

Animated Video Media for Flood Disaster Mitigation for Fifth Grade Elementary School Students

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Abstract

Media are very necessary in the learning process. This research focused on the development of video learning media for flood disaster relief as preliminary knowledge for fifth-grade students. The purposes of this study are to use need analysis, questionnaires from media and material experts, and pre-test and post-test questions. The collected sample were from a total of 16 students, fifth-grade, SD Labschool Unnes, Gajahmungkur district. The research methods applied were Research and Development with data collection using interview guides, teacher-student needs questionnaires, teacher-student effectiveness questionnaires, and validation questionnaires from media and material experts to guide the development of research and development by determining necessity and relevance, and pre-test and post-test. The tests aim to determine the effectiveness of animated video media in mitigating flood disasters. The data survey concluded that the existence and development of learning media was necessary and suitable to use based on validation evaluations by media experts. On the other hand, material experts achieved a percentage of 87%, which is included in the very practical category. Based on the t-test results, it can be said that the computed t is larger than the table t ($7.121 > 1.753$). It was rejected and it was accepted. The results of the t test showed that there was a significant influence of using animated video media for flood disaster mitigation on student learning outcomes. The results of the N-Gain Test show the difference between the average value of Pre-test and Post-test is 23,438 and the N-Gain Value is 0,5119, which means it is included in the medium criteria. So, it can be concluded that there is an improvement in Pre-test and Post-test learning outcomes with moderate criteria. The benefits of this research are to improve students' knowledge about the material, to describe and explain about the media, to examine the media validity, and to understand the media effectiveness.

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INTRODUCTION

Education is an important part of encouraging positive development in every society, especially acquiring knowledge over time with the aim of being able to broaden knowledge and skills in the future. Learning is one of the important activities so that the desires or goals can be achieved in the process later. According to Nurrita (2018) one thing that needs attention is utilizing the learning environment as a student reference, receiving material from the teacher in order to further improve learning abilities and revise student knowledge.

Indonesia is a country that often hit by disasters, one of which is flooding. Big cities in Indonesia often experience flooding, one of which is the city of Semarang which experiences annual flooding. Heti (2019) revealed that floods in the Semarang city were caused by the lackness of public knowledge about flooding, so that with the implementation of community-oriented education, schools became a place to learn about disasters.

The government is trying to deal with flooding in the city of Semarang. One of the educational efforts provided through these deliberations, teachers can understand the role they must play in preserving flood-resistant buildings (Wahyudi, 2021). In this education, you must also know several stages and also steps in educational activities so that they can run smoothly. The opinion conveyed (Tingsanchali, 2012) one of the strategic frameworks for integrated flood disaster management includes four cycle steps, namely: 1) preparation before the impact of a flood, such as forecasting and early warning of floods; 2) flood preparedness; 3) emergency response to flood impact; 4) post-flood recovery and reconstruction.

Flooding is when water overflows from the water table and causes a river to overflow, inundating the low-lying areas on one side of the river. Basically, floods due to excessive rainfall occur every day (Ariyo, 2015). Causes of flooding: Environmental damage upstream of rivers, such as conversion of protected areas and illegal logging. In addition, litter behavior in the

lower reaches of rivers blocks clogged waterways, overflows rivers, and floods riverbanks (Ananto, 2015).

Knowledge and insight are key ingredients and key flood protection. Knowledge gained influences attitudes and sense of responsibility in dealing with flood disasters. Children need to be educated from an early age on the types of preparedness and response that can strike their area. Children's low awareness of flood risk is due to their ignorance that disaster preparedness can be inadequate (Rosida, 2017).

Law No. 24 of 2007 on disaster management. Disaster management must address pre- and post-flood activities. In non-disaster situations, one of the activities is disaster management planning (Article 5 (1) (a) of Decree No. 21/2008). This is clearly stated in the National Action Plan contained in the Minister of National Education Circular No. 70a/MPN/SE/2010 on Disaster Risk Reduction in Education Systems.

At the same time, disaster education is also education that integrates disaster materials into formal education, so that students can play a role in building the knowledge, skills, and attitudes needed to prepare for and overcome disasters, as well as helping students and communities to return to the original state of home life after a disaster (Rahma, 2018).

