Paedagoria : Jurnal Kajian, Penelitian dan Pengembangan Kependidikan
http://journal.ummat.ac.id/index.php/paedagoria
Prefix DOI: 10.31764

ISSN 2086-6356 (Print)
ISSN 2614-3674 (Online)
Vol. 15, No. 4, Oktober, Hal. 427-435

DEVELOPMENT OF ANIMATED VIDEO MEDIA ASSISTED BY CANVA ON THE MATERIAL OF THE APPEARANCE OF THE EARTH'S SURFACE

Winda Oktaria, Fitriyeni
Pendidikan Guru Sekolah Dasar, Universitass Islam Riau, Pekanbaru, Indonesia
windaoktaria.uir.ac.id, fitriyeni@edu.uir.ac.id

INFO ARTIKEL

Riwayat Artikel:

Diterima: 21-08-2024
Disetujui: 03-10-2024

Kata Kunci:

Development Animated Video Material on the appearance of the earth's surface

ABSTRAK

Abstrak: Penelitian ini bertujuan untuk (1) mengembangkan video animasi tentang kenampakan permukaan bumi, (2) menghasilkan video animasi yang valid, dan (3) menghasilkan video animasi praktis. Model pengembangan yang digunakan dengan tahapan ADDIE yang terdiri dari (analisis, desain, pengembangan, implementasi, evaluasi). Data untuk penelitian ini dikumpulkan melalui metode wawancara dan kuesioner. Instrumen yang digunakan untuk pengumpulan data adalah naskah wawancara dan formulir validasi. Di bawah ini adalah hasil pencariannya. (1) Perancangan video animasi dilakukan dalam naskah video. Naskah ini diubah menjadi video animasi selama tahap pengembangan ADDIE. (2) Hasil validitas video animasi berdasarkan penilaian ahli terkait yaitu 89% dengan kualitas sangat baik, ahli media mendapat penilaian 99% dengan kualitas sangat baik, penilaian ahli bahasa mendapat persentase sebesar 90% dengan kualitas -baik. Hasil yang diperoleh pada tes kelompok kecil sebesar 93% dengan kualifikasi sangat baik. Dengan cara ini, validitas video animasi pendidikan yang dikembangkan dapat dipastikan. (3) Kepraktisan media video animasi terlihat dari hasil validasi yang dilakukan oleh validator. Hasil penelitian menunjukkan bahwa media video animasi nyaman dan layak digunakan. Respon siswa menunjukkan respon yang positif, dan persentase yang diperoleh berdasarkan angket respon siswa adalah sebesar 93%.

Abstract: *This study aims to (1) develop an animated video about the appearance of the earth's surface, (2) produce a valid animated video, and (3) produce a practical animated video. The development model used with ADDIE stages consisting of (analysis, design, development, implementation, evaluation). Data for this study were collected through interviews and questionnaires. The instruments used for data collection were interview scripts and validation forms. Below are the search results. (1) The designing of animated videos is done in a video script. This script was converted into an animated video during the ADDIE development stage. (2) The results of the validity of the animated video based on the assessment of related experts were 89% with very good quality, the media expert received an assessment of 99% with very good quality, the linguist's assessment received a percentage of 90% with good quality. The results obtained in the small group test amounted to 93% with very good qualifications. In this way, the validity of the educational animation video developed can be ensured. (3) The practicality of the animated video media can be seen from the results of the validation conducted by the validator. The results showed that the animated video media was comfortable and feasible to use. Student responses showed a positive response, and the percentage obtained based on the student response questionnaire was 93.%.*

.

A. BACKGROUND

Education is very important in human life. Education can develop the potential possessed by humans. According to Law No. 20 of 2003 Article 1 paragraph 1 that ''Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual-religious strength, self-control, personality, intelligence, noble character, and skills needed for themselves, society, nation and state''. Education is an important aspect in character building and student understanding. However, in today's digital era, children tend to be more interested in technology and new media, which can affect their mindset and understanding of learning materials.

Learning is a process carried out by educational institutions to provide students with knowledge, abilities, and attitudes and beliefs. In other words, learning is the process of shaping students so that they can learn well. According to (Ponza, 2018), learning must keep up with advances in science in order to create a classroom atmosphere that is suitable and compatible with the nature of students. In addition, innovative learning is learning designed by teachers and consists of new ideas that can help improve their learning achievement (Purwadhi, 2019).

