

# Promotional Comic Video on Human Circulatory System Material for Elementary Schools

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
## ABSTRAK

Siswa belum sepenuhnya memiliki minat dalam proses belajar. Salah satu faktor penyebabnya yaitu kurangnya pemanfaatan media sebagai sarana dalam proses belajar. Penelitian ini bertujuan untuk menganalisis rancang bangun dan menghasilkan media yang valid dan praktis. Penelitian ini termasuk dalam jenis pengembangan dengan menggunakan model ADDIE. Subjek penelitian yaitu 1 ahli materi, 1 ahli media pembelajaran, 1 praktisi/guru, 3 siswa untuk uji coba perorangan, dan 9 siswa untuk uji kelompok kecil. Metode pengumpulan data menggunakan angket. Sementara itu, teknik analisis data menggunakan analisis deskriptif kualitatif dan kuantitatif. Hasil penelitian menunjukkan validitas media dengan penilaian ahli materi memperoleh skor rata-rata 4,8 menunjukkan kualitas sangat valid dan penilaian ahli media pembelajaran memperoleh skor rata-rata 4,82 mengindikasikan kualitas sangat valid. Analisis kepraktisan yang dilakukan oleh praktisi/guru memperoleh skor rata-rata 4,72 termasuk dalam kategori sangat valid. Analisis uji coba perorangan memperoleh skor rata-rata 4,74 yakni kategori sangat valid, dan hasil penilaian uji coba kelompok kecil memperoleh skor rata-rata 4,72 kategori sangat valid. Artinya, media yang dikembangkan terbukti valid dan praktis untuk digunakan dalam pembelajaran. Implikasi penelitian ini yaitu kebaruan materi IPA pada media video komik promosi dapat mengasah kemampuan guru dalam memanfaatkan kemajuan teknologi untuk memajukan pendidikan dan meningkatkan minat belajar siswa.

## ABSTRACT

Students still need to be fully interested in the learning process. One of the contributing factors is the need for more use of media as a means of the learning process. This research aims to analyze the design and produce valid and practical media. This research is included in the type of development using the ADDIE model. The research subjects were one material expert, one learning media expert, one practitioner/teacher, three students for individual trials, and 9 for small group trials. The data collection method uses a questionnaire. Meanwhile, data analysis techniques use qualitative and quantitative descriptive analysis. The research results show the validity of the media, with the material expert's assessment getting an average score of 4.8, indicating very valid quality, and the learning media expert's assessment getting an average score of 4.82, indicating very valid quality. The practicality analysis carried out by practitioners/teachers obtained an average score of 4.72, which is included in the very valid category. The analysis of individual trials obtained an average score of 4.74, namely the very valid category, and the assessment results of small group trials obtained an average score of 4.72, the very valid category. This means that the developed media is proven valid and practical for learning. This research implies that the novelty of science material in promotional comic video media can hone teachers' abilities in utilizing technological advances to advance education and increase students' interest in learning.

## 1. INTRODUCTION

Learning is an individual's effort to improve knowledge, skills, and attitudes and achieve better changes in that individual. It is also defined as a human process that aims to achieve various competency skills and attitudes . Of course, an interest in learning exists in the individual himself. The interest in learning factor is very influential in encouraging learning activities because learning is based on individual interests. Interest is a feeling of preference and attachment to a thing or activity without orders from others

(Rahmadia et al., 2022; Rusmiati, 2017). Education is important in human life (Antika et al., 2019; Wijaya et al., 2018). In its implementation, the assistance of the media is needed to attract students' interest. With learning media, students can be more interested and enthusiastic and enjoy learning. Apart from that, learning media also helps increase students' knowledge of the material presented in the learning process. Learning media is anything that can be used to stimulate students' thoughts, feelings, attention, and abilities or skills, as well as tools used by teachers to convey messages to students so that they can encourage a learning process (Ekayani, 2017; Kuswanto & Radiansah, 2018). Interesting learning media can make it easier for teachers to teach and attract students' interest in learning.

