Development of Canva-Assisted Math Learning Videos at SMPN 2 Lolak

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Abstrak

Penelitian ini bertujuan untuk menghasilkan produk video pembelajaran matematika berbantuan canva yang valid, praktis dan efektif dalam pembelajaran. Penelitian pengembangan ini dilaksanakan di SMP Negeri 2 Lolak yang berfokus pada video pembelajaran matematika berbantuan canva materi penyajian data. Penelitian ini telah dilaksanakan berdasarkan prosedur pengembangan media pembelajaran mengacu pada tahapan pengembangan ADDIE yang terdiri dari lima tahap pengembangan yakni (1) analisis (analyze), (2) desain (design), (3) pengembangan (development), (4) Implementasi (implement), (5) evaluasi (evaluate). Hasil pengembangan video pembelajaran matematika berbantuan canva menggunakan model ADDIE ini didasarkan pada validasi video pembelajaran oleh 2 ahli materi dan media. Diperoleh jumlah skor hasil dari ahli media yaitu 68 poin dengan presentase 94,44% (sesuai) dan jumlah skor hasil dari ahli materi adalah 56 poin dengan presentase 93,33% (sesuai). Hasil validasi angket respon siswa kelompok kecil terhadap kepraktisan media diperoleh jumlah skor 94 poin dengan presentase 78,33% (praktis) dan jumlah skor kelompok besar 692 oin dengan presentase 86,50% (sangat praktis). Kemudian untuk hasil belajar siswa pada saat pretest dan postest terjadi peningkatan jumlah nilai hasil belajar siswa pada saat pretest jumlah nilainya 1100 meningkat menjadi 1655 pada saat postest. Terjadi peningkatan sebesar 555 poin. Kedua, terjadi peningkatan nilai rata-rata hasil belajar siswa pada saat pretest dengan nilai rata-rata sebesar 55 (55%) meningkat menjadi 82,75 (83%) pada saat postest. Terjadi peningkatan sebesar 27,75 poin (28%). Hasil penelitian menunjukkan bahwa video pembelajaran matematika berbantuan canva pada materi penyajian data memperoleh interprestasi rata-rata penilaian sesuai dan memperoleh hasil keputusan sesuai (valid). Dari tahapan-tahapan yang telah dilakukan, dapat disimpulkan bahwa video pembelajaran matematika berbantuan canva materi penyajian data telah valid, praktis dan efektif untuk digunakan.
Kata Kunci: Video Pembelajaran, Canva, Model ADDIE

Abstract

This study aims to produce a Canva-assisted mathematics learning video product that is valid, practical and effective in learning. This development research was carried out at SMP Negeri 2 Lolak which focused on learning mathematics videos assisted by Canva data presentation materials. This research has been carried out based on the instructional media development procedure referring to the ADDIE development stage which consists of five stages of development namely (1) analysis (analyze), (2) design (design), (3) development (development), (4) Implementation (implement), (5) evaluation (evaluate). The results of the development of Canva-assisted mathematics learning videos using the ADDIE model are based on the validation of learning videos by 2 material and media experts. The total score obtained from media experts is 68 points with a percentage of 94.44% (appropriate) and the total score from material experts is 56 points with a percentage of 93.33% (appropriate). The results of the validation of the small group student response questionnaire on the practicality of the media obtained a total score of 94 points with a percentage of 78.33% (practical) and a large group score of 692 points with a percentage of 86.50% (very practical). Then for student learning outcomes at the time of pretest and posttest there was an increase in the number of student learning outcomes at the time of pretest, the total value of 1100 increased to 1655 at the time of posttest. There was an increase of 555 points. Second, there was an increase in the average value of student learning outcomes at the pretest with an average score of 55 (55%) increasing to 82.75 (83%) at the posttest. There was an increase of 27.75 points (28%). The results showed that the Canva-assisted mathematics learning video on the data presentation material obtained an average interpretation of the appropriate assessment and obtained the appropriate (valid) decision results. From the steps that have been carried out, it can be concluded that the mathematics learning videos assisted by Canva data presentation materials are valid, practical and effective to use.
***Keyword**: Learning Videos, Canva, ADDIE Model*

INTRODUCTION

School is a place for everyone to gain knowledge, whether from friends or teachers. The main goal of education, especially mathematics lessons, is to create students who are able to think critically and think creatively. This is in accordance with the educational objectives stated in

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Permendikbud no. 20. 2016 concerning Competency Standards for Elementary and Secondary Education Graduates which explains that at the junior high school level students must have factual, procedural and metacognitive knowledge at the technical, specific, detailed, and complex level and students must have creative and critical thinking and acting skills. In following up on the goals of national education, students must be equipped with a science so that students are able to solve every problem in the world of education. One of the most important components of an education is the curriculum.

