

## **Development of Interactive Animation Videos for Civics Learning to Improve the Critical Thinking Abilities of Elementary School Students**

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### **Abstract:**

This study changed the low critical thinking skills of students caused by students not being accustomed to being trained with indicators in students' critical thinking. To overcome this problem, researchers developed interactive animated video media in Civics learning to improve students' critical thinking skills. This study aims to develop valid and practical interactive animated video media to improve critical thinking skills of grade IV elementary school students. This research uses the Research and Development (R&D) method with the ADDIE model. The data collection techniques used in this study were validation sheets, and practicality questionnaires. The subjects of this study were 23 fourth grade students of Pelandakan 2 State Elementary School in Cirebon City. The results showed a media expert score of 97.22% with the category "very valid", linguists 97.08% with the category "very valid" and material experts 91.39% with the category "very valid". For the practicality of interactive animated video media, the student's practicality score of 90% is categorized as very practical. The trial use of interactive animated videos in Civics learning resulted in a significant increase in critical thinking of grade IV students by obtaining an average N-Gain score of 0.77 with a high classification, so interactive animated video media for Civics learning is effectively used to improve the critical thinking skills of grade IV students in learning.

### **Keywords:**

Development; Interactive Animated Videos; Critical Thinking

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## **Introduction**

One of the most fundamental subjects taught in elementary school is Civic Education (Civics). Civics education is one of the subjects studied starting from elementary school ([Anatasya & Dewi, 2021](#)). Civic education learning is important for elementary school students because civic education provides insight into the social life of society, nation, and State. It is also an effort to improve the ability of students to live, understand, and implement the values of Pancasila as a guide in behaving in the life of society, nation, and State ([Santosa & Zaenuri, 2022](#)).

According to [Fitriani and Dewi \(2021\)](#), civic education learning contains content with character values. In line with the previous explanation, [Nurmalisa et al. \(2020\)](#); [Irayanti et al., \(2023\)](#) argue that learning civic education (PKn) is present as an effort to form citizens by the values of Pancasila and the 1945 Constitution to become citizens whom the nation and State can trust. Moreover, it can compete internationally while still holding strong character as an Indonesian nation.

Civics learning should instill attitudes in Indonesian citizens, especially in the nation's younger generation, so that they can gain insight and awareness of nationality and be connected to the goals of the Indonesian State, which is based on the state foundation, namely Pancasila. The nature of Civics learning is a place to shape and develop students to become good and quality citizens and foster critical thinking skills for students ([Choirunnisa & Samsuri, 2022](#)). For critical thinking skills learning to develop, educators also need to encourage students to be actively involved in discussions, ask and answer statements, and think critically.

Critical thinking is critical to be owned by all groups, including elementary school students, because critical thinking can undoubtedly solve a social problem or practical problem effectively. [Choirunnisa & Samsuri \(2022\)](#) stated that critical thinking is the process of actively and skillfully designing arguments, starting from conceptualizing, implementing, analyzing, integrating, and reviewing information obtained through the process of observation, experience, reflection, reasoning, or communication as a first step to determine an action. [Nurrokhman et al., 2020](#) critical thinking is one of the important points in learning because it is believed to be able to actively or continuously examine a belief and a form of knowledge that students can accept but need rational reasons.

However, students' critical thinking skills in Civics learning are still relatively low. The research results by [Saputri \(2020\)](#) state that the critical thinking ability test for grade V students is 67.81, which has not reached the average KKM. It was also found that the results of research by [Mareti and Hadiyanti \(2021\)](#) stated that the results of observation data related to critical thinking skills only reached 37.07, which showed that almost 70% had low critical thinking skills. The research results conducted by [Dermawan and Maulana \(2023\)](#) state that Civics learning, especially in class V, says teachers are always confused when teaching Civics learning because the material content is very theoretical. The results give daily questions or midterms that are used, namely questions from existing books, not making questions that direct critical thinking skills. Then, the results of research conducted by [Aryashanti et al. \(2023\)](#) stated that the learning process was still teacher-centered. Students are not trained to think critically by applying conventional lecture methods. The learning process carried out by the teacher does not involve student activeness. Students only listen to explanations from the teacher and are not involved in the discussion process, either with the teacher or other students. In addition, there are no discussion activities to solve problems, so students become unable to analyze and find it difficult to understand the problems presented by the teacher.

