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Development of Canva Multimedia-Assisted Interactive Learning Videos in Grade IV Science Lessons in Elementary Schools

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ABSTRACT

Multimedia is very useful in supporting student learning activation, so in today's era there are many learning platform offerings in the form of applications that can be used such as Canva. Product development the Canva multimedia to produce learning videos that can make it easier for teachers to convey concepts in science lessons, especially on the unique material of the habits of the community around me and make it easier for students to understand a material, there is the purpose of this research to be carried out. Development research was chosen as this type of research in analyzing the feasibility of using Canva-assisted learning video products developed, with reference to the design of Thiagarajan and Semmel development models known as 4-D models. The study involved linguists, learning material experts, and learning media experts. The results of the study, namely the validity test of material experts, media experts and linguists, obtained an average percentage of final score of 91.24% with very valid criteria. It can be concluded that the development of learning videos is suitable for use in the learning process, so that the results of its development can contribute to helping teachers in presenting learning that stimulates student learning interest.

Informasi Artikel

Kata Kunci:

Video Pembelajaran Interaktif; Multimedia Canva; Pembelajaran IPAS; Sekolah Dasar

ABSTRAK

Multimedia sangat bermanfaat dalam mendukung pengaktifan belajar siswa, sehingga di era perkembangan teknologi sekarang ini ada banyak penawaran platform pembelajaran berupa aplikasi yang dapat digunakan seperti Canva. Pengembangan produk dengan memanfaatkan platform multimedia Canva agar menghasilkan video pembelajaran yang dapat mempermudah guru menyampaikan konsep-konsep pada pelajaran IPAS terutama pada materi keunikan kebiasaan masyarakat disekitarku serta memudahkan siswa dalam memahami sebuah materi ada tujuan penelitian ini dilaksanakan. Penelitian pengembangan dipilih sebagai jenis penelitian ini dalam menganalisis kelayakan penggunaan produk video pembelajaran berbantuan Canva yang dikembangkan, dengan mengacu pada desain model pengembangan Thiagarajan dan Semmel yang dikenal dengan model 4-D. Studi ini melibatkan ahli bahasa, ahli materi pembelajaran, dan ahli media pembelajaran. Hasil penelitian yaitu uji validitas ahli materi, ahli media dan ahli kebahasaan memperoleh persentase rata-rata skor akhir 91,24% dengan kriteria sangat valid. Dapat ditarik kesimpulan bahwa pengembangan video pembalajaran

layak digunakan dalam proses pembelajaran, sehingga hasil pengembangannya dapat berkonstribusi dalam membantu guru dalam menghadirkan pembelajaran yang menstimulasi minat belajar siswa.

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INTRODUCTION

The curriculum is a learning tool that must be owned by all educational institutions because it serves as a guideline for the implementation of learning. The curriculum consists of lesson plans, teaching materials, and learning experiences that have been prepared previously and used by teachers as a basis for implementing their learning process. In Indonesia, the national curriculum has changed several times. As a result, all educational and learning settings that have been patterned following the previous curriculum system need further adjustments to be in line with educational objectives (Fatmawati & Yusrizal, 2020).

The Merdeka Curriculum is a change or improvement from the 2013 curriculum under the leadership of Mr. Nadiem Anwar Makarim as Minister of Education and Culture and Technology of Higher Education under President Jokowi. The subject that was formerly called Natural Sciences, in the Merdeka Curriculum is merged with the subject of Social Sciences, in short it is called IPAS (Hamna & BK, 2023).

One of the concepts of the Merdeka Curriculum is to encode the way students learn, which allows students to work alone to find the concept of meaningful knowledge while remaining in the assistance of teachers. According to Agustina et al. (2022), This learning objective is oriented towards fostering interest and curiosity, fostering skills to explore and recognize self-posture and environment in order to increase knowledge and understanding as well as skills in the development of science concepts.

But in fact, science learning in some elementary schools tends to have the potential to be boring learning and seems to fantasize students without knowing the meaning of the concepts they learn. This reality is shown by the media used by teachers who focus more on textbooks and transfer all the knowledge that has been learned without considering whether students understand the lesson. This causes students to get bored and the classroom situation gets out of control during the learning process.

Students usually find it easier to remember the material delivered visually, when the teaching base utilizes image and sound animation, let's call it like the use of multimedia rather than focusing on material that is oralist (AlShaikh et al., 2024). To use learning media that is able to stimulate students' active thinking, teachers and students must have media that have special features that help the learning process (Athala et al., 2023).