Learning media can help teachers explain the material so that it is more interesting. The existence of technological developments like now has an impact on education, one of which is making it easier for students to find learning material. Apart from that, technology can be used as a learning medium. Learning media also helps students to understand complex material better. Natural Sciences is one of the subjects in elementary school that requires supporting media in the learning process. Science is a subject that discusses natural phenomena that are arranged systematically based on the results of experiments and observations. Science learning can improve students' thinking processes because it is not only mastery of knowledge in the form of facts, concepts, or principles, but it is also a process of discovery and the formation of scientific attitudes (Wulandari et al., 2021; Khusnah, 2020; Mardiana, 2018; Nahdi et al., 2018).

However, based on the results of observations and interviews at SD Negeri 2 Batununggul, the science learning media used in the learning process still needs to be more varied. Teachers also have yet to utilize learning media as a tool in the learning process. This causes students to feel bored easily, lack concentration, and need more interest in learning. Interest in learning in the elementary school environment has a percentage value of 51%. This value still means that students must be fully interested in learning. One of the contributing factors is the need for more use of media as a means in the learning process, resulting in a lack of student interest in learning (Cholifah & Saputro, 2022; Yustikia, 2017). Based on these problems and conditions, it is necessary to develop technology-based learning media, one of which is comic videos, which can later be used in the learning process to make it more meaningful.

Comics are a medium that can attract the attention of people of all ages because they have the advantage of being easy to understand. Simple images with words or sounds added to them in everyday language make comics readable by everyone (Melliyanti & Suniasih, 2022; Syaflita et al., 2021; Prasetyono et al., 2015). Learning media in promotional comics can be made in video form. The promotional comic media was created in video form to make it easier for students to understand the material and to keep up with current developments that prioritize technology. Previous research has shown that the validity test results for digital comic media are very high, so digital comic media is suitable to support the learning process and activate students when studying (Kurniawati & Koeswanti, 2021; Siregar & Siregar, 2021). Previous research also revealed that e-comic media is suitable for elementary school students (Angga et al., 2020; Sari & Ratu, 2021).

The novelty of this development media lies in the material contained in the media, namely the science content of the human circulatory system. This research aims to analyze the design of learning media for promotional comic videos on the circulatory system in humans for science content for fifth-grade elementary school students. Through the learning media developed, teachers hope to help deliver the material. In this way, teachers can also increase students' interest in learning so learning can be carried out more optimally.

## 2. METHOD

This research is included in the research and development (R&D) type of research. The Research and Development (R&D) research method is used to produce a particular product, and the effectiveness of the product is also tested. Meanwhile, this research uses the ADDIE research model. The ADDIE research model consists of five stages, namely the analysis stage, the design stage, the development stage, the implementation stage, and the evaluation stage (Nasution et al., 2020; Tegeh et al., 2014). The initial stage of the ADDIE development model is analysis. The analysis stage is needed to analyze and identify several needs of teachers and students in media development, such as the needs of teachers and students in the learning process, learning facilities at school, and analyzing materials. The second stage is the design stage, which is the design and development of learning media. This stage aims to design the product concept that will be developed according to the results of the analysis stage. The third stage is development, which creates effective and efficient media. Predetermined products are made by creating and modifying teaching materials at this stage. The fourth stage is the implementation stage, namely applying the product created to be validated by trial experts with subjects to determine the response from media users. The final stage is evaluation, but in this research, the evaluation stage was not carried out due to time constraints.

The subjects in this research were one lecturer as a material expert, one lecturer as a media expert, one teacher as a practitioner, three students for individual trials, and nine students for small group trials. The data collection method uses a questionnaire from material experts and media experts to determine the validity of the media, and it is also used to test practitioner responses and student responses. The questionnaire used in this research has five assessment scales to make it easier for respondents to respond to the media being developed. The questionnaire instrument grid for material experts, media experts, practitioners, and students can be presented in [Table 1](#), [Table 2](#), [Table 3](#), and [Table 4](#).