The learning process that is applied is carried out well and effectively if combined with innovative learning media. One form of active participation in improving the quality of education in teaching and learning activities is using learning media. Learning media is very helpful in the teaching process because it is a tool that can be used by teachers as an intermediary during classroom learning. According to AECT (Praptaningrum, 2020), media are all forms and channels that can be used to channel information. (Niswa, 2012) states that learning media is anything that can be used to channel messages to recipients so as to stimulate the thoughts, feelings, attention, and interests of students so that the learning process occurs in order to achieve learning objectives.

According to (Nasution, 2018) teaching media is a teaching aid, which supports the use of teaching methods used by the teacher. Meanwhile, according to (Fatria, 2017) learning media is anything that can be used to convey messages or information in the teaching and learning process so that it can stimulate students' attention and interest in learning. Based on the description of these experts, it can be concluded that what is meant by learning media is a tool that can help the teaching and learning process so that the meaning of the messages conveyed becomes clearer and educational or learning objectives can be achieved effectively and efficiently. Utilization of learning media can make it easier for students to understand learning materials. Types of learning media into four parts, namely (1) visual media, (2) audio media, (3) audio-visual media, (4) and multimedia. An example of media that can be utilized for the teaching process is animated video media which is classified into audiovisual media. Animated videos function as learning media that can be used in various lessons. Media that displays moving images and is accompanied by sound to improve the quality of animated video media. This animated video media becomes a supporting instrument or learning tool for teachers, thus making a difference in preparing lessons to achieve the expected learning objectives.

According to (Alifa, 2021) Audio visual media is media that has elements of images that can be seen, for example video recordings, slides, sound, and so on. As according to (Purwono, 2014) Self-created audio visual media such as slides combined with audio tapes. Learning animation videos have interesting material and colors that elementary school students like. Children like to play and learn. In order for elementary school students to feel happier and better understand what they are learning, this learning animation video was made.

The advantage of using animated videos is that students are not only glued to the text but also have moving animations. This increases the spirit of learning and makes students more active while learning. This animated video can provide assistance to instructors and students in preparation for learning, where students can get learning in an effective and structured manner, can convey the learning structure clearly and well so that students can understand it (Alifa, 2021). As in the learning material about the appearance of the earth's surface in science subjects. According to (Yusra et al., 2019), the use of animated video media in science subjects is feasible because it can increase students' understanding and involvement in the material. This

in turn increases their understanding of science lessons.

Science is literally referred to as the study of nature about events that occur experienced, (Setyowati, 2019). Studying science will develop curiosity, a positive attitude and awareness of the mutually influencing relationship between science, environment, technology and society, (Alifa et al., 2021).

Natural Science has an important meaning for mankind. Studying science equips students with a comprehensive understanding of the world they live in and equips them with the knowledge to demonstrate appropriate behavior as living organisms in their environment. Science fosters the development of a scientific perspective and mindset in education. Therefore, so that the learning objectives of science can be achieved, the teacher must be able to create a pleasant learning atmosphere, increase student motivation to learn and the teacher must be more creative. According to (Andriyani, 2017) Teachers must be able to link a subject matter into technology. With this, students are expected to get maximum learning results.

(Samatowa, 2016) also states that science is a science that deals with natural and material symptoms that are systematic, arranged in an orderly manner, generally applicable in the form of a collection of observations and experiments. Systematic means that knowledge is arranged in a system, not independent, one with another is interrelated, mutually explaining so that the whole is a whole unit, while generally applicable means that knowledge is not only applicable or by someone or several people in the same way of experimentation will get the same or consistent results. The National Standards Agency (BNSP, 2006) recommends that the teaching of Natural Science in schools has a belief in the greatness of God Almighty in the closeness, majesty, and orderliness of natural creation. Creating information and understanding of scientific concepts that are valuable and relevant to their existence in everyday life. Foster curiosity, positive attitudes, and an understanding of the important interrelationships between science, the environment, innovation, and society.

Based on the findings of interviews that researchers have conducted as a third grade teacher at SDN 017 Jaya Kopah, researchers found problems related to the lack of use of learning media used by teachers in the learning process so that students have difficulty in understanding the material conveyed by the teacher, especially on the material of the appearance of the earth's surface where most of the material is in the form of theoretical explanations only. When teaching, the teacher uses LKS media, modules / RPP and visual media in the form of pictures. students face challenges in understanding this material on the appearance of the earth's surface. This can be seen from the low student learning outcomes, out of 16 students only 12 people who have reached the KKM score of 75. Teachers need more interesting learning media in the form of animated video media. (Atmaji, 2018) states that the lack of teaching materials makes students feel bored following the learning process which is only centered on the teacher. this has an impact on the results of scores below the KKM. In addition, according to (Nasution et al., 2022) the teaching materials used are too many subject matters and teaching materials that are less interesting, making it difficult for students to understand the material. This has an impact on the effectiveness of the learning process.