Considering the problems that have been described, which explain the factual phenomenon of science learning that almost all learning activities in schools experience. With the consideration of these problems, researchers are looking for solutions, namely by developing an interactive learning media by utilizing Canva multimedia that can be accessed freely on the internet platform.

This multimedia development is very important in the learning process and is certainly relevant to the conditions of learning needs today. According to Rofilah & Tsurayya (2021), Multimedia learning is a tool that combines media design with digital technology to make learning easier and attract students' attention, learning needs to be varied in order to form a strong self-motivation to learn to develop students' understanding of science. In addition, Multimedia learning is appropriate, when able to motivate and engage students to participate in creative and active activities and make learning an enjoyable experience. Ultimately, this will result in a better quality of learning and alignment with curriculum expectations (Uzun & Yildirim, 2023).

Multimedia is a development part of the media itself. In its selection for learning purposes should consider the following points. For example, the medium must be appropriate to the subject matter and appropriate to the situation, must be practical and easy to use, and must have an attractive look or content (Matias & Jr., 2022). There are many types of audio-visual media that can improve the quality of learning. This includes audio-visual media integrated in digital technology systems (Frick & Schüler, 2023). Learning videos are one of the types of multimedia-based audio-visual media in question and are needed in learning activities as long as there are supporting devices available (Sayyadi et al., 2024). Where the video format can contain moving images that can be seen with the eye and audio or audible sound (Samad & Setyabudhi, 2023).

Using Canva-based video learning, students can engage more interactively by relying on their senses of sight and hearing to witness firsthand events that cannot be represented in the classroom (Ledentsov et al., 2023). Interestingly, the use of video in learning has previously been studied in several research results, including learning video learning using the Kinemaster application (Fitri & Ardipal, 2021), analysis of the feasibility of learning videos by utilizing the Ruang Guru application (Ichiana et al., 2022), application of learning video media using the Plotagon application (Ailulia et al., 2022), Zepeto application-based animated video learning media (Novianti et al., 2022), including its development utilizing the Bandicam application and Screencast O-Matic (Nubatonis, 2021), Sparkol Videoscribe for teachers of Madrasah Tsanawiyah (Wicaksono et al., 2021), Contextual videos as learning media (Febliza et al., 2021), The effectiveness of the use of video conferencing media (Ekawardhana, 2020), and the use of learning videos on the YouTube platform (Nada & Nuriadin, 2022).

So many alternative video developer applications can be used in helping the learning process as from some previous research analysis results provide conclusions of findings that in essence provide the same conclusion if learning combined with the use of media such as learning videos guarantees student interest in every learning activity. Although this previous research generally supports the need for learning videos in activating students in the classroom, this study also conducted an analysis of the use of multimedia learning which is the basis for making videos using the Canva application. The choice of the Canva application in making learning videos, of course, is different from the basic applications in making learning videos that have been mentioned in several previous studies, such as the Kinemaster application, Ruang Guru, Plotagon, Zepeto, Bandicam, Screencast O-Matic, Sparkol Videoscribe, and various other alternative application default devices.

Referring to the use of the Canva application as a built-in device in making learning videos to support science learning in grade IV elementary school is the focus of this research. The occupation of the use of this application departs from the initial findings from the results of content analysis, the use of various alternative application platforms, fundamental in making IPAS learning videos, it was found that the Canva application is easier and more practical to use for teachers in designing learning videos and also has an attractive display of results so that it is possible according to the characteristics of student learning acceptance in elementary schools. According to Zhao et al. (2024) and Yang & Yang (2023), The ease of using video making applications is a good device in presenting good audio-visual information.

However, there are certain situations where the Canva app cannot be used, although it is very useful and easy to use. Because some important factors that must be considered when using this application are support for learning facilities such as technological devices such as computers or laptops, the internet, and software platforms (Udengwu et al., 2024). Without supporting hardware and software, this application will be difficult to use even though it is interesting to use (Dong et al., 2024; Fu & Mao, 2024). This makes it suitable to be applied in learning situations that allow multimedia to be used as a means to activate students in learning (SainiSaini & BabaBaba, 2024).

As an alternative platform for making learning videos, Canva is a comprehensive design tool that can be used in the world of education and developed in audiovisual learning media (Hasnawati, 2023). Canva belongs to the multimedia category. Mentioned in a previous research, the media in its manufacture based on the use of technological devices is multimedia (Oliveros et al., 2023). Multimedia based on the use of technology will more easily contextualize students' thoughts (Dong et al., 2024).

Multimedia learning with Canva can not only provide convenience and time efficiency for teachers in designing learning media (Rahmawati & Atmojo, 2021), but it can also be a support for teachers in explaining the subject matter to be discussed. Canva also has a variety of tamplates that spark interest for students so that students can innovate when making presentations (Nurhosen et al., 2024).