Disaster education is essentially multidisciplinary knowledge, which involves various studies of scientific research. Disaster education is education that emphasizes attitudes, actions and skills in reducing or eliminating all forms of disaster risk by prioritizing the learning process or other educational activities for learning (Bullard, 2019). Students can actively develop preparedness efforts in facing disaster threats.

According to Sahriana (2020), the efforts to improve student disaster preparedness have specific ways to do this, one of which is improved facilities and simulations to mitigate flood disasters. A simulation that integrates learning strategies that are reinforced using learning aids. What students must have is knowledge of floods. Then there is the first aid

technique for floods, so we need to simulate first aid training. In addition, simulations can also be viewed through educational video-based learning materials. Video-based learning activities can improve student preparedness for future disasters, especially floods (Wulandari 2018).

According to Sekartaji (2019), schools and educational institutions play a role in supporting disaster management programs. Schools are recognized as effective institutions in changing people's mindsets and behaviors by providing education on disaster risk reduction. Students can use it as a subject that can disseminate information on the subject of designated evacuation sites. One of the harm form reduction is educating students on the importance of care in school settings (Prahereni, 2021).

Schools need to develop disaster preparedness classes, one of which is flood disasters. Therefore, when flooding occurs, be prepared to minimize the impact of the resulting disaster (Yulia, 2021). In today's technologically advanced world, teachers need to know how to use learning aids. Create fun and enjoyable classroom learning in teaching and learning activities. In addition to being able to use school supplies as school supplies, teachers also need to be able to communicate creative ideas by creating school supplies when they are not yet available.

Using study materials is a high-impact classroom learning activity. Researchers support the idea that media use can be integrated into the classroom as a means to make a positive contribution to the classroom atmosphere. One of them is an animated video that depicts equipment to support the educational process in the form of photos that move like life, while animation can present moving objects and can change the shape, dimensions and colors (Agustien, 2018).

According to Rahmayanti (2018), video animation is an audio-visual media by mixing animated photos that can move with audio matching the animated personality. Animation consists of a series of photos that are displayed

in a flash time and deceive the eye by seeing it as a movement so that educational messages are informed audio-visual accompanied by motion factors can be more alive.

According to Katz (1973) mass media continues to have a useful role as the main source of data for the universal public, listed in times of disaster. The mass media often show the main portraits of disasters intertwined, this showed that the strategy of using mass media represents data in totality.

The main task to be focused on in this research is how to share a module explanation on preparedness in finding flood disasters. The focus of strengthening preparedness learning in this research lies in strengthening knowledge and behavior towards the effects of natural disasters with the help of animated video-based educational media (Wardoyo, 2015).

This research is expected to share the benefits of education that is happy, meaningful, and increases students' mastery in flood risk management. Based on this matter with various cases found in the population, observers are interested in conducting research on flood disaster preparedness in elementary school students.

The purpose of this study is to find out how the development, validity, and effectiveness of flood disaster mitigation animation video media for fifth-grade students about preparedness to increase knowledge about this. The benefits of this research is as reference or supporting material for further research, especially for research in the field of education at the basic education level.

METHODS

This research is a Research and Development research that intended to help researchers develop teaching materials to improve the quality of learning in the classroom or school. Sugiyono (2015) stated that Research and Development methods or Research and Development are a research method used to produce exclusive products and test their effectiveness.

According to Sugiyono (2015), by developing an animated video of flood mitigation, research and development consists of 10 steps as follows: (1) Potential and problems, (2) Information collection, (3) Product design, (4) Design validation, (5) Design improvement, (6) Product testing, (7)

Product evaluation, (8) Use testing, (9) Final product evaluation, (10) Mass product production.