Based on the research results of [Saputri \(2020\)](#); [Mareti and Hadiyanti \(2021\)](#); [Dermawan and Maulana \(2023\)](#); [Aryashanti et al. \(2023\)](#) state that the results of

students' critical thinking skills in Civics subjects are low, and teachers are still confused about using media and methods in learning Civics. This is in line with [Govan \(2020\)](#), which states that the low student learning outcomes in Civics learning are caused by 1) the fear of students to convey arguments, 2) teachers rarely provide exploration space for students, 3) the use of learning methods that are still monotonous, 4) poor classroom management system. According to [Dermawan and Maulana's \(2023\)](#) in an article, they obtained observation data that was. Based on the research conducted by [Govan \(2020\)](#); [Dermawan and Maulana \(2023\)](#), this has caused low student learning outcomes in Civics learning. Research conducted by [Govan \(2020\)](#); [Dermawan and Maulana \(2023\)](#) shows that this causes low student learning outcomes in civics learning.

This is also in line with the results of interviews conducted by researchers with fourth-grade teachers at SDN Pelandakan 2, Cirebon City, in December 2023, who stated that important lessons but students were less enthusiastic and had difficulty understanding the concepts taught were Civics subjects. In addition, the class teacher said that students' critical thinking skills are still low, especially in civics learning, because many students still lack interest in and mastery of the material. Based on the test results of grade IV students, only 4 out of 23 students managed to exceed the minimum score standard to pass with an average of 66.71 and did not reach the minimum score standard to pass. Moreover, the results of interviews with fourth-grade students of SDN Pelandakan 2 Cirebon City said that they considered Civics subjects uninteresting and much material had to be remembered, especially on the material of ethnic, national, social, and cultural diversity in Indonesia. Because, during the learning process, students are less focused on following the lesson. After all, students are busy playing alone in the learning process, and there are limitations to learning media, which are only sourced from teachers' handbooks and student reading books. There is no Civic learning media that helps students to learn critical thinking. So, the learning outcomes in the material of ethnic, national, and social diversity in Indonesia are still relatively low, and there is a lack of critical thinking students in solving problems in Civics learning story problems.

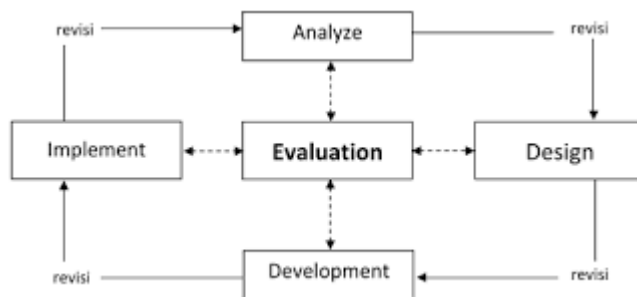
Further research by conducting observations at SDN Pelandakan 2 Cirebon City in January 2024 also found incidents similar to what was reported by the SDN Pelandakan 2 Cirebon City teacher last December. Some of these cases occur because the lack of teachers' abilities and skills in making technology-based learning media is an obstacle for teachers to apply this media during learning, even though learning media can also affect students' reasoning power and creativity and increase their enthusiasm in the learning process [Loban et al. \(2021\)](#). One of the efforts that can be made by teachers in improving students' critical thinking skills is to develop interactive animated video media. Interactive animated videos are audio-visual media with animated images of material and have a two-way relationship between media and students in learning. Several research results state that animated videos affect increasing students' critical thinking skills, namely the results of [Rahmawati & Ramadan's \(2021\)](#), which found that Powtoon-based animated video media in grade III SD is very valid and very practical and has an effect on students' critical thinking skills. On increase skills thinking skills critical thinking skills students The results of research by [Wahid et al. \(2020\)](#) found that animated video media in learning science in elementary school tells validation from experts and is proven practical when used in learning and has an effect on increasing critical thinking skills; and the results of research by [Illahi et al. \(2018\)](#) found that the development of interactive media in learning the types of work material for grade IV students of SDN Baturono is feasible with an outstanding category, outstanding in terms of practicality also influence to improved critical thinking skills.

Based on the results of research conducted by [Rahmawati & Ramadan \(2021\)](#); [Wahid et al. \(2020\)](#); [Illahi et al. \(2018\)](#) related to the development of interactive animated video media produces interactive media that is very feasible and practical used during learning. However, there is no interactive animated video media to improve critical thinking skills in Civics learning. Therefore, researchers are trying to improve student's critical thinking skills in Civics learning by using media that has a two-way relationship called interactive media, one of which is interactive animated video learning, because the average elementary school-age child (SD) usually learns 50% of what is taught and observed. Thus, students more easily understand lessons that are seen and understood. Thus, researchers will develop interactive animated videos of Civics learning to improve the critical thinking skills of fourth-grade students of SDN Pelandakan 2 Cirebon City. This interactive animated video can be a learning resource for civics subjects.