The definition of learning by Hamzah Uno (2008) is that learning is the acquisition of new experiences by a person in the form of a relatively permanent change in behavior, as a result of a process in the form of learning interaction with an object (knowledge), or through a reinforcement in the form of experience with an object in the learning environment. The curriculum currently used in schools is the revised 2013 curriculum. One of the principles of the revised 2013 curriculum is that learning is not teacher-centered but student-centered. In supporting the success of a curriculum in the learning process, one of the important components is the availability of learning media. The existence of good learning media will help teachers and students to achieve a good learning.

Based on observations made at SMPN 2 Lolak, especially grade VII, many students do not understand the learning material well, many students do not grasp the purpose and purpose of learning when receiving the material. This can be seen by the behavior of students who often tell stories and joke with friends nearby, and there are even students who often yawn in class. The learning process by teachers should take place as desired, namely the material taught is easy for students to understand and interesting to learn. The cause of the problem is the absence of a media that supports the learning process in order to attract students to pay attention to the material presented in class. Therefore, the solution is that the researcher will create a learning media product in the form of a learning video. Learning videos will be created with the help of the Canva application because by using the help of Canva the process of creating, editing and revising learning videos will be easier, because Canva has its own advantages in which there are various features that will make it easier to create learning video products.

According to Cheppy Riyana (2007) learning video media is a media that presents audio and visuals that contain learning messages both containing concepts, principles, procedures, and theories of knowledge application to help understand a learning material. In improving the mathematics learning process at SMPN 2 Lolak, mathematics teachers must be able to plan and choose which learning is active and student-centered. Because the implementation of proper learning will definitely give good results. Active learning is needed by mathematics teachers, to motivate students' enthusiasm for learning, provide a pleasant learning experience so that it affects the learning outcomes of grade VII students of SMPN 2 Lolak. Active learning can be developed by teachers through the development of innovative and always updated learning videos that are good in accordance with student-centered learning.

In grade VII, there are many materials that must be understood by students, one of which is data presentation material. In learning statistics material, SMPN 2 Lolak students have difficulty remembering how to calculate mean, mode, and median without supporting media for the learning process, besides that students still find it difficult to process single data into bar charts, line charts, and pie charts without supporting media for the learning process, as well as students having difficulty in calculating the presentation of the amount of data in a pie chart without supporting media for the learning process.

Based on this, the author will develop a learning video to help teachers and students of grade VII SMPN 2 Lolak in learning Data Presentation material. Mathematics learning videos are designed with the aim that so that students really understand the basic concepts in the material, students really watch effective learning materials directly, not just fantasize, so that learning goals can be achieved and students are able to apply the results of learning obtained in society (Nurdin et al., 2019;.Ailulia et al., 2022; Rahayu & Prayitno, 2020). As well as the function of a learning media is to guide students to master basic concepts that they can apply in the community environment.

The author assumes that learning videos will be very appropriate if applied in mathematics learning because it provides opportunities for students in grade VII of junior high school to

cultivate the ability to think critically, analyze, work and be scientific and be able to solve problems by finding the answers themselves.

Based on the description above, it is necessary to conduct a research with the title "Development of Canva-Assisted Mathematics Learning Videos at SMPN 2 Lolak".

METHOD

The research design that will be made in this study is using the ADDIE model. This model consists of five steps, namely: (1) Analyze, (2) design, (3) development, (4) implementation, and (5) evaluation. Uno, H. B., & Ma'ruf, A. R. K. (2016).

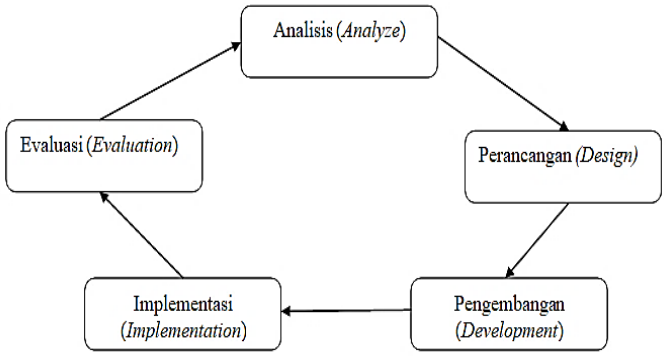


Figure 1. It is a stage of the ADDIE development model

The steps to make the learning video in accordance with the ADDIE Development Model are as follows:

2.1. Analysis Stage

In the analysis stage, the author analyzes the needs, characteristics of students and analyzes the material/curriculum. Therefore, the results that will be obtained are the identification of needs, characteristics of students and task analysis.

2.2. Design/Design Stage

At this stage, the author designs learning development and teaching designs, therefore developers need to design media according to what is researched. At this stage, the author designs the media that will be developed, namely by developing learning media in the form of videos using the Canva application, starting from the selection of the background or background, the selection of temples and animations displayed that are suitable for use according to the material so that the resulting product is not boring, of course, attracting the attention of students.