During implementation, the researcher performs 8 steps. The following is the synthesis process of research and development according to Sugiyono (2015) in Figure 1 below:

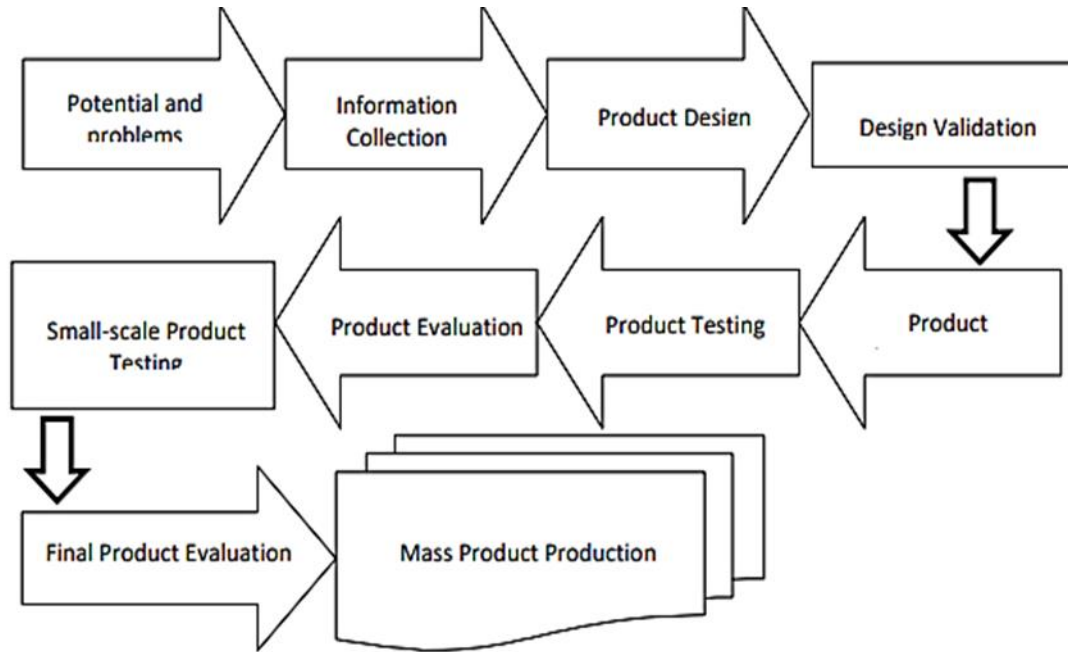


Figure 1. Sugiyono Development Research Design (2015)

1. Potential and Problems

According to Ardiansa (2023) the stage of potential and problems is the activity of exploring problems contained in the learning process and finding potential that will later be used as a solution to these problems. This research began by finding potential and problems through problem identification activities conducted at SD Labschool UNNES, Gajahmungkur District, Semarang City using extensive interview techniques and materials.

The potential found by researchers is the availability of facilities to use learning media that support the learning process optimally. While the obstacles faced by researchers are the limited use of digital media, the low level of awareness about flood preparedness. As a result, teachers and schools are helping researchers

develop digital learning materials such as animated video materials for flood mitigation.

2. Data Collection

Activities to identify potential and problems, researchers collect data based on the problems faced and then compiled into research planning guidelines, especially related to the development of these problems. In addition to in-depth interviews and documentation, information meeting activities were also carried out through the distribution of questionnaires to samples. This media needs analysis questionnaire aims to be developed according to needs. Through this analysis, researchers found that there is a need for innovation in the learning process, especially disaster literature to equip students with knowledge about disaster

prevention and to improve flood prevention. By analyzing the needs lost in the learning process, researchers analyze: provide documents about what is needed in a flood disaster and what innovations are appropriate to apply in the learning process in order to have something new and more interesting while learning.

3. Research Instruments

In addition to data collection techniques, the instruments used in data collection activities are also described as research instruments. Research instruments are everything in the form of tools used by researchers in data collection activities to facilitate work and get better results in the sense of being more careful, complete, and systematic so that it is easy to process data Arikunto (2013). The instruments used in this study are described in Table 1 as follows:

Table 1. Research Instruments

No	Data Collection Techniques	Method	Instruments
1.	Tes	Written	Pretest and Posttest Questions
2.	NonTes	Interview	Questions Sheet
		Questionnaire	Student and Teacher needs questionnaires as well as validation questionnaires for media experts and material experts
		Documentation	Photograph

4. Media Product Design

Completion of design activities on original products developed based on which there will be needs analysis and research that has been done previously This prevents product plagiarism. The development of flood management animation video materials is designed by considering aspects; the first is the material content and also the aspect of developing learning materials. The product development plan includes: determination of classes and materials in accordance with the needs that have been carried out in schools, research was carried out in fifth-grade on Theme 4 material "Healthy is Important".

a. Define a media creation design.