### Research Methods

The researcher used the Research and Development (R&D) design type in this study. R&D is a process or steps to develop a new product or improve an existing one that can be accounted for [\(Sugiyono, 2019\)](#). R&D (Research and Development) is used to test the effectiveness and develop a product [\(Fitri et al., 2023\)](#). The R&D method functions as a scientific method for researching, designing, creating, and testing the effectiveness of the products created [\(Rohaeni, 2020\)](#).

The stages of this study's interactive animated video media development process use the ADDIE development model. The advantage of this procedure is that it is a systematic work procedure where each procedure is carried out by referring to previously refined procedures, which ultimately become practical and obtainable products. The ADDIE model was chosen because it aims to design and develop an effective and efficient product [\(Sugiyono, 2019\)](#). The ADDIE development model has five stages: Analysis, Design, Development, Implementation, and Evaluation.



**Figure 1. ADDIE Model Research Steps In The Development Stage**

There are two stages in the analysis stage: performance analysis and need analysis. The first step is a performance analysis to understand and classify school problems related to the learning media used so far, then provide solutions by repairing or improving the learning media. The second step is a needs analysis, identifying the learning media teachers must provide to improve students' critical thinking abilities. Then, in the design stage, the researcher creates a video design using storylines, character roles, images, and sounds. Each scene adjusts to the dialog, followed by using the Canva application as an application for animation design. The cap cut application is used to edit images, audio, and background into one until completion.

Furthermore, in the development stage, researchers conduct media validity tests by expert validators using validation sheets for media, linguists, and material

experts. After that, refine learning materials according to guidelines and directions from teachers related to media, materials, and language so that there are differences between the initial and revised materials. Furthermore, in the implementation stage, researchers apply educational media classroom learning. By conducting trials in class IV, researchers can obtain response data from students to see the practicality and pretest-posttest data to see the effectiveness of students. Furthermore, based on the implementation stage, the animation video must be evaluated in the evaluation phase. During the evaluation phase, a final review is conducted regarding the developed product based on the guidelines and user feedback provided during the implementation phase.

This research was conducted in class IV of Pelandakan 2 State Elementary School in Cirebon City, located at Jl. Pelandakan Karya Mulya, Kec. Kesambi, Cirebon City 45143. This research was conducted in the even semester of the 2023/2024 school year. The subjects of this study were fourth-grade students of Pelandakan 2 State Elementary School in Cirebon City. The object of the trial was followed by class IV A students consisting of 23 students. Class IV A was chosen because the research subject has characteristics that match the low critical thinking ability, so it can be used as a research population.

The focus of this research is the development of interactive animated video media. The instruments used in this study were validation sheets used to assess the feasibility of learning materials using interactive animated video media, student practicality sheets, and pretests and post-tests to assess effectiveness. The method used to analyze the data was qualitative and quantitative descriptive analysis. Qualitative descriptive processing handles comments and suggestions from validators in the validation process. Descriptive analysis using quantitative methods is used to find the percentage of valid criteria with scores that have been obtained and practicality by distributing questionnaires using a Likert scale. Furthermore, the results of validity and practicality were analyzed using the following formula:

$$P = \frac{f}{N} \times 100 \text{ (Gitnita et al., 2018)}$$

For the results of the calculation of validity and practicality data, they will be classified as follows into the eligibility and practicality criteria as follows:

**Table 1. Classification of Product Validity**

Persentase	Criteria
0-20%	Very Invalid
21-40%	Invalid
41-60%	Valid Enough
61-80%	Valid
81-100%	Very Valid

**Table 2. Classification of Practicality**

Practicality Criteria	Practicality Level
81% - 100 %	Very Pratical
61 % - 80 %	Practical
41 % - 60 %	Practical Less
21 % - 40 %	Not Practical
0 % - 20 %	Very Impractical

The effectiveness test was conducted with a field trial, and data was taken through pretest and post-test. The trial design at this stage was carried out with a group Pretest-Posttest. With the trial design, namely the normality test. The purpose of the normality test is to determine whether the data is normally distributed or not. Data was managed using SPSS software version 21. Two types of normality tests are

used, namely the Kolmogorov-Smirnov test and the Shapiro-Wilk test. The Kolmogorov-Smirnov test tests two independent samples with more than 50 subjects, while the Shapiro-Wilk test tests two with less than 50 subjects (Andini, n.d.). With testing criteria to determine normality, the following guidelines are used:

- If the significance value is < 0.05 then the data is not normally distributed.
- If the significance value is > 0.05 then the data is normally distributed.