2.3. Development Stage

At this stage, it is to produce a design into reality, if in the design an application (software) in the form of multimedia learning is needed, then it needs to be developed. In this study, the media developed is in the form of software based on the Canva application that can be used online on androids and laptops. First, the author installs the Canva application on android, namely a mobile phone, then registers or logs in using email, then chooses the features or templates that suit your needs, here the author chooses a template in the form of a video, then designs the video according to the learning material that the author uses. So at this stage the initial draft of the video has been seen.

After the initial video product has been created, the author will show the product to be assessed by validators consisting of: material expert validation and media expert validation. Then the author will test the results of the product that has been validated by experts to students. The trial was carried out in two parts, the first was a small group (2-3 students) and the second was a large group (one class). After the product has been validated by experts and tested in small groups and large groups, the author will revise the video product according to the comments of experts and according to the results of the test on students. This step will continue until the validator declares the video suitable for use and obtains good test results from students.

2.4. Implementation Stage

After being revised and getting a complete and valid video product, the next step in the implementation step, the author will implement the completed video product into learning to find out the effectiveness of the video product that has been made.

2.5. Evaluation Stage

This stage is the last stage of the ADDIE model, where at this stage it is the stage to assess or evaluate the media being developed, whether the media is successful or not used in learning. In this stage, what is obtained is the value of the media developed by the researcher.

RESULTS AND DISCUSSION

1. Stage 1 Analysis

1.1. Product, Needs, and Curriculum Analysis

1. Product Analysis
   The analysis of the media products that will be designed is as follows: (a) The learning media we make must be in accordance with the competency achievement indicators that we have determined in the Syllabus and RPP. (b) The learning media must be in accordance with the characteristics of the learning materials that we have created. (c) From the learning material, we can choose and sort out what learning videos are suitable and appropriate for our material. (d) Facilities and infrastructure owned by teachers and students must also be considered in the selection of learning media so as not to burden both parties. (e) The condition of students must also be the main consideration in the creation of this learning media. For example, with the condition of students in terms of the environment in which they live in rural areas or forests, it is not possible to use learning media based on internet platforms such as YouTube or other online videos, because most of them must not have enough android and signal to access the platform. (f) Learning media must be made based on financing that is not burdensome for teachers and students
2. Curriculum analysis
   The curriculum analysis that will be designed is as follows: (a) I made a mathematics learning video product assisted by a kinemaster, materials and videos to explain the meaning of data presentation, how to read and present data with line, bar and circle diagrams as well as steps and calculation formulas in data presentation. (b) The media that I developed is to develop ways and steps to explain the meaning of data presentation, how to read and present data with line, bar and circle diagrams as well as steps and calculation formulas in data presentation. (c) The media I use is in accordance with the material, the purpose of which will be synchronized with the evaluation according to the existing assessment instruments.
3. Needs analysis
   The analysis of media needs that will be designed is as follows: (a) Considering the unique characteristics of early childhood and having a short focus, I put animated images to attract children's attention in learning videos. (b) Animated images are my choice to make it easier for children to explain what is in this material. (c) The message conveyed is clear because in the video there are images and voices of the teacher that are enough to provide a complete explanation for students. (d) Learning Video Media used in accordance with the technology and environment of the child. (e) Easy to use by students because they immediately see the teaching video directly which can be accessed without the internet. (f) The Learning Videos used are very safe and can be monitored by parents when watching them at home. (g) Facilitate understanding in identifying because it combines images as initial knowledge and is directly applied to the discussion of existing problems.