Some research focuses on canva-assisted learning media for only one social studies or science material, while the Merdeka Curriculum has applied a combination of science and social studies subjects in science learning. In addition, IPAS learning aims to develop students' curiosity, so that students play an active role, and explore the surrounding environment. Therefore, the development of canva-assisted learning videos was carried out in the science lesson material "My Indonesia is Rich in Culture", and discussed the unique habits of the people around the city of Langsa. With this research, it is expected to obtain innovative learning media used by teachers to make it easier for students to understand and play an active role in learning in elementary schools.

This research recommendation, makes Canva multimedia as one of the learning platforms that ensure the efficiency of its users. There are many choices of learning media that can be used to teach natural science material, but the Canva platform offers easy access, making it the right alternative learning media to teach science concepts. The efficiency of its use is due to not having to use very expensive computer devices in using Canva software that can be used freely for student science education purposes. Z. Zhang et al. (2024) and Ongor & Uslusoy (2023), media design software that can be used freely to teach learning materials to students, does not require very expensive computer devices, which makes it very efficient to use is multimedia that needs to be recommended for use to teachers.

METHOD

The research method focuses on the Thiagarajan R&D implementation flow based on 4D define, design, develop, and disseminate (Kurniawan & Dewi, 2017; Surbakti et al., 2022) in order to produce product development innovations in the form of Canva-assisted learning videos and the concept flow is easy to apply in generating and testing the validity of product development innovations.

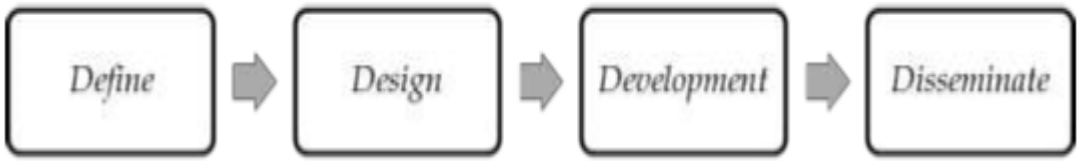

Figure 1. 4D R&D Model Steps (Sutarti & Irawan, 2017)

The product development process in this study is depicted in Figure 1. This process is carried out thoroughly through the following mechanisms: (1) Define , containing the activity of determining the initial analysis of product needs to be developed and specifications. At this point, needs are analyzed through initial research and literature research; (2) Design , The results of the needs analysis carried out in the previous stage are used to create the initial idea of product design that has been determined at this stage; (3) Development , The results of the initial design of the product design concept, product feasibility testing, or product validity, to create more reliable product innovations in accordance with established specifications; and (4) Dissemination , containing strategies

for disseminating validated products for use by others, one of which relies on the YouTube platform in its dissemination. The choice of Youtube as a product dissemination medium because it facilitates uploading products in the form of videos.

The required research activities are then carried out data collection using non-test methods by utilizing questionnaire instruments provided to validators individually according to their fields to validate products based on language and material substance. The following are the results of the material expert validation assessment indicators and media expert validation.

Table 1. Material Expert Validation Indicators

Assessment Indicators	Assessment Items
Suitability of learning materials	1. Suitability of material on the media with books or teaching modules 2. Compatibility between material and learning objectives 3. Material contains Pancasila Student Profile
Accuracy of the material	4. The material is presented clearly or unambiguously 5. Matter is concrete 6. Simple Material
Presentation of learning	7. The presentation of the material is interactive 8. The presentation of the material is participatory 9. Presentation of material according to student characteristics

Table 2. Language Use Validation Indicators

Assessment Indicators	Assessment Items
Straightforwardness	1. Accuracy of the sentence structure 2. Simple word selection 3. Sentence selection according to student characteristics
Communicative	4. The language used is easy for students to understand 5. Sentences contain information according to the material 6. Use polite language
Compliance with Indonesian rules	7. Using good and correct Indonesian 8. Use words and sentences according to PUEBI rules
Use of terms, symbols, and icons	9. Consistent in the use of terms, symbols and icons in the media.

Quantitative descriptive analysis is used to analyze the results of questionnaires that have been assessed by language and material validators with responsibility analysis for individuals involved in product trials. The test results are tabulated in the form of quantitative data (percentages). Table 3 shows how test data are interpreted to determine the relevance of products for use as a basis for decision making.