**Table 1. Material Expert Validation Instrument**

No.	Aspect	Indicator	Item Number	Total Item
1.	Curriculum	1. Suitability of material with Basic Competencies	1	3
		2. Suitability of material with indicators	2	
		3. The suitability of the material with the objectives	3	
2.	Contents/ Materials	1. Correctness of the material	4	9
		2. Accuracy of the material	5	
		3. Importance of the material	6	
		4. Depth of material	7	
		5. The attractiveness of the material	8	
		6. Suitability of material with student characteristics	9	
		7. The material is easy to understand	10	
		8. The material represents real-life	11	
		9. The concept of the material can be logicalized	12	
3.	Grammar	1. Use of precise and consistent language	13	3
		2. The language used is by student characteristics	14	
		3. Appropriateness of intonation of words/sentences with students' characteristics	15	
<b>Total</b>				<b>15</b>

Source: [Suarthama \(2016\)](#) with modifications

**Table 2. Media Expert Validation Instrument Grid**

No.	Aspect	Indicator	Item	Total Item
1.	Appropriateness	1. Media according to Basic Competencies	1	3
		2. Media according to indicators	2	
		3. The media is appropriate to the learning objectives	3	
2.	Accuracy, Clarity	1. The material in the media is accurate	4	2
		2. Clear material in the media	5	
3.	Appearance	1. Text	6,7,8	12
		2. Image	9,10,1	
		3. Color	12	
		4. Animation	13,14	
		5. Sound	15,16	
		6. Videos	17	
<b>Total</b>				<b>17</b>

Sumber : [Suarthama \(2016\)](#) dengan modifikasi

**Table 3. Instrument Grid for Practitioner**

No.	Aspect	Indicator	Nomor Butir	Jumlah Butir
1.	Suitability of purpose	1. Clarity of learning objectives	1	3
		2. Consistency of objectives, materials, and evaluation	2,3	
2.	Media Contents	1. Delivery of material provides steps	4,5	6
		2. Learning activities can motivate students	6	
		3. Provide examples in presentation	7	

No.	Aspect	Indicator	Nomor Butir	Jumlah Butir
3.	Evaluation	4. Explanation of the material is interesting and appropriate to the characteristics of the students	8,9	3
		1. Provide feedback	10	
		2. The questions presented are appropriate to the material	11	
		3. Clarity of instructions for working on questions.	12	
<b>Total</b>				<b>12</b>

Source: [Rahayu et al., \(2021\)](#) with modification

**Table 4.** Instrument Grid for Students

No.	Aspect	Indicator	Item Number	Total Item
1.	Media	1. The interest in learning using comic media	1	5
		2. Ease of use	2	
		3. The attractive appearance of comic media	3	
		4. The effectiveness of comic media	4	
		5. Clarity of instructions for using comic media	5	
2.	Material	1. Ease of learning the material	6	4
		2. Usefulness of the material	7	
		3. Clarity of evaluation questions	8	
		4. Clarity of feedback	9	
3.	Learning	1. Media interaction	10	3
		2. Increase interest in learning	11	
		3. Giving examples	12	
<b>Total</b>				<b>12</b>

Source: [Suarthama \(2016\)](#) with modification

This development research uses two data analysis techniques: qualitative descriptive data analysis techniques and quantitative descriptive data analysis techniques. Qualitative descriptive analysis is a method used to describe and illustrate existing natural and human-engineered phenomena, which pays more attention to the characteristics, quality, and interrelationships between activities. The method in this research is used to obtain and process data in the form of suggestions or input from reviews by experts on comic video learning media developed through questionnaires. Meanwhile, quantitative analysis methods are used to obtain data in numbers. This method calculates the validity of the media developed using the mean formula.