2. Phase 2 Design

2.1. Learning Video Product Design

Table 1. Learning video product design

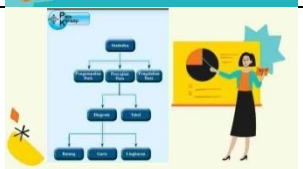
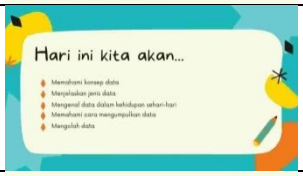
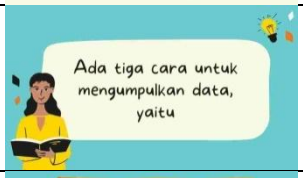
ACTIVITY SEQUENCE	SUBTITLES/DUBBING	MEZO ZOOM/ZOOM BACKGROUND/IMAGE	DURATION	INFORMATION
School introduction and personal data	• Text Writing for SMPN 2 Lolak Class VII • Writing Text Presentation Data (Statistics) • Audio recording of explanations and introductions • Soft music	• School nameplate • The atmosphere of class VII who is studying	1 minute	Shooting pictures and videos during the day so that the images are vivid, bright and bright
Convey learning objectives	• Record a voice reading out the learning objectives • Writing Texts for learning objectives • Soft music	• Whiteboard background • Mezzo zoom text writing learning objectives	1 minute	Writing on highligth so that it is focused with bold capital that is striking
Introducing the Definition of Data	• Voice recordings that read out the meaning of data • Writing Text material • Soft music	• Whiteboard background • Mezzo zoom text writing learning objectives	10 seconds	The writing on highligth is focused with bold capital that is striking accompanied by the sound of the recording of explanations
Explanation and examples of 3 ways to collect data	• Record audio reciting explanations and examples • Writing Text material • Soft music	Background: • Picture/video of the interview • Images/videos filling out questionnaires • Observation image/video • Zoom writing	2 minutes	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Introduction of examples of how to obtain primary and secondary data	• Voice recordings that read out how to obtain primary and secondary data • Writing Text material • Soft music	• Data-related video backgrounds • Written by mezzo zoom	1 Minute	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Questions about data collection and acquisition	• Record a voice reading the questions • Writing Question Text • Soft music	• Background video related to the material • Written by mezzo zoom	15 seconds	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Answer: Questions about data collection and acquisition	• Record a voice reading the answer • Writing Text answer • Soft music	• Background video related to the material • Written by mezzo zoom	30 seconds	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Introduction to how to present data in the form of tables (lists) and graphs (diagrams)	• Voice recording reading an introduction to how to present data • Writing Text material • Soft music	• Background video related to the material • Written by mezzo zoom	20 seconds	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Presentation of data with tables	• Voice recordings reading out the presentation of data with tables • Writing Text material • Soft music	• Background video related to the material • Written by mezzo zoom	1 Minute	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Practice Questions number 1 and 2 page 308	• Record a voice reading out the exercise questions • Writing Question Text • Soft music	• Background video related to the material • Written by mezzo zoom	5 minutes	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound

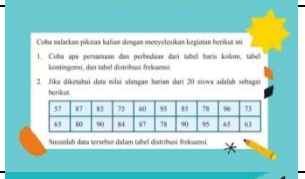
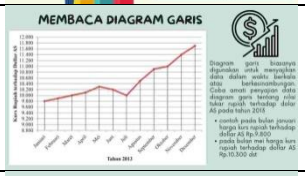
Introduction and examples of bar digrams	• Record a voice reading the material • Writing Text material • Soft music	• Background video related to the material • Written by mezzo zoom	5 minutes	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Stem digram practice questions	• Record a voice reading the material • Writing Text material • Soft music	• Background video related to the material • Written by mezzo zoom	5 minutes	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Introduction and examples of line digrams	• Record a voice reading the material • Writing Text material • Soft music	• Background video related to the material • Written by mezzo zoom	5 minutes	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Line digram practice questions	• Record a voice reading the material • Writing Text material • Soft music	• Background video related to the material • Written by mezzo zoom	5 minutes	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Introduction and examples of pie charts	• Record a voice reading the material • Writing Text material • Soft music	• Background video related to the material • Written by mezzo zoom	10 minutes	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Circle digram practice questions	• Record a voice reading the material • Writing Text material • Soft music	• Background video related to the material • Written by mezzo zoom	10 minutes	Source of images/videos via canva/Youtube with clear text accompanied by video recording sound
Close – thank you	• Record closing sound • Writing Text Thank You • Soft music	• Background video related to the ending • Written by mezzo zoom	30 seconds	Source of images/videos via canva/Youtube clear text accompanied by recorded sound thanks
Duration				**52 min 50 sec**

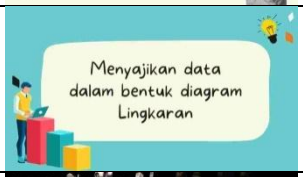
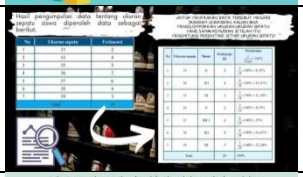
2.2. Making Learning Video Products

Table 2. Creation of learning video products

SCENE	BOARD	ACTIVITY SEQUENCE	Manuscript	TIME	EFFECTS/ SOUND
1		Self-identification	• Writing Text Math learning video • Audio recording of explanations and introductions • Soft music	12 seconds	Breathe / Nature
2		School Introduction and Video Title	• Writing Text Presentation Data (Statistics) • Audio recording of explanations and introductions • Soft music	20 seconds	Breathe / Nature