To determine the normality of the data, this study uses the Test Shapiro Wilk with the help of the IBM SPSS Version 21 program. Next, hypothesis testing was conducted. After that, the Normality-Gain test was conducted to calculate the difference in test results before and after using interactive animated video media. The N-Gain formula used is as follows:

$$g = \frac{S_f - S_i}{S_{max} - S_i} \times 100\%$$

Description:

$g$  = normalized gain

$S_i$  = initial questionnaire score before the use of props (initial)

$S_f$  = final questionnaire score after the use of props (final)

$S_{max}$  = maximum (ideal) score

Based on this formula, the criteria for the level of effectiveness of interactive animated video media are as follows:

**Table 3. Classification**

Criteria	N-Gain Poin
Tinggi	$g > 0,7$
Sedang	$0,3 < g \leq 0,7$
Rendah	$g \leq 0,3$

## Results and Discussion

This research was conducted to produce the development of interactive animated video media for Civics learning for grade IV SD / MI students on material, social, and cultural diversity in Indonesia to improve critical thinking skills. This research and development uses the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model development research method developed by Dick and Carry.

### Analysis Stage

The initial step in this study was that the researcher interviewed the fourth-grade teacher named Mrs. Resty Fauziah, S.Pd, in December 2023. The homeroom teacher stated that the lessons were important, but students were less enthusiastic and had difficulty understanding the concepts taught, namely Civics. In addition, the class teacher also said that students' critical thinking skills were still low, especially in civics learning, because many students lacked interest in and mastery of the material. The class teacher said that in the results of student tests in Civics class IV, only 4 out of 23 students managed to achieve the minimum score standard results, and the average obtained from 23 students was 66.71 and did not reach the minimum score standard to pass. Moreover, according to the homeroom teacher, the cause of this is the limited learning media used in learning because it only comes from the teacher's handbook and student reading books, and there is no Civic learning media that helps students learn critical thinking. So, students' learning outcomes and critical thinking skills in solving story problems in civics subjects based on ethnic, social, and cultural diversity in Indonesia are still relatively low. Moreover, the results of observations in class IV show that in the learning process, there are still many

students who lack the confidence to ask questions and express opinions, and only a few who dare to explain the material in front of the class. In addition, researchers conducted interviews with students, and they said that grade IV students consider Civics subjects boring because of monotonous learning and much material that must be remembered, especially on the material of ethnic, social, and cultural diversity in Indonesia.

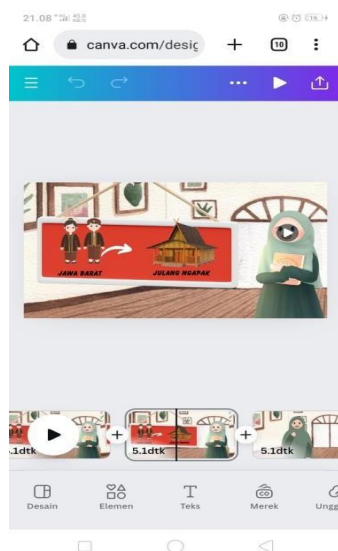
Research conducted by [Nuryanti et al. \(2018\)](#), [Nurrokhman et al., \(2020\)](#) and [Jia & Guo, 2020](#) stated that low critical thinking in students is because teachers still dominate the learning in schools, so it does not train students' critical thinking skills. In line with that, [Hayati \(2022\)](#) stated that low critical thinking skills are based on reading that is still spelling so that when there are story problems, students are still confused and look at them, so it is tough to think critically during learning. [Atayeva, \(2019\)](#) also stated that low critical thinking skills are due to students not being accustomed to learning critically in analyzing problems critically because students' abilities are not optimal and can be seen from the ability to understand problems, formulate ideas, build and evaluate in analyzing problems critically is still not optimal. So, it takes appropriate media to help students learn, including interactive animated video media.