### 3. RESULT AND DISCUSSION

#### Result

The products produced in this research are learning media, promotional comic videos, material on the circulatory system in humans, and science content for fifth-grade elementary school students. The products made have gone through the stages of the ADDIE model. At the analysis stage, the activities carried out are analyzing the needs of teachers and students in learning, analyzing learning facilities at school, and analyzing materials. Based on the results of observations and interviews with fifth-grade teachers at SD Negeri 2 Batununggul, it is known that during the learning process, many difficulties were encountered, such as students' need for more interest in learning, especially in science lessons regarding the human circulatory system. This is due to the need for more media to carry out learning.

The main learning sources are thematic books; the only other media are pictures in students' books. For learning facilities, the school already has complete learning facilities. Schools already have LCDs, projectors, speakers, and computers, and teachers can operate them well. Then, the material analysis results found that students needed to understand the material on the human circulatory system due to the need for more learning media. Therefore, it is necessary to develop more varied and effective learning media. Based on the analysis of learning needs, the Basic Competencies and learning indicators needed to be better understood by students in learning are selected. The Basic Competencies and learning indicators are presented in [Table 5](#).

**Table 5.** Validity and Practicality Test Results for Promotional Comic Video Media

	Basic competencies		Indikator
3.4	Explain the circulatory organs and their functions in animals and humans, as well as how to maintain healthy circulatory organs in humans.	3.4.1	Analyze the circulatory organs and their functions in humans.
		3.4.2	Explain how to maintain the health of human circulatory organs.

At the design stage, the activities were creating a design plan (storyboard), designing promotional comic video learning media components using Microsoft PowerPoint, utilizing internet access to search for appropriate colors, and character selection. In designing the cover's appearance and title, the researcher used a design that uses the Undiksha logo and a colored background and text that shows the title of the promotional comic media. The text in the conversation in promotional comic video media uses white conversation balloons taken from Microsoft PowerPoint to make it easier to read. At the development stage, the product designed at this stage will be developed into a real product based on the storyboard created previously. At this stage, promotional comic video media development is carried out through several stages. The first stage is to create a media cover containing the Undiksha logo and promotional comic video media title. This scene was created to give students an overview of the study material. The second stage is creating a researcher identity scene to provide information about promotional comic video media development. The third stage is to create a scene explaining Basic Competencies, GPA, and learning objectives so that students know what they will learn and what must be achieved in learning. The fourth stage is to create a scene with instructions for using the media to let users know how to understand the comic's plot. The fifth stage is creating a character introduction scene. Next, the sixth stage is creating a conversation dialogue scene. This scene explains the comic plot and conversations between each character. Characters in promotional comic video media discuss material about the human circulatory system. The seventh stage is creating an evaluation scene to determine how students have understood the material on the human circulatory system in promotional comic video media. Then, the final stage is creating the closing scene. The results of the products made are presented in Figure 1.



**Figure 1.** Display of Promotional Comic Video Learning Media

After the development stage, the next stage is testing the product's validity. Material experts carried out the product validity test in this research. Meanwhile, practitioners and students carry out learning media and practicality tests. The results of the media validity and practicality tests in this research can be presented in Table 6.

**Table 6.** Validity and Practicality Test Results for Promotional Comic Video Media

No	Trial Subject	Score/Grade (Average)	Description
1	Material expert test	4.80	Valid
2	Test learning media experts	4.82	Valid
3	Practitioner/teacher test	4.72	Valid
4	Individual trial	4.74	Valid
5	Small group trials	4.72	Valid

Based on testing the validity and practicality of promotional comic video media, it is known that the development of promotional comic video media learning media regarding the circulatory system in humans has a valid average score/value. Thus, the learning media created can be used in the learning process. After the validity test, product revisions are based on suggestions and comments provided by



material experts, media experts, practitioners, and students. This is done to improve and perfect the media being developed. The product revisions are presented in [Table 7](#).