3		Delivering Sub Material	• Voice recordings explaining sub-material • Writing Texts for learning objectives • Soft music	18 seconds	Breathe / Farewell
4		Delivering a Concept Map	• Voice recordings explaining Concept Maps • Soft music	40 seconds	Breathe / Farewell
5		Conveying the Objectives of the Learning Sub-Material	• Sound recording explaining the purpose of the Sub-material • Soft music	28 seconds	Breathe / Farewell
6		Introducing the Definition of Data	• Voice recordings that read out the meaning of data • Writing Text material • Soft music	20 seconds	Breathe / Farewell
7		Cover: Explanation and examples of 3 ways to collect data	• Record audio reciting explanations and examples • Writing Text material • Soft music	6 seconds	Breathe / Farewell
8		Explanation and examples of 3 ways to collect data	• Record audio reciting explanations and examples • Writing Text material • Soft music	36 seconds	Breathe / Farewell
9		Example of how to obtain data with an interview	• Voice recordings reading out how to obtain data with interviews • Writing Text material • Soft music	42 seconds	Breathe / Farewell
10		example of how to obtain data with Questionnaire	• Voice recordings reading out how to obtain data with questionnaires • Writing Text material • Soft music	1 Minute	Breathe / Farewell
11		Example of how to obtain data by Observation	• Voice recordings reading out how to obtain data with interviews • Writing Text material • Soft music	45 seconds	Breathe / Farewell
12		Introduction of examples of how to obtain primary and secondary data	• Voice recordings that read out how to obtain primary and secondary data • Writing Text material • Soft music	30 seconds	Breathe / Farewell
13		Primary Data Examples	• Voice recordings reading examples of primary data • Writing Text material • Soft music	55 seconds	Breathe / Farewell

13		Secondary Data Examples	• Voice recording reading out examples of secondary data • Writing Text material • Soft music	1 minute	Breathe / Farewell
14		Cover presents data in the form of a table	• Record a voice reading the material • Writing Question Text • Soft music	10 seconds	Breathe / Farewell
15		Introduction to how to present data in the form of tables (lists) and graphs (diagrams)	• Voice recording reading an introduction to how to present data • Writing Text material • Soft music	1m 55s	Breathe / Farewell
16		Practice Questions number 1 and 2 page 308	• Record a voice reading out the exercise questions • Writing Question Text • Soft music	12 seconds	Breathe / Farewell
17		Cover Introduction and bar diagram examples	• Record a voice reading the material • Writing Text material • Soft music	5 seconds	Breathe / Farewell
18		Purpose Introduction and example of a bar chart	• Record a voice reading the material • Writing Text material • Soft music	10 seconds	Breathe / Farewell
19		Read a bar chart	• Record a voice reading the material • Writing Text material • Soft music	53 seconds	Breathe / Farewell
20		Cover presents data with a bar chart	• Record a voice reading the material • Writing Text material • Soft music	7 seconds	Breathe / Farewell
21		Presenting data with bar charts	• Record a voice reading the material • Writing Text material • Soft music	7 seconds	Breathe / Farewell
22		Reading Line Charts	• Record a voice reading the material • Writing Text material • Soft music	2 minutes	Breathe / Farewell
23		Cover presents data with a line chart	• Record a voice reading the material • Writing Text material • Soft music	8 seconds	Breathe / Farewell

24		Presenting Data With Line Charts	• Record a voice reading the material • Writing Text material • Soft music	2m 18s	Breathe / Farewell
25		Practice questions with line lines	• Record the audio of reading the questions • Writing Question Text • Soft music	10 seconds	Breathe / Farewell
26		Cover Processing and presenting Data With Pie Charts	• Record a voice reading the material • Writing Text material • Soft music	10 seconds	Breathe / Farewell
27		Purpose Introduction and example of a bar chart	• Record a voice reading the material • Writing Text material • Soft music	10 seconds	Breathe / Farewell
28		Introduction to Pie charts	• Record a voice reading the material • Writing Text material • Soft music	24 seconds	Breathe / Farewell
29		How to Read a Pie Chart	• Record a voice reading the material • Writing Text material • Soft music	1 minute	Breathe / Farewell
30		Cover presents data with pie charts	• Record a voice reading the material • Writing Text material • Soft music	5 seconds	Breathe / Farewell
31		Presenting data with pie charts	• Record a voice reading the material • Writing Text material • Soft music	2m 35s	Breathe / Farewell
32		Finding the Large Angle of the Circle Chart	• Record a voice reading the material • Writing Text material • Soft music	1m 34s	Breathe / Farewell
33		Pie Chart Final Result	• Record a voice reading the material • Writing Text material • Soft music	30 seconds	Breathe / Farewell
34		Practice questions for the Circle	• Record Question Sound • Writing Question Text • Soft music	10 seconds	Breathe / Farewell

35		Close – thank you	• Record closing sound • Writing Text Thank You • Soft music	22 seconds	Breathe / Farewell
			Total Video Length	**24m 38s**

3. Stage 3 Development

3.1. Results of Video Product Validation by Media Experts

Table 3. Results of video product validation by media experts

Item number	Score from Media Experts		Sum
	Member 1	Member 2	
1	3	3	6
2	3	3	6
3	3	3	6
4	3	3	6
5	2	3	5
6	2	3	5
7	2	3	5
8	2	3	5
9	3	3	6
10	3	3	6
11	3	3	6
12	3	3	6
Total Score	**32**	**36**	**68**

The total score of the results is 68, so that from the assessment of media experts, video products are included in the category of appropriate (valid) or suitable for use with a percentage of 94.44% (appropriate).