In determining media creation, there are two things that are the focus of discussion, first about the media displayed which is illustrated into several components, namely pictorial, color, and sound. The media display is packaged in digital form which can also be used as a CD or just a soft file form, making it easier for teachers

to store and use it so that students more easily capture the purpose of the flood disaster mitigation video.

The second discussion is about the content of the material. The content of the material is based on the core competencies of understanding factually, contextually, procedurally, and metacognitive at the basic level using how to observe, ask, and try according to the desire to understand about themselves, creative beings whose power and activities and objects are found in residences, schools, and playgrounds.

5. Design Validation

At the validation stage, the product goes through the validator assessment stage and uses a questionnaire. Validation is to assess the validity of the product. The validity is used to answer whether the product designed is in accordance with the material and design that has been made.

What will happen then is validation will choose whether or not the product is valid. If

there are suggestions for validation, researchers will revise according to the written suggestions by validators until the product developed is valid.

6. Design Revision

Design review is a step taken to improve weaknesses found appropriate due to product design validation. In this study suggestions and contributions given by experts (validators) after becoming documents in product design modification. The product design for the development of flood management animation video materials will be further developed according to the suggestions and input of validators in the next stage of limited trials.

This research was conducted at SD Labschool UNNES, Gajahmungkur District, Semarang City on eighteen students in fifth grade. Data collection techniques in this study were collected using interview methods, needs questionnaires, and validation questionnaires of media experts and material experts so that the product results are in accordance with the objectives of this study where the students can be ready to mitigate flood species then.

In this study, interview guidelines, needs questionnaires, and expert validation questionnaires were used as data collection tools. The trial of data collection tools serves to determine the need or absence and validity of measuring instruments used during the research conducted.

Analysis of the validity of multimedia products, flood management videos obtained from the validation of media and material

experts, and also making a reference through materials using making feasibility tools using Likert scales. Likert scale used to measure people's behavior, opinions, and perceptions of social reality (Sugiyono, 2019).

Each item's answer has a positive score as well as negative. Research instruments that use Likert scale can be filled in the form of checklists and also multiple choices. Researchers set Likert scale scores in Table 2 as follows:

Table 2. Likert Scale

Answer	Score
Very good	4
Good	3
Enough	2
Less	1

The collected data is then analyzed by changing the percentage results using the formula:

$$NP = \frac{R}{SM} \times 100\%$$

Keterangan:

- NP : Percentage value
- R : Score obtained
- N : Maximun score
- 100% : Fixed number

The criteria in Table 2 of the percentage results on product validity from several revisions carried out will be converted so that it is easy to understand in the form of Table 3 according to (Purwantoro, 2013) as follows:

Table 3. Expert Validation Criteria

Percentage	Criteria	Description
86% - 100%	Very Feasible (A)	No revision
76% - 85%	Feasible (B)	Revision
60% - 75%	Adequate (C)	Revision
55% - 59%	Less Feasible (D)	No Feasible
< 54%	Not Feasible (E)	No Feasible

The next stage is to see the results of due diligence on the product, it determines that it

needs to be corrected not for the product according to validator input.

RESULTS AND DISCUSSION

Development and validity of animated video media for flood disaster mitigation as knowledge of preparedness for fifth-grade elementary school students.

1. Animated/Audiovisual Video Media

The use of animation / audiovisual media in classroom learning is no stranger to the world of education in the era of technological advances that are now so sophisticated. This encourages teachers to be able to master and operate. In agreement with this right, to be more interesting and arouse students' enthusiasm for learning, animation/audiovisual based learning media is needed (Anjarsari, 2020).

According to Rustam (2022), the use of animated videos is proven to be more verbally stimulating and showed positive results for increasing social emotional support in children. The use of animated videos can be a tool to help articulate and also reflect thoughts so that they can be developed and understood together.

To determine the use of animation/audiovisual learning media in learning activities as flood disaster preparedness knowledge for fifth grade elementary school students, researchers conducted a data search with interviews and in-depth documentation.