The above problems are in line with research conducted by (Fatria, 2017) which states that the lack of teaching materials makes students feel bored when following the learning process which is only centered on the teacher, this has an impact on student learning outcomes. In addition, according to (Kaniyah et al., 2022) the teaching materials used are too many subject matters and the teaching materials are less interesting, making it difficult for students to understand the material, this has an impact on the effectiveness of the learning process.

The development of animated video media is expected to be able to help students in understanding the material of the appearance of the earth's surface which will be presented in a series of audio visuals through animated videos, this is in line with (Oktaviani et al., 2020) animated video media is a form of moving visuals that can be used to explain learning material that is considered difficult to convey conventionally. This research aims to develop an animated video on the appearance of the earth's surface, to produce a valid animated video, and to produce a practical animated video. The development model used is the ADDIE model.

.

B. METHODS

This research is a development research that uses qualitative and quantitative methodologies simultaneously. The research methodology used is development research using the ADDIE development design, which includes five different stages: analysis, design, development, implementation, and evaluation (Sugiyono, 2022)

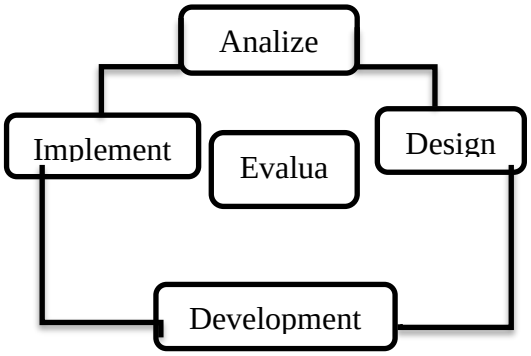

Figure I. Stages of ADDIE Model Development

At the analysis stage, what is done is to identify all possible problems. Identifying possible problems includes assessing the applicable curriculum/basic competencies, student characteristics, and teaching materials that are in accordance with basic competencies and learning objectives. The results of the analysis are used as a source of data and information in designing development products.

The design stage is carried out by searching and collecting sources as supporting data in the form of field observations, teaching materials, and literature studies related to the material to be studied. The data that has been obtained, then compiled with the help of software and hardware in accordance with the previously designed scenario. Products that have been developed are ready to be implemented in learning.

The application of animated video media was carried out on a small-scale trial. The subjects of this study were third grade elementary school students, with a total of 6 students. The types of research used are qualitative and quantitative data. Qualitative data is obtained from suggestions and input given during the learning media development process. Quantitative data is in the form of scoring the results of feasibility tests and responses given by students to animated video learning media. Data collection in this study used several instruments, namely:

(1) interview. (2) Questionnaires, in this study in the form of student response questionnaires to media in trial activities and validation sheets assessed by media experts, material experts, and homeroom teachers. The average obtained from the calculation of the score obtained from the questionnaire or questionnaire, the results obtained from the average ideal score which is then categorized in certain categories. The following technique analyzes the data from the validation results:

$$P = \frac{\text{score obtained}}{\text{Maximum score}} \times 100$$

(Komara, 2022)

Data were obtained from the feasibility test conducted by validators on the feasibility of animated video learning media by paying attention to important aspects in the development of learning media. Data analysis of validation results is measured using a positive Likert scale. In the validation questionnaire there are 19 statement items on the assessment by material experts, 11 questions and 21 statement items on the assessment by media experts. The percentage obtained is used as a reference in stating the feasibility of animated video learning media with the following conversion:

Tabel 1. Data kuantitatif

Skor	Keterangan
80%-100%	Very Valid
60%-80%	Valid
40%-60%	Fairly Valid
20%-40%	Less Valid
≤ 20%	Invalid

Sumber: (Lestari, 2020)

The results of the percentage of data obtained from student responses based on questionnaires using animated video learning media are used as a reference for the feasibility of media application and effectiveness of use with the conversion of achievement levels as follows:

Tabel 2. Data Kualitatif

Skor	Keterangan
80-100%	Very practical
60-80%	Practical
40-60%	Practical enough
20-40%	Less practical
0-20%	Not practical

Sumber: Lestari (2020)

C. RESULTS AND DISCUSSION

The development of animated video learning media on the material of the appearance of the earth's surface was developed using the ADDIE development model. The stages of the ADDIE development model include: analysis, design, development, product implementation, and assessment/evaluation stages.

