media can be presented interestingly. The material presented in animated video learning media makes students listen carefully.
3	Presentation of Material	The material presented in animated video learning media can foster curiosity. The material presented in animated video learning media can increase student activity. The material presented in animated video learning media can attract students' interest in learning. The animated video learning media material is relevant to the learning objectives.
4	Material Relevance	The material presented in the animated video learning media is based on the characteristics of students. The difficulty level of the material presented in the animated video learning media is according to the student's level. Clarity in providing examples is appropriate to the student's cognitive level. The selected material is in line with animated video learning media.
5	Material Selection	The material presented in animated video learning media is important for students. The material presented in animated video learning media stimulates students' interest in learning. The depth of the material presented in the animated video learning media is sufficient to equip students to study the next material.

Table 2. Instruments for Media Experts

No.	Aspect	Indicator
1	Quality of the Video Displayed	Complete the identity of animated video learning media on the title page. Clarity of identity of animated video learning media on the title page. The suitability of the images/videos displayed with the material being studied. The displayed images/videos are clear and have good resolution. Video displays support student learning and understanding.
2	Clarity of Text and Voice	The text displayed on the animated video learning media can be read well. Conformity of the text with the narrative conveyed. Clarity on sound effects/music used in animated video learning media.

No.	Aspect	Indicator
3	Quality of Language Use	The clarity of the sound/music used makes the video interesting.
		The language used in animated video learning media is easy to understand.
		Accuracy in writing and selecting the language used in animated video learning media.
4	Video Presentation	Clarity of words and terms used in animated video learning media.
		The color combination in the animated video learning media is arranged well.
5	Suitability of Sentence Placement	The appearance of the layout design and image settings in the animated video learning media gives a positive impression and has high appeal.
		Appropriate shape and size of letters in the text displayed in the learning video.
6	Layout	Appropriate spacing for each sentence in the text displayed on animated video learning media.
		The compatibility of the writing layout displayed on the animated video learning media.
7	Ease of Use	The suitability of the image layout with the video background used.
		Ease of use/operation of animated video learning media.
		Learning videos can be used on a variety of supported devices.

Table 3. Practical Instruments for Teachers (Practitioners)

No.	Aspect	Indicator
1	Learning objectives	Learning objectives are presented clearly.
2	Content/Material	The material is appropriate to the learning objectives.
		The content of the material presented in the animated video learning media is correct and free from conceptual errors.
		The material in animated video learning media is delivered coherently.
		The material presented in the animated video learning media has been covered.
		The choice of words according to the material presented.
3	Presentation of Material	Students can easily understand the submission of animated video learning media material.
		The material in animated video learning media can be presented interestingly.
		The material presented in animated video learning media makes students listen carefully.
		The material presented in animated video learning media can foster curiosity.
4	Material Relevance	The material presented in animated video learning media can increase student activity.
		The material presented in animated video learning media can attract students' interest in learning.
		The animated video learning media material is relevant to the learning objectives.
5	Material Selection	The material presented in animated video learning media is based on student characteristics.
		The difficulty level of the material presented in the animated video learning media is appropriate to the student's level.
		Clarity in providing examples is appropriate to the student's cognitive level.
6	Displayed Video Quality	The selected material is in line with animated video learning media.
		The material presented in animated video learning media is important for students.
		The material presented in animated video learning media stimulates students' interest.
		The depth of the material presented in the animated video learning media is sufficient to equip students to study the next material.
7	Clarity of Text and Voice	Complete the identity of animated video learning media on the title page.
		Clarity of identity of animated video learning media on the title page.
		The suitability of the images/videos displayed with the material being studied.
		The displayed images/videos are clear and have good resolution.
7	Clarity of Text and Voice	Video displays support student learning and understanding.
		The text displayed on the animated video learning media can be read well.
		Conformity of the text with the narrative conveyed.
7	Clarity of Text and Voice	Clarity on sound effects/music used in animated video learning media.
		The clarity of the sound/music used makes the video interesting.

No.	Aspect	Indicator
8	Quality of Language Use	The language used in animated video learning media is easy to understand. Accuracy in writing and selecting the language used in animated video learning media. Clarity of words and terms used in animated video learning media.
9	Video Presentation	The color combination in the animated video learning media is arranged well. The appearance of the layout design and image settings in the animated video learning media gives a positive impression and has high appeal.
10	Conformity of Sentence Placement	Appropriate shape and size of letters in the text displayed in the learning video. Appropriate spacing for each sentence in the text displayed on animated video learning media.
11	Layout	Harmony of the writing layout displayed on the animated video learning media. The suitability of the image layout with the video background used.
12	Ease of Use	Ease of use/operation of animated video learning media. Learning videos can be used on a variety of supported devices.

Table 4. Practical Instruments for Students

No.	Aspect	Indicator
1	Presentation of Material	The material presented in animated video learning media is based on student characteristics. Presenting material on animated video learning media can increase students' interest and motivation in learning science. The material in animated video learning media is presented clearly and coherently. The presentation of material in animated video learning media can be understood easily by students.
2	Video Presentation	Clarity of images and text presented in animated video learning media. The attractiveness of the images and audio presented in animated video learning media. The language used in animated video learning media is easy to understand.
3	Functions and benefits of animated video learning media	Enjoy learning using animated videos. With the help of animated video learning media, it is easier for students to understand the material. Animated video learning media can attract students' attention.

Data analysis methods and techniques used in this study are descriptive qualitative and quantitative descriptive analysis. Qualitative descriptive analysis is used in processing the results of expert reviews, input and suggestions. Meanwhile, quantitative descriptive analysis was carried out to obtain practicality percentages and average scores, which were then used to determine the validity of the developed animated video learning media.