The following are the results of an interview conducted by researchers with the homeroom teacher of grade 5C in SD Lab School UNNES, Gajahmungkur District, Semarang City, as follows:

"So far, I have used animated video media of flood sightings in providing material on the PPKn content ... Because of the limited media we have, occasionally I use the media on YouTube which is also packaged as in the form of animation" (FWN, November 15, 2022)

From the results of interviews with informants, it was explained that animation/audiovisual-based learning media were available but limited to their existence so that occasionally teachers used media on digital platforms such as YouTube.

In addition, the informant also provided an explanation regarding the use of animation/audiovisual video media in class, as follows:

"The use of animation media in the classroom is supported by Laptops, Projectors, and Sound speakers, so it is enough to help display these media" (FWN, November 15, 2022)

From the results of the interview, it was revealed by the informant that supporting tools for the use of animation/audiovisual media were sufficient to display the media in the classroom. Then, researchers also got information about media design described by informants, as follows:

"Media is packaged in the form of colorful, moving, and sounding animations.... The evaluation question is not listed, due to the limitations of the media owned" (FWN, November 15, 2022)

Based on the interview data, the informant explained that the absence of an evaluation section contained in the animation/audiovisual video used was a limitation. So, it is felt that it needs to be developed more fully and in detail. The limited learning media owned, especially animation/audiovisual-based media leads researchers to create and develop learning media that adapts to the needs of students and teachers with interview data obtained from resource person after the process of identifying the problem with in-depth interview activities and documentation. Researchers collected the data needed to continue the research, starting from the results of interviews. In order for the needs analysis of learning media to be more specific in its needs, researchers distributed needs questionnaires to teachers and students.

2. Animated/Audiovisual Video Media Materials

In a lesson, such as the content of PPKN learning in fifth grade elementary school as a teacher must be able to conceptualize the material as innovatively as possible so that the material can be delivered efficiently to students

and easy to understand (Marlina, 2020). In the process, teachers use learning media as one of the learning tools aimed at making it easier to explain learning materials, especially PPKN learning content in fifth grade elementary schools.

According to the results of an interview conducted by researchers with homeroom teacher grade 5C in SD Labschool UNNES, Gajahmungkur District, Semarang City regarding the material contained in animation/audiovisual media, as follows:

"The learning content that usually has difficulties is the PPKn lesson content which requires practical understanding in the learning process. The material presented should be visually dominant, so that students are able to understand the material in learning PPKn content related to disaster mitigation, especially floods in accordance with Theme 4, Subtheme 3 in the 6th Learning". (FWN, November 15, 2022)

From the results of interviews with informants, it was explained that the content of PPKN lessons had difficulties in the learning process because the material presented was textual. So that in its delivery specifically on flood disaster material adjusted to the theme, subtheme 3 in the 6th learning becomes less than optimal.

In addition, the informant also provided an explanation of the content of the material contained in the animation/audiovisual media, as follows:

"The media I used contains flood disaster material, especially on the causes, mitigation and prevention of flood disasters.... I have completed the delivery of the material with a lecture method to explain to the students for strengthening preparedness knowledge to suit the learning objectives". (FWN, November 15, 2022)

From the results of the interview obtained from informants, it was revealed that learning materials about flood disasters focused on the causes of mitigation and prevention methods which were explained through the media which were then reinforced by lecture methods by teachers

a. Audiovisual Section

The initial part or cover design in disaster mitigation animated video media consists of a front cover and a back cover. The front cover contained images of the "Tut Wuri Handayani" and "UNNES" logos juxtaposed with a white background color and Audio Bumper Opening sound, as follows:



Oleh :
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Figure 1. Front Cover

Then in the last session of the initial part, a student and the name of the learning media were displayed with the characteristic voice of

male elementary school students, namely: Metal Gegana (Digital Media of the Disaster

Mitigation Movement) for Class V Students in Semarang City, as follows:



Figure 2. Media Title



Figure 3. Boarding View



Then, ask the word "Do you know what a flood is?" as follows:

Figure 4. Question View



Figure 5. Flood Definition

The initial part or cover design is expected to attract interest and stimulate students' enthusiasm to learn on the material presented. Overall, the beginning or cover is given a full color and font that adjusts to the color of each background. In the illustration, elementary school students are given sound effects that resemble the voices of elementary school

students in general to add an impression of media suitability to the research subjects.