1. Analyze

The analysis stage was carried out with initial observations and interviews at SDN 017 Jaya Kopah. The problems found were the use of learning media that was not appropriate with the material, especially the appearance of the earth's surface and the teacher's teaching methods in the classroom.

The methods that are often applied by teachers are conventional methods, namely lectures and questions and answers. The media used is still in the form of pictures found in the teaching material book. The effectiveness of using the media is low. Another problem is student activeness in the classroom. The lack of interesting media used in learning can make students' enthusiasm in learning low. In addition to determining the problems faced by students, another analysis is needed in the development process as a basis for development. These analyses include analyzing basic competencies, student characteristics, and materials.

Basic competency analysis is carried out by describing the basic competencies that apply at school. The elaboration of basic competencies is made into several indicators, so that learning objectives can be determined. Analysis of student characteristics is needed in determining and designing learning media. The results of initial observations made by researchers at SDN 017 Jaya Kopah in developing animated video media on the appearance of the earth's surface. The results obtained are that students like learning using media that is more interesting and effective. Students better understand the lessons conveyed so as to produce satisfactory grades. This can be the basis for product development in the form of animated video learning media in overcoming the problem of low student interest in learning. The material used in this study is the material of the appearance of the earth's surface.

2. Design

The design stage involves the process of making an animated video based on the material of the appearance of the earth's surface. The video is made using Canva Inshot. Data collection is carried out as material for the design of learning media product development. Data collection is done as material for the design of learning media product development. Sources of supporting data in the form of geometry learning material package book grade III which is adjusted to the applicable curriculum and basic competencies to be achieved. Other sources are the results of literature studies and some learning videos that can be used as references in making animated video learning media in this study.

In addition to the data sources mentioned above, researchers use software and hardware tools in the development of animated video learning media. The software used in the animation process includes canva and inshot. The application of both software is very easy and animation making materials are available. Hardware used in the process of developing animated video media in the form of laptops, cell phones, which function in making storyboards.

The supporting data obtained is then processed in the production/development stage. The development stage is divided into 3 main parts, namely, the pre-production stage, the production stage, and the post-production stage. In the pre-production stage, video learning media is designed in accordance with the material to be studied. The preparation of the material is adjusted to the basic competencies and learning objectives to be achieved. The preparation of animated video learning media requires a scenario. The desired scenario is compiled in the form of a storyboard. Storyboard is one of the pictorial presentations containing the material displayed in the animated video which is arranged systematically.

The initial product design was discussed with the validators and several parties. The results of the discussion contained several suggestions and inputs related to the content and appearance of the developed media, which are described as follows: (1) The duration of a good and effective video in learning is around 6 minutes. (2) Dubbing is replaced with original sound. (3) The use of captions in each animation slide is more clarified and the transition settings between slides are more considered, and (4) The duration of one slide is extended.

By considering the suggestions and input obtained such as, layout, video duration, background,

as well as audio, etc., the storyboard is well organized according to the needs and problems being faced by students. The materials that have been prepared are animated in the production stage. The animation of the material uses Canva. In this application, the background and characters needed are already available.

A media is said to be suitable for use if it has gone through a feasibility test. Whether a media is feasible depends on the test results obtained. The feasibility test (validation) has several aspects of assessment that must be met by learning media. Before being tested for feasibility, learning media must go through a validation process. Validation is carried out to perfect the learning media developed. Validation is carried out by experts in their fields, namely media experts, linguists and material experts. The validator is expected to be able to provide suggestions / input that can be used to improve the quality of the learning media developed.

3. Develop

The assessment of animated video media was carried out by Mr. Yeyendra as a material expert lecturer and Mrs. Lili Marselina, as a third grade elementary school teacher. The material validation aspects assessed include material aspects, material clarity aspects, and presentation aspects. The assessment of animated video media was also carried out by Mr. Latif, as a material expert lecturer and Mrs. Rosdian, as a class teacher. And the assessment of animated video media was carried out by Mr. Ivan Taufiq as a media/design expert lecturer and Mr. H. Bartunus, as the principal. The learning media validation aspects assessed include media criteria, media display, and material content. The following is a link to the animated video and the results of validation from several experts.