3.2. Results of Video Product Validation by Material Experts

Table 4. Results of video product validation by material experts

Item number	Score from Media Experts		Sum
	Member 1	Member 2	
1	3	3	6
2	3	3	6
3	3	3	6
4	2	2	4
5	3	3	6
6	3	3	6
7	2	2	4
8	3	3	6
9	3	3	6
10	3	3	6
Total Score	**28**	**28**	**56**

The total score of the results is 56, so that from the assessment of the expert material of the video product is in the category of appropriate (valid) or suitable for use with a percentage of 93.33% (appropriate).

3.3. Revision Results from Media Experts and Material Experts

Table 5. Revisions from media experts and material experts

BEFORE	AFTER
There are some small letter tables	The writing in the table has increased in font size
The sound is not clear, there is noise	The sound has been cleared
Each sub-material is given an assignment	Assignments have been placed in each submaterial
The backsound is reduced in volume	The backsound has been reduced in volume

3.4. Results of Students' Practical Responses in Small Group Trials

Table 6. Results of students' practical responses in small group trials

Item number	Student Response			Sum
	Price	Dinda	Renita	
1	3	3	3	9
2	4	3	3	10

3	3	3	4	10
4	3	3	3	9
5	3	3	3	9
6	3	3	3	9
7	4	3	3	10
8	4	3	3	10
9	3	3	3	9
10	3	3	3	9
Total Score	**33**	**30**	**31**	**94**

The number of results is 94, so that the results of the video media practicality response questionnaire in the small-scale trial are included in the practical category for use with a percentage of 78.33% (practical). And when collecting the questionnaire instrument, there was no impractical response from the three students so there was no need to revise the media product.

4. Stage 4 Implementation

4.1. Results of Students' Practical Responses in Large Group Trials

Table 7. Results of students' practical responses in large group trials

Student	Item number										Sum
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
Aikyo K. M. Tambun	3	3	4	3	3	3	3	4	4	3	33
Blessy F. Nedelan	4	3	3	3	3	4	3	3	4	3	33
Divo D. Tondok	3	4	3	4	4	3	4	4	3	3	35
Farel M. Wuwumbene	3	3	3	3	4	4	4	4	3	3	34
Friska P. Walewangko	3	3	3	4	3	4	4	4	3	3	34
Fidriyani L. Meleo	4	3	3	4	3	3	3	3	4	3	33
Fallerio Walewangko	3	4	4	3	3	3	3	3	4	4	34
Joel V. Kapantow	3	3	4	3	3	4	3	3	3	4	33
Lionel Rambitan	4	3	3	3	3	4	3	4	4	4	35
Jasmine Labori	3	3	4	4	3	3	4	3	3	4	34
Natanael M. Manorek	3	3	4	4	4	3	4	4	4	3	36
Orlando I. Tairas	3	4	4	4	4	3	3	4	4	3	36
Oklandi F. S. Three	4	4	3	3	4	3	3	3	3	4	34
Queen Takasenserang	4	3	3	3	4	3	3	4	3	4	34
Rafael Lengkong	3	3	3	3	3	4	3	3	4	3	32
Rian M. Pusunglena	3	4	3	3	3	4	3	4	4	3	34
Rian A. Karundeng	3	3	4	4	3	4	4	3	4	4	36
Trivosa J. N. Saliwung	4	3	4	4	4	3	4	4	4	4	38
Tio F. Mongkol	4	4	4	4	4	3	4	3	4	4	38
Yoel Sumerar	4	3	4	3	4	4	4	4	3	3	36
Total Score	**68**	**66**	**70**	**69**	**69**	**69**	**69**	**71**	**72**	**69**	**692**

The number of results is 692, so the results of the video media practicality response questionnaire in a large-scale trial are in the category of very practical to use with a percentage of 86.50% (very practical).

5. Stage 5 Evaluation

5.1. Effectiveness of Student Learning Outcomes

In this section, after the creation of the video product and before presenting it in the learning activity of the Data Presentation material, the researcher has made a pretest and posttest question to see the effectiveness of the learning video product from the improvement of student learning outcomes with the following results:

Table 8. Results of student pretest before using the video

Student	Question Answer Weight									Sum
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
Aikyo K. M. Tambun	8	8	7	5	5	5	5	5	5	53
Blessy F. Nedelan	7	8	7	5	5	5	5	5	5	52
Divo D. Tondok	8	8	7	5	5	5	5	5	10	58
Farel M. Wuwumbene	8	8	7	5	5	5	5	5	10	58
Friska P. Walewangko	8	7	5	5	5	5	5	5	5	50
Fidriyani L. Meleo	8	7	5	5	5	5	5	5	5	50
Fallerio Walewangko	7	8	7	5	5	5	5	5	10	57
Joel V. Kapantow	10	10	10	8	8	8	5	5	10	74
Lionel Rambitan	8	8	7	5	5	5	5	5	5	53
Jasmine Labori	8	8	8	5	5	5	5	5	5	54