Table 3. Achievement Levels Conversion on Scale of Five Information Categories

Achievement Levels (%)	Qualification	Information
1-54	Very Unworthy	Repeated make the product
55-64	Less Decent	Many things were revised
65-79	Pretty Decent	Revised to taste
75-89	Proper	Slight revision
90-100	Very Worth It	No revision required

Descriptive statistics are used with the formula Percentage Average Score (PAS) to analyze the data obtained from testing instruments to determine the meaningfulness of the analysis numbers to assess the feasibility of the products developed in this article.

RESULTS AND DISCUSSION

A. Result

This development research produces learning video products for science lessons Chapter 6 "Indonesiaku Kaya Budaya" and Topic 6 "Keunikan Kebiasaan Masyarakat Disekitarku". The development of learning videos is developed using 4D models. This R&D concept in this study is effective in testing the feasibility of the product. Ariani (2020) stated in his testimony contained in the results of his research that produced learning videos that 4D-based R&D research has proven effective in helping to produce video products that are valid and can be used in the learning process.

The define stage, this initial definition is carried out to establish and define learning requirements, starting with analyzing the curriculum. The purpose of this analysis is to find out the learning objectives and scope of the material to be studied so that ideas are found to develop the right video for science material Chapter 6 "My Indonesia is Rich in Culture" on Topic 6 "The Uniqueness of the Habits of the Community around Me" in IPAS learning. Although this multimedia is focused on science learning for the material "Indonesia Karya Budaya", it does not mean that this media cannot be combined with other science materials as long as the development pays attention to the concept of students' thinking skills at the learning class level.

At the design stage, a product design is made. At this stage, making learning videos is adjusted to the content framework of curriculum analysis results, materials, and learning objectives. The learning videos that will be developed are designed through the Canva application. In this Canva application, researchers choose objects, icons and images that match the material. In the Canva application there are also several templates that can be used by everyone, besides that we can change the template or design it ourselves from scratch to become a design that we want. After being designed, this video will be voiced through the capcut application. The sound produced from the capcut application can be changed according to needs and desires.

Figure 1. Initial View of Canva-Assisted Learning Videos

At the development stage, i.e. in the product manufacturing stage after going through various revisions, the end result is teaching materials in learning videos. Validity testing serves to test the feasibility of videos developed through substantial tests by experts and practitioners, then revised according to corrective input provided. The learning video that has been developed has only been declared valid after going through two substantial revisions including language and material analysis.

Table 4. Expert Validation Results

Validation Stage	Expert validator	Scored Validation	Score Maximum	PAS	Criterion Kevalidan
First Step	Material	23	36	63,89%	Low Validation
	Media	39	52	75,00%	Valid
	Language	24	36	66,67%	Low Validation
Average first stage validation score				**68,52%**	**Low Validation**
Second Step	Material	33	36	91,67%	Very Valid
	Media	47	52	90,38%	Very Valid
	Language	33	36	91,67%	Very Valid
Average second stage validation score				**91,24%**	**Very Valid**

Table 4 data shows the results of the first stage of validation tests from material experts, media experts, and linguists. Invalid criteria received an average score percentage of 68.67%. This result must be corrected with a material validation percentage of 63.89%, a media validation percentage of 75.00%, and a language validation percentage of 66.67%. These results indicate that the product is invalid due to insufficient indicators.