**Table 7. Suggestions and Improvements to Promotional Comic Video Media**

No	Subject	Suggestions and Comments	Improvements
1	Practitioner	<ol style="list-style-type: none"> <li>1. Adjust the learning objectives to the grid</li> <li>2. Add evaluation</li> <li>3. The delivery of the material has been changed</li> </ol>	<ol style="list-style-type: none"> <li>1. Improve the learning objectives to fit the grid</li> <li>2. Added evaluation questions</li> <li>3. Change the order of delivery of material</li> </ol>

## Discussion

The analysis results show that the promotional comic video media developed is declared valid and practical for learning. The results of this research are in line with previous research conducted research on the development of digital comic media based on a scientific approach to science content using the ADDIE model, which obtained the results that digital comics based on a scientific approach were feasible to develop and very good for use in the learning process ([Pinatih & Putra, 2021](#); [Senjaya, 2022](#)). Other research also states that digital comic media is very good and effective for learning ([Nurhayati et al., 2019](#); [Ambaryani & Airlanda, 2017](#)). Some of this research can strengthen the results of developing promotional comic video media so that the media created is declared suitable and practical for use in learning.

Judging from the material aspect, the promotional comic video learning media contains material on the human circulatory system that is by basic competencies, material that is by learning indicators, and material that is by learning objectives. Then, in the content aspect, the material is presented appropriately, the material is interesting, the material is important for students to learn, and the material presented is appropriate to real life. Based on the grammar used, promotional comic video learning media uses appropriate and consistent language, the language used is appropriate to student characteristics, and the words/sentences are appropriate to student characteristics. The material selection in the learning media being developed must be based on basic competencies and indicators to achieve a learning objective ([Nugroho & Hendrastomo, 2021](#); [Zaini & Dewi, 2017](#)).

Judging from the validity aspect, the material expert test results obtained an average score of 4.8 in the very valid category. The learning media expert test results obtained an average score of 4.82 in the very valid category. Promotional comic video learning media has aspects of the display that match the choice of letters, the text used is easy to read by media users, the use of images supports understanding of the material, the suitability of the image layout, the suitability of the background color, the suitability of the animation to the material, clear sound quality, uses music background, and has standard video resolution quality. The design or development of learning media implemented for students is designed interestingly, such as selecting displays, selecting animations, and using letters that can support development.

Third, in terms of practicality, the practitioner test got an average score of 4.72 in the very valid category. The results of individual trials got an average score of 4.74 in the very valid category, and the results of small group trials got an average score of 4.72 in the very valid category. The promotional comic video learning media is designed to contain material on the human circulatory system to help teachers or practitioners learn. Previous research also states that learning media can provide a new forum for students to increase their interest in learning by providing media assistance to teachers ([Ramdani et al., 2021](#); [Suhailah et al., 2021](#)). Learning media promotional comic video learning media has been specially developed so teachers can teach practically and use it repeatedly.

The novelty of this learning media is that the material contained is science, specifically the human circulatory system. This research implies that it can motivate teachers to utilize facilities and infrastructure rarely used in schools. Apart from being able to hone teachers' abilities in utilizing technological advances to advance education, this media can also influence teachers' abilities in operating technology. Through promotional comic video learning media containing material on the human circulatory system, students' interest in learning can be increased and provide a more meaningful experience. The limitation of this research is that the selection of student test subjects only focused on fifth-grade students at SD Negeri 2 Batununggul. Future research can choose a wider range of subjects for more optimal results.

## 4. CONCLUSION

Developing promotional comic video learning media with novelty in the form of material on the human circulatory system for fifth-grade elementary school students can answer the research objectives. The promotional comic video learning media design was developed using Microsoft PowerPoint, which was

designed to meet students' learning needs. The validity of the developed promotional comic video learning media generally received an assessment with very good qualifications, so the developed promotional comic video media was declared valid. Apart from that, the learning media created is also stated to be practical.

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