### **Design Stage**

In this development step, the ADDIE model is to design the media. Activities at this stage are designing videos by creating a storyline according to the material to be discussed, determining visuals, writing, character roles, and sound, and collecting images I want to use, such as traditional houses and other materials. Then, the animation will be designed according to the storyline using the Canva application. After designing with the Canva application, the researcher prepares the cap cut application to make the design per scene into a video, edit the images and audio, and back into one duration according to the conversation. Here, prepare the internet, a good network, and adequate memory so there will be no unwanted obstacles.

Interactive animated video media is an effective medium for children. According to [Kirom & Rosyida, \(2024\)](#), [Nurrokhman et al., \(2020\)](#), [Valeova, \(2024\)](#) interactive animated video media makes it easier for teachers to present information related to the material to be studied and attract students' attention in learning so that it can improve students' critical thinking skills. In the media, some pictures and colors can attract students' attention. [Kleftodimos, \(2024\)](#) interactive animated video media suits elementary school students who like interesting pictures.

In addition, researchers designed interactive animated video media with the initial objectives, namely to overcome the lack of critical thinking skills, so interactive video media was developed to help deliver the material. This media is equipped with appropriate material images that support the material, sound, and background of the video; there are also questions in the video so that students can discuss the material more with a group of friends.



**Figure 2. Storyline Design In Canva**



**Figure 3. Combining Each Scene In The Capcut**

### Development Stage

The development stage carried out is the validation process by media experts, linguists and material experts which has the aim that the media can be used properly in the field, so that the media can be assessed for practicality and effectiveness. The following is development research data on the results of media, language, and material validation in the development of interactive animated videos conducted by researchers.

**Table 3. Media Validation Test**

Indicator	%	Category
Media appeal	100%	Very alid
The image quality, color and background are appropriate	93.33%	Very Valid
Text readability	100%	Very Valid
use of straightforward language	90%	Very Valid
Video Duration for learning	100%	Very Valid
Easy to use	100%	Very Valid
Average	97.22%	Very Valid

Based on the table above, the results of media expert validation received an average score of 97.22% with the category "Very Valid." The interactive animated video media designed by researchers, as seen from the media expert questionnaire assessment, is suitable for field trials.

**Table 4. Language Validation Test**

Indicator	%	Category
Straightforwardness	93.33%	Very valid



Indicator	%	Category
Communicative	100%	Very Valid
Dialogue and Interactive	100%	Very Valid
Language suitability	95%	Very Valid
Average	97.08%	Very Valid

Based on the table above, the results of linguist validation received an average score of 97.08% with the category "Very Valid." It states that the interactive animated video media designed by researchers, as seen from the linguist questionnaire assessment, is suitable for field trials.

**Table 5. Material Validation Test**



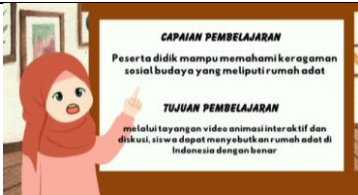

Indicator	%	Category
Suitability of material to learning outcomes	88.89%	Very valid
Material accuracy	86.67%	Very Valid
Presentation of learning	90%	Very valid
Presentation equipment	100%	Very valid
Average	91.39%	Very Valid

Based on the table above, the results of the material expert validation received an average score of 91.39% with the category "Very Valid." States that the interactive animated video media designed by researchers, as seen from the media expert questionnaire assessment, is worthy of field trials.

### Media Expert Revision Results

When carrying out media validation, there are several suggestions and input provided by the validator. Based on this, the researchers made improvements and additions.

**Table 6. Animation Video Results Before and After Revision**

No	Validator Suggestions	
	Before Revision	After Revision
1	Add material in the video title.	
		
	The video before validation did not contain any discussion material.	The video after validation in the title includes discussion material.
2	Learning objectives are adapted for elementary school students.	
		
	The video before validation on the learning objectives adapts to the book.	The video after being validated on the learning objectives is easy to understand for elementary school students.
3	The iconic symbols of West Java are replaced and make sure the traditional house is appropriate.	



Before validating the video, the West Javanese icon and the Julang Nga house apparently did not match the original condition.





After being validated on the West Java icon and the Julang Nga house, the video appears to be in accordance with the original conditions.

### Results of Revision by Language and Material Experts

In the language validation process, there are suggestions and input provided by the validator. By making improvements and additions as follows.