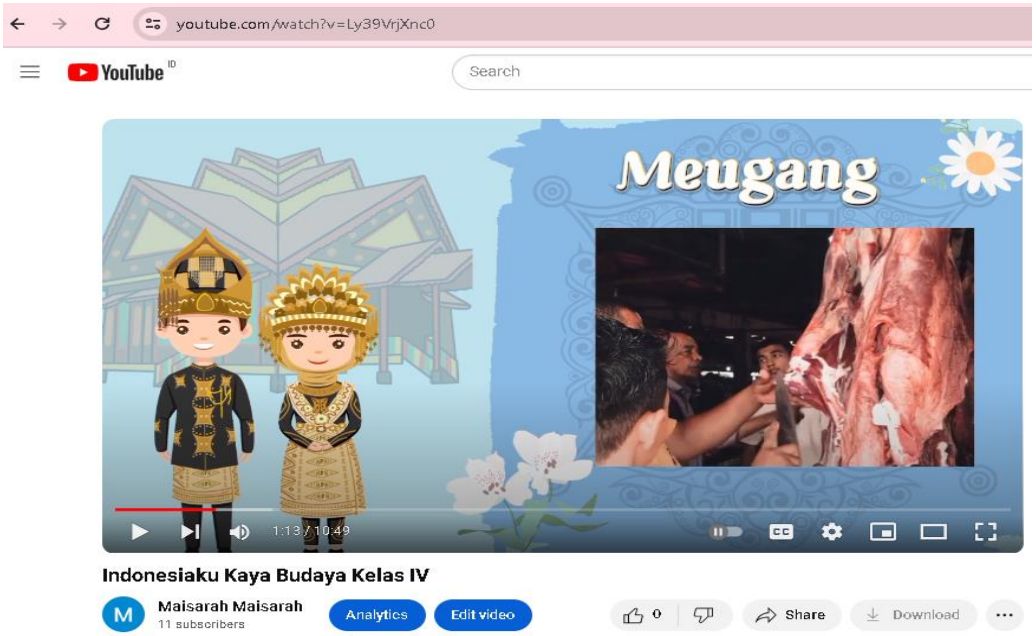

Figure 2. Learning Video Footage disseminated through Youtube Channel (https://www.youtube.com/watch?v=Ly39VrjXnc0)

In the second stage, the product obtained an average score of 91.24% after revision, which shows that the product is very valid and can be used without revision. The percentage of material validation was 90.38%, the percentage of media validation, and the percentage of language validation each reached 91.67%. If this product is considered valid by experts and can be used in the learning process, then this product will enter the last stage in product development. As the final step in the development process, the dissemination stage is used to promote the development product to be acceptable to the end user, which can be an individual, group, or system. Products are distributed through YouTube.

B. Discussion

The national curriculum has changed many times. As a result, all educational and learning programs structured on the basis of the previous curriculum system must be further adapted to align with educational objectives (BK & Hamna, 2023; Nalbantoğlu & Bümen, 2024). These adjustments include adapting systems to the use of technological devices in learning, such as the use of interactive learning videos (Weisberg & Dawson, 2024). In the context of its development, learning videos in this study are qualified based on the results of research analysis.

The validity of the product produced through several validities carried out by validators or expert experts, with several indicators of testing criteria such as the suitability of the media to the material, the suitability of the media to the learning objectives, the video presented is clear, the material is interactive, the presentation of the material according to the needs of students, simple word selection. The language used is easy to understand and others. Video development must be tailored to the content of the material, learning objectives, and content to be clear and consistent. To help students

understand the concept of the material, appropriate assessment techniques should also be included in the video content (Hamna & BK, 2022; Mahmudi et al., 2023).

Validity in product development is carried out in two stages, because at the initial stage it is stated to be lacking and must be revised in order to produce a valid product and in accordance with predetermined provisions. At the second stage, only then the developed product is declared very valid. The end result of developing this video is valid and can be used in the learning process. Mentioned by J. Zhang et al. (2020), Products that have been tested to be effective, suitable for use, so it can be concluded that the development of learning videos is feasible to be used in the learning process.

The findings that show the effectiveness of Canva's integrated media design in science teaching that were previously tested have been informed through a table of expert validator assessment validation results based on two stages of testing with the achievement of indicators for material validation in stage I (less valid) and valid in the second test (very valid). Likewise, the validity for the media function indicator developed at the beginning of the category test has actually been valid and increasingly valid during the second stage of testing. From the validity indicator in the first stage of testing (less valid) and after follow-up the location of the problem so that in the second test it was judged to be very valid. According to Nathi et al. (2023), instrument testing needs to be done repeatedly in order to find the effectiveness of its use, as well as in designing a learning media platform. In the same view as stated by Li et al. (2023) If testing the effectiveness of a designed media is not enough to test once in finding out the quality of the media developed.

CONCLUSIONS

The existence of learning media is very helpful for teachers in delivering material in the learning process, because the role of learning media is as a bridge of communication between teachers and students. Thus, actually learning media also needs to be used during the learning process in the classroom. The validity testing process assesses the validity of a learning video after it has been thoroughly tested by experts and practitioners. After two thorough revisions, including analysis of language and material, the video was declared valid. Media development in the form of learning videos in this study is a media that is suitable for use in the learning process. The feasibility of this learning video is based on validity tests conducted by several experts such as material experts, media experts, and linguists. In addition, the validity test in this study was carried out in two stages to produce products that are suitable for use in the learning process. The results of the test assessment confirm that the Canva media developed is interesting for use by teachers and in accordance with the character of student learning acceptance because it is practical, easy to use, has an attractive vidual display, and does not require expensive digital information technology devices. With his knowledge, the effectiveness of the results of this multimedia design can then be used as an alternative recommendation for teaching media design platforms for science teaching teachers. Although the results of the media design analysis are limited to integrating it in science

material as focused in this study, it is desirable for further researchers to be able to conduct multimedia development analysis with the Canva platform which may be able to produce more interesting media product development.

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