Figure II. animation video cover image

https://drive.google.com/file/d/1B80HhAirqkE9vYxMOjQuuOVmYa8ys53H/view?usp=drivesdk

Table 3. Material expert validation results

No	Aspects assessed	Frequency score
1.	Material	22
2.	Clarity of material	22
3.	Presentation	41
	Total :	85
	Total skor maksimal :	95

$$P(\%) = \frac{score\ obtained}{maximal\ score}\ X\ 100$$

$$= \frac{85}{95}\ X\ 100$$

$$= 89\%$$

Table 4. Results of linguist validation

No	Aspects assessed	Frequency score
1.	Straightforward	13
2.	Interactive	10
3.	Appropriateness of language rules	12
4.	Use of symbols	15
	Total :	50
	Total score maximal :	55

$$P(\%) = \frac{score\ obtained}{maximal\ score}\ X\ 100$$

$$= \frac{50}{55}\ X\ 100 = 90\%$$

Table 5. Media expert validation results

No	Aspects assessed	Frequency score
1.	Visual	60
2.	Use of letters	20
3.	Physical criteria	15
4.	Ease of use	10
	Total :	105
	Total skor maksimal :	105

$$P(\%) = \frac{score\ obtained}{maximal\ score}\ X\ 100$$

$$= \frac{105}{105}\ X\ 100 \qquad = 100\%$$

The average percentage of data obtained from the calculation of validation results conducted by material experts shows an achievement of up to 89%%. For the average percentage of data obtained from the calculation of validation results assessed by linguists shows an achievement of up to 90%. For the average percentage of data obtained from the calculation of validation results assessed by media experts shows an achievement of up to 100%. This states that the animated video learning media is 'feasible' to use in accordance with the conversion of achievement levels.

Table 6: Results of Validation by teachers

No	Aspects assessed	Frequency score
Materi		
1.	Material	23
2.	Clarity of material	23
3.	Presentation	43
	Total :	89
	Total skor maksimal :	95
Bahasa		
1	Straightforward	15
2	Interactive	8
3	Appropriateness of language rules	14
4	Use of symbols	15
	Total :	52
	Total skor maksimal :	55
Media		
1	Visual	56
2	Use of letters	17
3	Physical criteria	12
4	Ease of use	10
	Total :	95
	Total skor maksimal :	105

The percentage analysis of the results of the validation of the animation video by the homeroom teacher of the material aspect assessment is formulated as follows:

$$=\frac{89}{95} X\ 100$$
$$= 93\%$$

The percentage analysis of the results of the validation of animated videos by classroom teachers assessing language aspects is formulated as follows:

$$=\frac{52}{55} X\ 100$$
$$= 94\%$$

The percentage analysis of the results of the validation of animated video media by the principal of the media aspect assessment is formulated as follows:

$$=\frac{95}{105} X\ 100$$
$$= 90\%$$

The average percentage of data obtained from the calculation of the results of validation conducted by the third grade teacher on material assessment shows an achievement of up to 93%. For the results of language assessment validation shows an achievement of up to 94%. For the results of media assessment validation shows an achievement of up to 90%. This states that the animated video learning media is 'very feasible' to use in accordance with the conversion of achievement levels.

Media practicality data is obtained from the overall results of the validation of animated video learning media. Practicality refers to whether or not the media is feasible to be implemented in the field. The results of the practicality of learning media are presented in tabular form as follows:

Table 7. Results of the practicality of animated videos by validators

Product developed	Material expert	Linguist	Media expert
Development of animated video media assisted by Canva on the material of the appearance of the earth's surface	A	A	A

5. Implement

Table 8. Practicality results of animated videos by homeroom teachers

Product developed	Material expert	Linguist	Media expert
Development of animated video media assisted by Canva on the material of the appearance of the earth's surface	A	A	A

Media that has been tested and declared feasible to use, can be implemented in students. The animated video learning media in this study was implemented on August 7, 2024 for third grade students. There were several obstacles in the application of learning media, so the research subjects were taken from the researcher's environment. The application of animated video learning media was carried out on a small scale test with 6 grade III students. The application of learning media lasted for 30 minutes. Students look enthusiastic during learning activities.