3. RESULT AND DISCUSSION

Result

This development research was carried out using the ADDIE development model. The results of each stage of development are as follows: The first stage is the analysis stage, which is carried out by analyzing the curriculum, student characteristics, and analysis of media availability/needs. The results of the analysis stage show that fourth-grade elementary school students use an independent curriculum to demand an active role for students in learning, while the media available at school have not been able to meet the demands of the applicable curriculum. In each learning process, students need media to help concretize the various abstract concepts presented. It is, of course, by the characteristics of elementary school students who prefer learning while playing and getting to know the environment. The second stage is the media design stage. The media design process is carried out based on the analysis results. The design stage is carried out by creating a flowchart and storyboard. The software used to develop the product is also selected at this stage. The software used is Animaker Web.

The third stage is the media development stage, which combines teaching materials, designs, backgrounds, animations, text, sound, and all needs prepared beforehand using the Animaker Web

software. The resulting animated video learning media product lasts 8 – 9 minutes with a 16:9 ratio and a resolution of 1280 × 720p. Learning videos have parts, namely opening, presentation of material, and closing. The opening contains the identity of the animated video learning media consisting of the Undiksha logo, the opening remarks of learning in the form of greetings, the title of the learning video, the identity of the researcher, the name of the supervising lecturer, and the learning objectives. Presentation of material contains subject matter by learning, namely material on plant life cycles. In closing, conclusions regarding the learning carried out, carrying out learning project activities and ending the learning. The results of media development can be seen in Figure 1.



Figure 1. The Results of the Development of Animated Video Learning Media

The fourth stage, the product implementation stage, is carried out through the validation stage from experts and trials on teachers and students. The fifth stage is the evaluation stage. The evaluation is formative, including expert validation, teacher trials, individual trials and small group trials. The results of the validity and practicality tests of animated video learning media are presented in more detail in Table 5, and Table 6.

Table 5. Product Validity Test Results

No.	Validity Test Subjects	Validity Results	Description
1	Material Expert Test	3.80	Very good
2	Media Expert Test	3.63	Very good

Table 6. Product Practicality Test Results

No.	Practicality Test Subjects	Practicality Percentage	Description
1	Teacher Trials	98.75%	Very Practical
2	Individual Trial	94.17%	Very Practical
3	Small Group Trial	96.11%	Very Practical

Discussion

Based on the results of the data analysis that has been carried out, several findings were obtained in this research, including the first finding shows that the average validation score for the Tri Kona concept-oriented animated video learning media is in the range of $2.40 < X \leq 4.00$, so Tri Kona concept-oriented animated video learning media is declared valid. Obtaining validity results in the very good category due to the delivery of identity, learning objectives and material level by student characteristics. The visual aspects in the form of images, background and use of color look attractive, as well as the presentation of material in the form of stories, animation aspects, linguistic aspects and the overall appearance aspects of this animated video is by the characteristics of fourth-grade students. Hence, this media is suitable for use as a learning medium in elementary schools. Study material presented in a systematic order can help present interesting material to improve the quality of learning (Nurrita, 2018; Sunami & Aslam, 2021). The appearance of learning media products is also very important, so learning media development must pay attention to text writing, animation, audio and video (Andrianingsih et al., 2022; Nailiah & Saputra, 2022).

The second finding shows that based on the assessment of the teacher (practitioner) and students after using the animated video learning media during the learning activities, the percentage of each is classified into the percentage category $75.01\% < P \leq 100\%$. It means that the response of teachers

(practitioners) and students to the animated video learning media oriented to the Tri Kona concept is high. These results indicate that the Tri Kona concept-oriented animated video learning media provides compatibility with the learning carried out by the teacher and can facilitate students to understand the material through the developed media. In addition, the results in the practical category in individual and small group trials were affected because animated video learning media could attract students' attention. It is inseparable from the appearance of each impression, animation, video and image. Besides that, the product is also designed simply by using the appropriate type and size of letters so that students have no difficulty reading material in text form. The practicality of media refers to the condition of learning media that is easy to use by users, both students and teachers (Milala et al., 2022; Wibowo et al., 2022). The practicality of media can also be seen in product users such as teachers and students who have no difficulty when using learning media (Apriansyah & Maulana, 2020; Kumalasan, 2018; Semara & Agung, 2021; Siddiq et al., 2020).

The third finding shows that Tri Kona-based animated video media can help teachers achieve learning objectives to the fullest because the use of these media can increase students' interest in learning and activeness in observing, gathering information, formulating problems, collecting data through a learning project, analyzing to able to make conclusions based on learning videos and the results of learning projects that have been carried out by technology (Kasturi et al., 2022; Nailiah & Saputra, 2022). Students will understand the material better because this media is packaged in the form of an animated video with presentations in the form of moving images and video shows that are equipped with sound so that it becomes fun media for students (Febriyanti, 2021; Sari & Khoiri, 2023; Sujana, 2019). The results obtained in this study align with previous research results, which revealed that learning animation media developed with the Tri Hita Karana concept was in the valid category and very feasible to use (Didik et al., 2021). The results of other studies reveal that animated video character education based on Tri Kaya Parisudha can provide new experiences for children to learn to build their character (Lawe et al., 2020). Further research revealed that the Tri Hita Karana local wisdom-based learning animation video was valid and suitable for use (Artayana et al., 2022). Based on several research results, it can be said that animated video media based on local Hindu wisdom can positively influence student learning outcomes.

4. CONCLUSION

Based on the data analysis and discussion results, it can be concluded that the Tri Kona concept-oriented animation video learning media on the life cycle of living things has been declared valid and suitable for learning, especially in science content.

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