**Table 5. Animation Video Results Before and After Revision**

No	Validator Suggestions	
	Before Revision	After Revision
1.	 <p>The video before being validated on the question in the video image is not appropriate</p>	 <p>After validating the video, the question sentence is appropriate</p>

In the material expert validation process, validators provided good suggestions and comments, but researchers did not make improvements in the material. Based on the validation test results that experts on interactive animated video media have carried out, it produces valid media. The media developed has passed the validation stage of 3 experts: media experts, linguists, and material experts. Based on the results of the validation sheet and suggestions from media expert validators, interactive animated video media obtained a validity result of 97.22%, which is a very feasible attribute with slight improvement. At the same time, the validity test by linguists obtained validity results of 97.07%, which is a very feasible category with slight improvement. Moreover, the results of the validity test by material experts obtained a result of 91.39%, which is a feasible category with slight improvement.

The interactive animated video media developed is valid and can be used in learning. In interactive animated videos, there are images, audio, and sound that are clear and attract students' attention. This feasibility is in line with the role of learning media proposed by [Gawise et al. \(2022\)](#), which states that the media has a position as a distributor of information or messages by the teacher to his students. Moreover, learning media plays a role in making learning effective and efficient. In this case, the learning media used is interactive animated video. According to [\(Kleftodimos, 2024\)](#), interactive animated videos have several advantages, such as making it easier for teachers to explain the material, attracting students' attention, and focusing on increasing motivation and learning outcomes. Research conducted by [Hikmah et al.](#)

(2023); [Kleftodimos, \(2024\)](#) explaining that interactive animated videos can attract students' attention by displaying different character characters, color selection, and appropriate supporting objects. These videos are made interactive, so learning is not boring. Because elementary school students like interesting and colorful illustrated animated videos and clear audio. If students are happy with learning, understanding the material will be easier, and they can think critically.

In addition, it is supported by research conducted by [Sae & Radia \(2023\)](#) that interactive animated videos received validation results with decent criteria because these animated videos make an important contribution to the development of the method important contribution to the development of the method more interesting and engaging teaching for students, with the potential to improve their understanding of the subject matter. In addition, other studies show that interactive animated video media obtained very worthy expert validation results to help students learn ([Nuswantoro & Wicaksono, 2019](#)). Moreover, the results of research conducted by [Fauziah and Ninawati \(2022\)](#) state that the animated video developed has received validation scores from experts with excellent categories and is suitable for use as a learning resource for elementary school students.

### Implementation Stage

In this step, interactive animated video media was implemented in class IV SDN Pelandakan 2 Cirebon City for six face-to-face meetings with 2 lesson hours. During the six meetings, there was an influence on students' learning, such as being more focused on understanding the material and answering the questions in the video. This interactive animated video media can involve students in discussing the material in class to train students to think so that students can understand the material and researchers get a response to the use of this media from students with the results according to the questionnaire distributed, namely in the table. 8 as follows.

**Table 8. Practicality Questionnaire Results**

Respondents	Results	Criteria
Grade IV Students	90%	Very Practical

Based on the results of student response questionnaires to interactive animated video media for Civics learning to improve students' critical thinking skills, the results of student practicality were obtained at 90% and categorized as "Very Practical." In this case, the interactive animated video media for civics learning is practically used to improve the critical thinking skills of fourth-grade students of SDN Pelandakan 2 Cirebon City. It can be seen from the advantages of interactive animated videos that can make students more active in learning by interacting with the content they provide. The use of interactive animated videos also has the potential to increase learning motivation and student activeness in learning (Ruswan et al., 2024).

Interactive animated video media is practical to use in learning. In line with the research of [Sofiasyari et al. \(2023\)](#), interactive video media is practically used in learning social studies subjects, with a percentage of 88% of teacher responses and a percentage of 87.06% of student responses. Then there are several studies also stating that interactive animated video media is efficient to use in the learning process, namely research conducted by [Akbar \(2016\)](#) for science subjects on human respiratory system material with a percentage of product practicality from students of 93.3% and a percentage of practicality from teachers of 92%. Research from [Eka et al. \(2022\)](#) also stated that the average percentage of the practicality of student and teacher responses to animated videos using Powtoon software on the material of

linear equations of two variables was 92.12% with an efficient category. So, interactive animated video media is efficient for use in the learning process.

The interactive animated video media used in this study is efficient because students can access this video anytime. The animations enhance learning by providing flexibility and enabling independent learning, which is particularly beneficial for students with varying commitments. Students can access these videos at any time, allowing for repeated viewing, which aids in understanding and retaining complex concepts. This approach effectively addresses the challenges learning, making the material more engaging and more memorable, thus significantly contributing to the overall learning experience (Kwasu, 2016; Liu & Elms, 2019). With this interactive animated video media, the learning process is no longer limited to books and whiteboards. It uses other tools that keep students interested and involved during learning and can help teachers in the classroom (Kolas, 2015).