b. Material Section

Based on the data that researchers have collected, especially from the results of the recapitulation of the needs questionnaire; then researchers make a design of learning media, especially for material to be developed on animated video media. The design of the learning media material is then formed in a prototype design that can visualize the media design developed by the researcher. The prototype of the disaster mitigation animation video media material was designed for grade V elementary schools on the content of PPKn (Theme 4, Healthy is Important), Subtheme 3 (How to Maintain the Health of Human Circulatory Organs). Here are some material illustrations on the development of animated video media for flood disaster mitigation, as follows:



Figure 6. Causes of Flooding



Figure 7. Flood Prevention

In general, the content is still the same as the beginning or cover design, giving fixed colors and sounding according to male elementary school students. The material presented in the video is delivered in summary form intended to make it easier for students to remind important points in the material

presented. The concept of material summary is expected to provide stimulus or stimulation to students related to the provision of knowledge about preparedness in facing flood natural disasters for grade V students.

The final part of the development of animated video media for flood disaster mitigation displays evaluation questions, moral messages and bibliography as well as author bio data. It looks as follows:



Figure 8. Flood Management



Figure 9. Evaluation Questions



Figure 10. Moral

Overall, at the end is still the same as the beginning or cover design and content, the color at the end is fixed and sounds according to the male elementary school students.

The novelty that exists in the development of animated video media for flood disaster mitigation is in the provision of moral messages aimed at improving students' awareness and preparedness in facing flood natural disasters

and also making it a motivation for students in next learning and always applying a healthy life also in daily activities. Then, the provision of the author's identity or bio data is intended to be created as an output and also make other researchers' morning references as reference material that will be carried out later from the development research conducted by the researcher.

Based on this information, animated learning videos for flood disaster mitigation can be used as recommendations for use in the learning process in the classroom to increase the preparedness knowledge of elementary school students with easy and interesting use. In agreement with Yuliani's research (2022), it shows that digital media learning videos can develop children's knowledge in recognizing flood disaster mitigation at an early age.

Validity of Flood Disaster Mitigation Animation Video Media as Preparedness Knowledge for Grade V School Students

1. Expert Deisgn Validation

Before being tested in the field, the product results must go through the design validation stage by experts first. The experts needed in this study are media experts and material experts. The purpose of this expert validation is to determine the feasibility of flood disaster mitigation animation video learning media before being applied in learning in grade V Elementary School. In validation activities, experts were given questionnaires as media assessment instruments in the form of Likert scales then experts provided assessments by check listing the aspects assessed and providing suggestions and criticisms so that the developed media becomes a feasible and effective media to use.

In determining the feasibility of a media there are 5 criteria, namely very feasible, feasible, decent enough, less worthy and not worthy. These criteria are said to be very feasible if they get a score of 86% - 100%, feasible criteria between 76%-85%, feasible criteria 60%-75%, less feasible criteria between 55%-59%, and criteria not feasible of obtaining <54%. The

following are the results of the validation and material experts in Table 4 and Table 5 as instrument for the assessment of media experts follows:

Table 4. Results of Media Expert Validation Assessment Recapitulation

No	Assesment Component	Assesment Results
1	Media Aspect	22
2	Display Aspect	31
3	Produk Completness	11
Total Score Obtained		64
Maximum Score		76
Rating Results		84%
Criteria		Feasible

The 3 assessment components based on table 4, researchers decomposed these components into 19 aspect points in the media expert assessment instrument. Based on the results of the validation of media experts developed, researchers obtained a score of 64 out of a maximum value of 76 with an

assessment percentage of 84%, which means entering the feasibility criteria. The note given by media experts is to remove the sentence entitled "dedicate" and completed the creator name data at the end of the flood disaster mitigation animation video media.