For the self-test, students learned using a cell phone. After the activity ended, each student was given a questionnaire. The questionnaire is in the form of student responses, which aims to determine student responses to learning media and the effectiveness of media use. The student response questionnaire contains 10 statement items with measurements using a Guttman scale. Completion of the quiz by ticking the statement in accordance with the situation that students feel. The results of filling

.

out the student response questionnaire to the animated video learning media, then the percentage is sought using the formula:

No	Indicator	Frequency
1	I agree that the design of this animation video is attractive	6
2	This animated video has initial appeal and is delivered in accordance with the material.	6
3	I enjoy learning with animated videos more than just listening to explanations.	6
4	This animated video media motivates me to learn	6
5	The presentation of this animated video material is very complete	5
6	With this animated video media, I get more in-depth knowledge about the material of the appearance of the earth's surface.	6
7	I can learn actively with this animated video.	5
8	I can read the text easily because the font type and size are varied	6
9	I can understand the material with the help of the pictures in the animated video media.	5
10	This animated video media uses language that is easy to understand	5
	Total :	56
	Total score maximum :	60

$$=\frac{56}{60} X\ 100$$

$$= 93\%$$

Animated video learning media is said to get a good response if the level of achievement touches a percentage ≥ 61%. The average percentage of the data obtained from the calculation of the results of the student response questionnaire to the learning media shows an achievement of up to 93%. This states that the animated video learning media gets a 'very positive' response from students and is feasible to use in accordance with the conversion of achievement levels.

D. CONCLUSIONS AND SUGGESTION

Based on the results of the study it can be Based on the results of the study it can be concluded: (1) This development research produces products in the form of animated video learning media. The predicate 'feasible' is obtained based on the feasibility test by validators with an average percentage of material expert scores of 89%, media experts of 100% and language experts of 90%. The results of validation by homeroom teachers showed an average percentage score of 93% for material assessment, 94 for language assessment and 90% for media assessment. The animated video learning media is considered practical when applied in the field with the predicate 'A' based on the conversion of achievement levels. Based on the questionnaire results, students' responses to the animated video learning media were very positive both from a small scale and also independently with a percentage score of 93%.

In this development, there are several suggestions that researchers would like to convey both to students, teachers, schools, and other researchers. The explanation of the suggestions is as follows: (1) For students, this media was developed based on the problems found, namely the use of media that is less varied (2) For teachers, with the utilization of this animated video learning media, do not make the media the main source of learning. For other researchers, in the development of learning media there are still some shortcomings both in terms of production and in terms of application in the field. Media that is less varied and low student interest in learning. Thus, further research is expected to be able to perfect the animated video learning media.

REFERENCES

Alifa, N. S. (2021). Pengembangan Media Video Pembelajaran Animasi Berbasis Pelajaran IPA Siswa Kelas IV SDN Kedalmenan IV. *Jurnal Teknologi Pendidikan Dan Pembelajaran*, *8*(2), 165–176. *Cartoon-fruit-mangosteen-score-clipart-garcinia-indica-fraction-mathematics_276261_wh860*. (n.d.).

Devi, W., Sukiman, S., & Zakia Firdaus, M. (2021). Pengembangan Media Pembelajaran Memahami Cerita Fantasi Berbasis Power Point Untuk Siswa Smp. *Karangan: Jurnal Bidang Kependidikan, Pembelajaran, Dan Pengembangan*, *3*(2), 73–78. https://doi.org/10.55273/karangan.v3i2.121

Ernanida, E., & Yusra, R. Al. (2019). Media Audio Visual dalam Pembelajaran PAI. *Murabby: Jurnal Pendidikan Islam*, *2*(1), 101–112. https://doi.org/10.15548/mrb.v2i1.333

Farida, C., Destiniar, D., & Fuadiah, N. F. (2022). Pengembangan Media Pembelajaran Berbasis Video Animasi pada Materi Penyajian Data. *Plusminus: Jurnal Pendidikan Matematika*, *2*(1), 53–66. https://doi.org/10.31980/plusminus.v2i1.1521

Fatria, F., & Listari. (2017). Penerapan Media Pembelajaran Google Drive Dalam. *Jurnal Penelitian Bahasa Dan Sastra*, *2*(1), 138–144.

Fida, S., & Setyowati, E. (2019). Pengembangan Media Pembelajaran Video Animasi Tutorial Pada Mata Pelajaran dasar Kecantikan Untuk Meningkatkan Hasil Belajar. *Beauty and Beauty Health Education Journal*, *8*(2), 141–146.