Furthermore, researchers gave pretests and post-tests to students to see the effectiveness of interactive animated video media. After the data was obtained, researchers conducted descriptive statistical tests to determine the increase in students' critical thinking. The following are the results of descriptive statistical tests on student pretest-posttests, as shown in the table below.

**Table 9. Presentation of Descriptive Statistical Test Data**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	23	20.00	40.00	28.6957	8.14881
Posttest	23	60.00	90.00	78.6957	8.14881
Valid N (listwise)	23				

Based on the table above, the data from the descriptive statistical test results on the pretest-posttest of fourth-grade students of SDN Pelandakan 2 Cirebon City with a total of 23 students with the following results:

Pretest: Minimum of 20.00. Maximum was 40.00. Mean of 28.69, and standard deviation of 8.14.

Post-test: Minimum of 60.00. Maximum of 90.00. Mean of 78.69. And standard deviation of 8.14.

Furthermore, researchers conducted a normality test with the hypothesis being.

H0: Pretest and Posttest data are normally distributed.

H1: data from pretest and posttest results are not normally distributed by obtaining the following results.

**Table 10. Data Presentation of Normality**

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
pretest	.236	23	.002	.875	23	.018
posttes	.325	23	.062	.746	23	.031

a. Lilliefors Significance Correction

Based on table 4.18 which has a sample of 23 students, the normality results can be seen in the Shapiro Wilk section. Pretest results show sig.0.018 <0.05 indicating that the data is not normally distributed. While the posttest results show sig. 0.031 < 0.05 which indicates that the data is not normally distributed. So from the results of normality obtained data with data not normally distributed. Because the data is not normally distributed, it directly uses non-parametric tests with hypotheses:

H0 : The average score of critical thinking skills after using interactive animated videos in Civics learning is not better.

H1 : The average score of critical thinking skills after using interactive animated videos in Civics learning is better. And obtained the following results.

**Tabel 11 Data Presentation of Wilcoxon Test Statistics<sup>a</sup>**

	posttest - Pretest
Z	-4.249b
Asymp. Sig. (2tailed)	.000
a. Wilcoxon Signed Ranks Test	
b. Based on negative ranks.	

Based on table 4.19 obtained sig. (2-tailed) of 0.00. with the criteria if sig. (2-tailed) > 0.05 then H0 is accepted. Meanwhile, if the test results show that sig. (2-tailed) <0.05 then H0 is rejected. In this case, it can be concluded that the Wilcoxon test result is 0.000 <0.05, so H0 is rejected. The results of the average value of critical thinking skills after using interactive animated video media for Civics learning are better.

Furthermore, the N-gain test was conducted. Aiming to measure whether there is an increase in students' critical thinking skills from before to after using interactive animated video learning media for Civics learning. Pretest-posttest data was obtained from class IV A, consisting of 23 students; each student filled in the pretest post-test given by the researcher.

The pretest-posttest of students' thinking ability towards interactive animated video learning media has six indicators and is included in 3 critical thinking ability questions.

**Tabel 12. Student N-Gain Test Result**

Responden	Pre-Test	Post-Test	Max Score	N-Gain Score	Classification
R-01	30	90	100	0,86	High
R-02	30	80	100	0,71	High
R-03	20	80	100	0,75	Medium
R-04	20	80	100	0,75	High
R-05	40	90	100	0,83	Medium
R-06	40	80	100	0,67	Medium
R-07	30	90	100	0,86	Medium
R-08	20	80	100	0,75	Medium
R-09	40	70	100	0,50	Medium
R-10	30	80	100	0,71	High
R-11	40	80	100	0,67	Medium
R-12	40	90	100	0,83	High
R-13	20	80	100	0,75	High

R-14	20	90	100	0,88	Medium
R-15	30	80	100	0,71	High
R-16	30	70	100	0,57	Medium
R-17	40	90	100	0,83	High
R-18	20	90	100	0,88	Medium
R-19	20	80	100	0,75	Medium
R-20	20	80	100	0,75	Medium
R-21	30	90	100	0,86	High
R-22	20	90	100	0,88	High
R-23	30	90	100	0,86	High
<b>Avarage</b>				<b>0,77</b>	<b>High</b>

Based on the results of the N-Gain pretest-posttest of students' critical thinking skills towards Civics learning using interactive animated video learning media, the average N-gain score is 0.77 with a High classification.