Natanael M. Manorek	5	7	8	5	5	5	5	5	5	50
Orlando I. Tairas	8	8	7	5	5	5	5	5	5	53
Oklandi F. S. Three	8	8	7	5	5	5	5	5	10	58
Queen Takasenserang	8	8	5	5	5	5	5	5	5	51
Rafael Lengkong	8	5	7	5	5	5	5	5	10	55
Rian M. Pusunglena	8	7	7	5	5	5	5	5	10	57
Rian A. Karundeng	8	7	7	5	5	5	5	5	5	52
Trivosa J. N. Saliwung	5	7	7	5	5	5	5	5	5	49
Tio F. Mongkol	8	8	7	5	5	5	5	5	10	58
Yoel Sumerar	8	8	7	5	5	5	5	5	10	58
Total Score	**154**	**153**	**139**	**103**	**103**	**103**	**100**	**100**	**145**	**1100**
Average	**7,7**	**7,65**	**6,95**	**5,15**	**5,15**	**5,15**	**5**	**5**	**7,25**	**55**

Table 9. Student pretest results after using the video

Student	Question Answer Weight									Sum
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
Aikyo K. M. Tambun	10	10	10	10	8	10	10	10	10	88
Blessy F. Nedelan	10	10	10	8	8	10	8	8	10	82
Divo D. Tondok	10	10	10	8	10	10	8	8	15	89
Farel M. Wuwumbene	10	10	10	10	8	8	8	8	10	82
Friska P. Walewangko	10	10	10	10	8	8	10	10	10	86
Fidriyani L. Meleo	10	10	10	8	10	10	8	8	15	89
Fallerio Walewangko	10	10	10	8	8	8	8	8	10	80
Joel V. Kapantow	10	10	10	10	10	10	10	10	20	100
Lionel Rambitan	8	8	8	8	8	10	5	5	5	65
Jasmine Labori	10	10	10	10	8	8	8	8	10	82
Natanael M. Manorek	10	10	10	8	10	10	8	8	10	84
Orlando I. Tairas	10	10	10	8	10	10	10	10	10	88
Oklandi F. S. Three	10	10	10	10	8	10	5	5	15	83
Queen Takasenserang	8	8	8	8	8	10	5	5	10	70
Rafael Lengkong	10	10	10	8	10	10	8	8	10	84
Rian M. Pusunglena	10	10	10	10	8	8	8	8	15	87
Rian A. Karundeng	10	10	10	10	8	8	10	10	10	86
Trivosa J. N. Saliwung	8	8	8	8	8	10	5	5	10	70
Tio F. Mongkol	10	10	10	8	8	8	5	8	10	77
Yoel Sumerar	10	10	10	10	10	10	8	5	10	83
Total Score	**194**	**194**	**194**	**178**	**174**	**186**	**155**	**155**	**225**	**1655**
Average	**9,7**	**9,7**	**9,7**	**8,9**	**8,7**	**9,3**	**7,75**	**7,75**	**11,25**	**82,75**

After looking at the learning results of students in the pretest and postes, it can be concluded as follows:

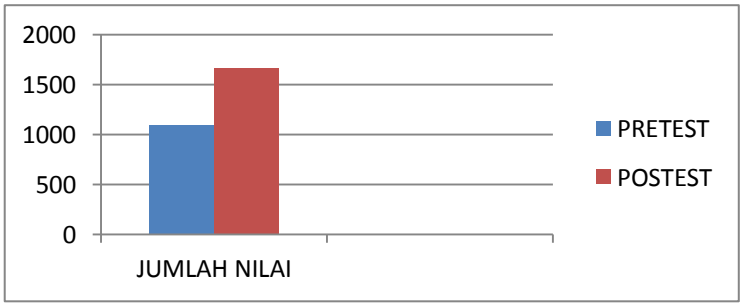


Figure 2. Graph of the sum of posttest and pretest learning outcomes

From the diagram above, it can be seen that there is an increase in the number of student learning outcomes at the time of the pretest, the number of scores of 1100 increases to 1655 at the time of postest. There was an increase of 555 points

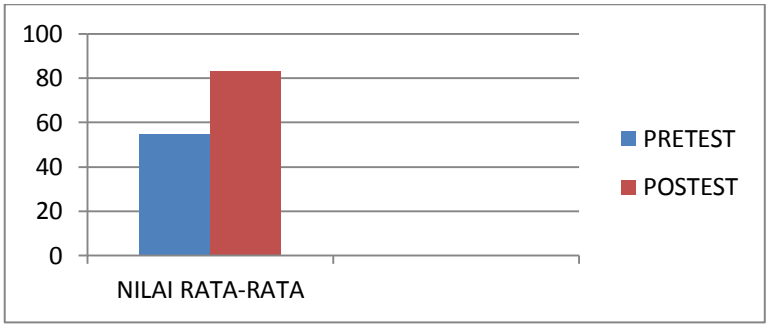


Figure 3. Average posttest and pretest learning outcomes

From the diagram above, it can be seen that there is an increase in the average score of student learning outcomes at the time of the pretest with an average score of 55 (55%) increasing to 82.75 (83%) at the time of postest. There was an increase of 27.75 points (28%).