Friantona Nasution, M., & Darwis, U. (2022). Pengembangan Media Pembelajaran Berbasis Komputer Menggunakan Articulate Storyline 3 Pada Siswa Kelas IV Di SD Negeri 068074 Medan Denai. *Edu Global : Jurnal Penelitian Pendidikan*, *01*(01), 45–54.

Kaniyah, Y., Purnamasari, I., & Siswanto, J. (2022). Pengembangan E-Modul Pembelajaran IPA berbasis Problem Based Learning untuk Meningkatkan Kemampuan Literasi Sains Peserta Didik. *Jurnal Kualita Pendidikan*, *3*(2), 101–108. https://doi.org/10.51651/jkp.v3i2.302

Komara, A. L., Pamungkas, A. S., & Dewi, R. S. (2022). Pengembangan Media Pembelajaran Berbasis Video Animasi Kartun Di Sekolah Dasar. Primary: Jurnal Pendidikan Guru Sekolah Dasar, 11 (2), 316. Http://Dx.Doi.Org/10.33578/Jpfkip.V11i2.8585.

Lestari, D., Rahman, E. S., Makassar, U. N., Elektro, P. T., Makassar, U. N., Elektro, P. T., Makassar, U. N., Ajar, B., & Keras, P. (2020). Pengembangan Bahan Ajar Pada Mata Kuliah Perangkat Keras Development of Teaching Materials on Hardware Courses of Ptik Prodi Department of Electronic Engineering Education Faculty of Engineering State University of Makassar. *Jurnal Media Elektrik*, *17*(3), 28–32.

Niswa, A. (2012). Pengembangan Bahan Ajar Mendengarkan Berbasis Video Interaktif Bermedia Flash Kelas VIID SMP Negeri 1 Kedamean. *Jurnal Bahasa Dan Sastra Indonesia Volume*, *1*(1), 1–23.

Nurul Audie. (2019). Peran Media Pembelajaran Meningkatkan Hasil Belajar. *Posiding Seminar Nasional Pendidikan FKIP*, *2*(1), 586–595.

Oktaviani, I., Waspada, I., & Budiwati, N. (2020). Penerapan Media Pembelajaran E- Learning Berbasis Edmodo Pada Pembelajaran Daring Saat Pandemi Covid-19 (Ditinjau Dari Persepsi Siswa). Jurnal Ika Pgsd (Ikatan Alumni Pgsd) Unars, 8(1), 68-78. Https://Doi.Org/10.36841/Pgsdunars.V8i1.584.

Praptaningrum, A. (2020). Penerapan Bahan Ajar Audio Untuk Anak Tunanetra Tingkat Smp Di Indonesia. Jurnal Teknologi Pendidikan: Jurnal Penelitian Dan Pengembangan Pembelajaran, 5(1), 1-19. Https://Doi.Org/10.33394/Jtp.V5i1.2849

Ponza, P. J. R., Jampel, I. N., & Sudarma, I. K. (2018). Pengembangan Media Video Animasi Pada Pembelajaran Siswa Kelas Iv Di Sekolah Dasar. *Jurnal EDUTECH Universitas Pendidikan Ganesha*, *6*(1), 9–19.

Purwadhi, P. (2019). Pembelajaran Inovatif dalam Pembentukan Karakter Siswa. *Mimbar Pendidikan*, *4*(1),21–34. https://doi.org/10.17509/mimbardik.v4i1.16968.

Purwono, J. dkk. (2018). Penggunaan Media Audio-Visual pada Mata Pelajaran Ilmu Pengetahuan Alam di Sekolah Menengah Pertama Negeri 1 Pacitan. *Jurnal Teknologi Pendidikan Dan Pembelajaran*, *2*(2), 127–144.

Samatowa, 2016.Pembelajaran IPA di Sekolah Dasar , Jakarta Barat: PT Indeks

Sugiyono, S., Aunurahman, A., & Astuti, I. (2022). Multimedia Development of Student Discipline Character Training at Police Schools Pontianak State. *Sinkron*, *7*(1), 204–213. https://doi.org/10.33395/sinkron.v7i1.11272.

Wahyuni, R. A. (2020). Meningkatkan Hasil Belajar IPA dengan Menggunakan Model Pembelajaran Predict, Discuss,Explain,Observe, Discuss, Explain (PDEODE). *Prosiding Seminar Nasional Pendidikan, FKIP UNMA 2020*, *2*, 477–486.