Based on the results of the field trial with interactive animated video media, the data obtained from the pretest-posttest results of class IV students of SDN Pelandakan 2 Cirebon City with an average pretest result of 28.70 and average post-test result of 83.48, based on the pretest-posttest value, the score of the increase in students' critical thinking skills after this animated video was applied was 54.78. So, using interactive animated video media in learning Civics can improve students' critical thinking skills by obtaining an N-Gain value of 0.77, categorized as high. So, this interactive animated video media is effectively used in the learning process to improve the critical thinking skills of fourth-grade students of SDN Pelandakan 2 Cirebon City. In line with the role of learning media, according to [Kolas, 2015](#), the role of media in learning can help teachers provide material to students interactively, streamline time, and increase student learning motivation. Based on this, the media used is an interactive animated video; according to [Valeova, \(2024\)](#), there are advantages to interactive animated videos, namely making lessons more transparent and more enjoyable, making time efficient, and improving the quality of learning outcomes and students are more interactive in the learning process. With animated videos that bring up images, audio, and visuals, in this case, students can more easily understand the material being taught. There are also interactive questions that make students think critically to answer them [\(Gurvitch & Lund, 2014\)](#).

Based on the results of research conducted by [Hamidi et al. \(2023\)](#) show that interactive animated videos are effectively used in learning speaking skills and make students more eager to learn and easily understand the material; the results of his research reinforce this based on the t-test which shows that  $T_{hitung} > T_{tabel}$  ( $74.061 > 2.021$ ) with the meaning that  $H_0$  is rejected. So, this interactive animated video media is effectively used to learn speaking skills. Moreover, in the interactive animated video media, several characters are delivered to facilitate the process of applying the concept. Meanwhile, the results of research conducted by [Wardani and Syofyan \(2018\)](#) revealed that the interactive video learning media's advantages with the Adobe Flas CS6 application is cost-effective and more attractive to students' learning. Navigation buttons are available to make it easier for students to use the media in learning, reinforced by student assessments in the field trial showing a percentage of 87.8% with a very good category so that students can understand the material studied. The results of research according to [Maulidiyah \(2022\)](#), learning

animation video media Plotagon and kinemaster can improve cognitive learning outcomes C1-C3 level of grade II elementary school students in mathematics subjects with N-Gain whose value is 0.42 and with moderate criteria.

### Evaluation Stage

Evaluation is carried out to describe and analyze the data obtained from the implementation stage of interactive animated video media for Civic learning developed on the material of social and cultural diversity in Indonesia at elementary schools. The development of interactive animated videos is carried out by going through all stages of the specified development model. In the development process, there were also obstacles, such as downloading videos in the Capcut application, less memory space, and voice actor adjustments. Several times in the development stage, we experienced slow video downloads due to unstable networks. At this stage, a follow-up was also carried out on validity, practicality, pretest-posttest, and improvement of critical thinking skills. The evaluation results are an increase in learning outcomes, as seen from the increased pretest and post-test. The average score of the pretest results was 28.69, while the average post-test score got an average score of 78.69. Moreover, there is an increase in the average value of students when using interactive animated video media. Students gave positive responses after using interactive animated videos such as fun learning, easy-to-understand videos, the material being remembered and understood, and engaging animated videos. Interactive animated video media has a positive impact, namely increasing visual acuity to focus on seeing and analyzing visual information quickly, improving language skills, and training brain function to recognize memories and emotions (Ompi et al., 2020).

Learning media is a tool that can help the teaching and learning process so that the messages conveyed during learning are achieved effectively (Nurrita, 2018; Utami & Irawati, 2024). Visual media helps make it easier for students to understand the material presented. Thus, student understanding is an essential aspect of learning activities. According to Misbah et al. (2018); (Nurrokhman et al., 2020), students have an understanding directly related to the learning objectives. In addition, visual media also provides benefits, one of which is overcoming the limitations of time, space, and place

### Conclusion

The development of interactive animated video media in Civics learning has fulfilled the indicators of critical thinking skills, namely interpretation, analysis, evaluation, inference, explanation, and self-regulation. Based on the results of the media feasibility test, media experts, linguists, material experts, and the teacher's practicality questionnaire show very feasible and practical results. This shows that interactive animated video media for Civic learning is very feasible and practical to use to gain knowledge and improve critical thinking skills in learning. Therefore, interactive animated video media for learning civics is a learning media that has the opportunity to improve critical thinking skills in elementary school students, especially in terms of social and cultural diversity.

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