This research revolves around developing instructional media using the ADDIE model, a widely recognized framework for creating effective educational and training programs. The ADDIE model consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. Each stage plays a crucial role in ensuring that the instructional media meets the learning objectives and engages the target audience effectively.

In the Analysis phase, the researchers identified the need for developing instructional videos to aid mathematics learning, specifically on data presentation topics. This phase likely involved assessing the current learning gaps, understanding student needs, and defining the learning objectives. By identifying these needs, the research ensured that the development of the instructional videos would be targeted and relevant. During the Design phase, the researchers planned the structure of the learning videos. This included deciding on the content to be covered, the sequence of topics, and the use of visual and auditory elements to enhance understanding. The decision to use Canva, a user-friendly design tool, facilitated the creation of visually appealing and pedagogically sound learning materials.

In the Development phase, the instructional videos were created using Canva. This phase involved the actual production of the content, integrating multimedia elements such as graphics, animations, and voiceovers to make the learning experience more engaging and effective. The videos were then validated by two experts: one focusing on the media (design and delivery) and the other on the content (mathematical accuracy and pedagogical approach). The high scores from both media experts (68 points, 94.44%) and material experts (56 points, 93.33%) indicate that the videos were both appropriate and effective according to established educational standards.

The Implementation phase involved testing the videos with actual students to assess their practicality and usability. The videos were first tested with a small group, yielding a total score of 94 points (78.33% practical). After refining the videos based on initial feedback, a larger group test was conducted, resulting in a higher score of 692 points (86.50% very practical). This phase highlighted the importance of iterative testing and refinement to enhance the instructional media's effectiveness. Finally, in the Evaluation phase, the effectiveness of the Canva-assisted mathematics learning videos was measured using pretest and posttest scores. The significant improvement in student performance—an increase in the total score from 1100 to 1655 points and an average score increase from 55 (55%) to 82.75 (83%)—demonstrates the videos' positive impact on learning outcomes. The increase of 555 points in total and 27.75 points in average scores clearly indicates that the students benefited from the videos.

The research effectively demonstrates the application of the ADDIE model in developing instructional media. By systematically going through each stage, the researchers were able to create Canva-assisted mathematics learning videos that are not only valid (as shown by expert validation scores) but also practical (as shown by student usability scores) and effective (as shown by the improvement in learning outcomes). Overall, this study highlights the potential of digital tools like Canva in creating engaging and effective educational content. The findings suggest that such instructional media can be a valuable resource in enhancing mathematics education, providing a valid, practical, and effective tool for both teachers and students.

CONCLUSION

In the first stage, product analysis, curriculum analysis, and needs analysis are carried out. Then in the second stage, designing a video product starts from making an initial draft then making an initial learning video. After that, in the third stage, the development of the product was carried out by providing a learning video product to be validated by 2 material experts and 2 media experts with the following validation results. The total score of the results from media experts is 68 points, so that from the assessment of media experts, video products are in the category of appropriate (valid) or suitable for use with a percentage of 94.44% (appropriate). Meanwhile, the number of score results from material experts is 56 points, so that from the assessment of material experts, video products are in the category of appropriate (valid) or suitable for use with a percentage of 93.33% (appropriate). After that, the researcher made a small revision to the learning video product because there were several inputs and revisions from media experts and material experts. After the product was revised, it was piloted in a small group with the results of student responses to practicality with a total score of 94, so that the results of the video media practicality response questionnaire in a small-scale trial were included in the practical category for use with a percentage of 78.33% (practical). And when collecting the questionnaire instrument, there was no impractical response from the three students so there was no need to revise the media product. Before entering the fourth stage, the researcher gave pretest questions to 20 students to measure their initial ability. The fourth stage was implemented by piloting the learning video product in a large group of 20 students and the results of the product practicality response with the total score of 692, so that the results of the video media practicality response questionnaire in the large-scale trial were included in the very practical category for use with a percentage of 86.50% (very practical). Then in the fifth stage, an evaluation is carried out by providing post-final questions. At this stage, a comparison of student learning outcomes at the time of pretest and posttest was analyzed and it was found that the first increase in the number of student learning outcomes at the time of the pretest was 1100 and increased to 1655 at the time of posttest. There was an increase of 555 points. Second, there was an increase in the average score of student learning outcomes at the time of the pretest with an average score of 55 (55%) increasing to 82.75 (83%) at the time of the posttest. There was an increase of 27.75 points (28%). The results of the study show that the canva-assisted mathematics learning video on the data presentation material obtained an average interpretation of the appropriate assessment and obtained the results of the appropriate (valid) decision. From the stages that have been carried out, it can be concluded that the canva-assisted mathematics learning video data presentation material has been valid, practical and effective to use.

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