Table 5. Results of Recapitulation of Material Expert Validation Assessment

No	Assessment Components	Assessment Results
1	Language Aspect	21
2	Presentation Aspect	18
3	Material Aspect	13
Total Score Obtained		52
Maximum Score		60
Rating Result		87%
Criteria		Very feasible

The 3 assessment components based on table 5, researchers broke down these components into 15 aspect points on the material expert assessment instrument. Based on the results of expert validation, the material developed by researchers obtained a score of 52 out of a maximum score of 60 with an assessment percentage of 8.7%, which meant that entering the criteria is very feasible to be used in the learning process in the classroom.

Design revision is a stage to provide improvements to the media to be developed in accordance with the notes and input provided by experts so that the developed media can be said to be suitable for use as learning media that functions as a support for the learning process. The following were notes and revisions to the design of animated video media for flood disaster mitigation based on media experts and material experts.

2. Product Design Revision

The Effectiveness of Flood Disaster Mitigation Animation Video Media as Preparedness Knowledge for Grade V Elementary School Students

1. Produk Trials

The trial was carried out in the 5C class of SD Labschool UNNES, Gajahmungkur District with research subjects as many as 16 students and 1 teacher. Unlike small-scale trials, learning media is not only displayed to determine the validity of the media, but is actually applied as a learning medium to determine the effectiveness of animated video media for flood disaster mitigation in the 5C class of SD Labschool UNNES.

The learning process was carried out 1 time to achieve maximum understanding of student preparedness, as for the flood disaster material that will be delivered, among others, about Flood Causes, Flood Management and the Impact of Flood Disasters. The device used to support learning media during the learning process was through a PC / Computer displayed on the projector screen.

Pretest and posttest treatment tests were used to assess the effectiveness of students' knowledge using the media (Ulfa, 2022). Pretest activities were carried out before the teacher gave treatment. Posttest activities were carried out after the teacher provided treatment in the form of animated video media. Posttest activities

aimed to determine the increase in the effectiveness of the development of animated video media.

Each student was enthusiastic to listen to the teacher's explanation and excited when discussing responding to the learning media. Then after conducting the learning process, researchers shared Post-test questions to find out students' abilities after using animated video media for flood disaster mitigation.

In addition to using Pre-test and Post-test, researchers also provide validity/readability questionnaires to determine the response to learning media, which was then to determine the effectiveness of animated video media, flood disaster mitigation, and consider improvements that need to be made.

The results of the questionnaire of responses given by teachers and students are used to consider improvements that will be made to the media. The results of student and teacher responses consisted of 5 criteria, these criteria are said to be very feasible if they get a score of 86%-100%, feasible criteria between 76%-85%, Criteria are quite feasible 60%-75%, criteria are less feasible between 55%-59%, and the criterion is not feasible for acquisition of <54%.

The recapitulation of the validity/readability questionnaire results of 16 UNNES SD Lab School students could be seen in Table 6 shown in the display below:

Table 6. Recapitulation of Student Validity Questionnaire Results

No	Assessment Aspect	Maximun Score	Obrained Score	Percentage
1	Media Interest	90	87	97%
2	Image Interest	90	89	99%
3	Color Match	90	90	100%
4	Goal Compatibility	90	90	100%
5	Legibility	90	87	97%
6	Ease of Media Use	90	86	96%
7	Story Interest	90	90	100%
8	Language Use	90	90	100%
Total Score Obtained			709	
Maximum Score			720	
Percentage			98%	
Criteria			Very Feasible	

Table 6, researchers concluded that the flood disaster mitigation animation video media received a good response by obtaining a score of 7.09 from a maximum score of 720 and the percentage of the score obtained was 98% with a very feasible category. In the notes column provided, students do not give suggestions for improvement but only give positive responses such as attractive media displays, funny pictures

and illustrations and a sense of pleasure when looking at the media.

This response questionnaire was also given to teachers using a rating scale and also teachers could provide input and suggestions on the product being developed in the column provided by the researcher. The results of the recapitulation of the validity/readability questionnaire of UNNES Lab School teachers are explained in Table 7 as follows:

Table 7. Recapitulation of Teacher Validity Questionnaire

No	Assessment Aspect	Maximun Score	Obtained Score	Percentage
1	Material compatibility with K13	5	4	80%
2	Image compatibility with the needs of learning materials	5	4	80%
3	Ease of students understanding the material	5	5	100%
4	The images available are according to the emotional level of students' thinking	5	4	80%
5	The language used is easy for students to understand	5	4	80%
6	The use of punctuation marks is appropriate and easy for students to understand	5	4	80%
7	The words contained in the media are effective and in accordance with the EYD	5	5	100%
8	Display media is able to attract students' interest	5	5	100%
9	Visualization of story content is very interesting and easy to apply to learning	5	5	100%
10	The media used is very easy	5	5	100%
11	The devices used are easily accessible	5	5	100%
12	The use of media increases students' preparedness knowledge skills	5	5	100%
Total Score Obtained			55	
Maximum Score			60	
Percentage			92%	
Category			Very Feasible	

Based on Table 7, researchers concluded that the flood disaster mitigation animation video media received a good response from teachers by obtaining a score of 55 out of a maximum score of 60 and the percentage of scores obtained was 92% in the feasible category. In the notes column, the teacher provided input on the media, namely the animation media was good and could be used by the teacher in providing material about disasters. Based on the results of the questionnaire, teachers and students were interested in using animated video media for flood disaster mitigation in the learning process by giving a positive response.

1. T-Test

The t-test or T-test conducted by researchers aimed to test the comparative hypothesis of the average Pre-test and Post-test results of students. Researchers used the Paired Sample T-Test for the purpose of comparing the average of two groups in pairs. The paired samples referred to in this study were the results of the Pre-test conducted before the animation video media of flood disaster mitigation and the Post-test results of students after using the media. The t test could be performed because it had met the following test requirements results in Table 8 as follows:

Table 8. Pre-test and Post-test Students Results

Treatment	Df	Average	T count	T table	Description
Pretest	15	52.625	7.121	1.753	Ho rejected
Posttest	15	776.063	-	-	Ha accepted

Based on the results of the t test on Table 8 it is known that t count was greater than t table ($7,121 > 1,753$). So Ho was rejected and Ha was accepted, therefore the results of the t test showed that there was a significant influence by using animated video media for flood disaster mitigation on student learning outcomes.

2. N-Gain Test

To determine the quality of improving students' cognitive learning outcomes between

before and after learning using animated video media for flood disaster mitigation, researchers used the normalized average gain formula or called N-gain (normalized gain). The data used to analyze the N-gain test descriptively percentage are pretest and posttest results data for the VC class SD Lab School UNNES. The following is the result of the N-Gain calculation in Table 2. The 6 pretest and posttest results using Microsoft Excel are described in Table 9 as follows:

Table 9. N-Gain Tests

Treatment	N	Average	Average difference	value	N-Gain value	Criteria
Pretest	16	52.625	-	-	-	-
Posttest	16	76.063	23.438	0.5119	0.5119	Medium

Based on Table 9 of N-Gain Test Results, it is known that the difference between the

average value of Pre-test and Post-test is 23.438 and the NGain Value is 0.5119 which means it

is included in the medium criteria. So that the conclusion is that there is an increase in Pre-test and Post-test learning outcomes with medium criteria. Based on the explanation above, the research is about how the validity of the product and effectiveness in the preparedness of grade V elementary school students for animated video media for flood disaster mitigation. In a previous study conducted by Rosyid (2022) explained that the use of video learning media as a learning resource can increase disaster risk reduction information which is very effective as an indication of an increase in the average number of response points to student knowledge.

CONCLUSION

The conclusions from this research are as follows; development of flood disaster mitigation animated video media in class V PPKn lesson content on disaster material at SD Labschool UNNES Gajahmungkur District, Semarang City using the Research and Development model, based on the results analysis of the needs questionnaire recapitulation, it was concluded that the need for animated video media for flood disaster mitigation is required by loading PPKn material, packaged as attractively as possible with animated video designs with bright colors and dominant font combinations and can be applied using a Laptop/PC.

In the expert validation results test, the media developed by the researcher obtained a score of 64 out of a maximum score of 76 with an assessment percentage of 84%, which means it is included in the feasible criteria. Media expert validation test data, obtained the result that the existence and development of motion animation video learning media for flood disaster mitigation is needed and feasible to use.

Based on the material expert validation test data developed by the researcher, the researcher obtained a score of 52 out of a maximum score of 60 with an assessment percentage of 87%, which means that it is included in the very feasible criteria.

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