

Pengembangan Media Pembelajaran Interaktif Berbasis *Canva* untuk Meningkatkan Hasil Belajar Peserta Didik pada Pembelajaran IPA Kelas VI SD Negeri Gumilir 05

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ABSTRACT

The development of interactive learning media is a factor that can influence student learning outcomes. This research aims to analyze the effect of developing interactive learning media on student learning outcomes. This research is a Research and Development (RnD) type study aimed at developing and producing a product. The development of this research refers to the 4-D model (Define, Design, Development, and Dissemination) developed by Thiagarajan, which was conducted at SD Negeri Gumilir 05, North Cilacap District, Cilacap Regency. The research population consisted of sixth-grade students at SD Negeri Gumilir 05, with a research sample of 6 students (3 students from class VI A and 3 students from class VI B). Class VI A with 23 students served as the experimental class, while class VI B with 25 students served as the control class. Data collection techniques included observation, documentation, and questionnaires. Prerequisite tests were conducted before hypothesis testing, consisting of normality tests, homogeneity tests, and independent T-tests. The research results obtained from the t-test and simple linear regression analysis showed that the development of Canva-based interactive learning media had a 5% effect on the science learning outcomes of Class VI students at SD Negeri Gumilir 05.

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1. INTRODUCTION

Technology is a tool produced from human culture, based on innovations made to facilitate community activities. Technology has many benefits for humans. Life skills that need to be prepared to face the 21st century include three aspects: basic literacy, competence, and character. Education is a conscious and planned effort to create individuals with character. The learning process is implemented to help students develop their potential, skills, spiritual attitudes, intelligence, self-control, noble character, self-confidence, responsibility, and skills that benefit themselves, religion, society, nation, and state.

Law Number 20 of 2003 concerning the National Education System states that the curriculum is a set of plans and arrangements regarding objectives, content, and learning materials, as well as methods used as guidelines for organizing learning activities to achieve certain educational goals ¹. Based on this definition, there

¹ UU No. 20 Tahun 2003 tentang Sistem Pendidikan Nasional.

are two curriculum dimensions: first, the plans and arrangements regarding objectives, content, and learning materials; and second, the methods used for learning activities.

The preliminary study was conducted through observation and interviews with sixth-grade teachers regarding the learning media used in their classes. Teaching and Learning Activities (KBM) in the sixth grade already use learning media, but only in certain subjects. The analysis of the media revealed several weaknesses, including: (1) The learning media is classical or applies to one class; (2) The media used is only in the form of PowerPoint; (3) The learning media only includes text and images; (4) The learning media used by teachers does not involve students. Although learning already uses learning media, the teacher has not been able to increase learning achievement and student enthusiasm in receiving learning materials. Some students get less than optimal results, so the teacher needs to provide remedial learning.

The results of observations show that the learning media used at SD Negeri Gumilir 05 to deliver learning materials is not in accordance with existing standards. In 21st-century learning, teachers must apply TPACK (Technological, Pedagogical, Content Knowledge), HOTS (Higher Order Thinking Skills), and 6C (Critical Thinking, Communication, Collaboration, Creativity and Innovation, Character, Citizenship) to students, so the media used by teachers has shifted from printed image media to technology-based media². Based on the analysis of the available learning media needs, development is needed to attract and increase student enthusiasm in participating in teaching and learning activities.

Based on the above explanation and the results of previous research, it can be concluded that media development needs to be done so that media products have a better effect on achieving learning objectives. The learning media developed is Canva-based media. This media is expected to increase student interest in participating in teaching and learning activities and hone students' critical thinking skills³. Canva learning media is one of the learning media deliberately created to package learning. The use of Canva as a learning medium directly involves students, so students will be actively involved in learning⁴. The developed learning media is in the form of e-learning media with computer devices used classically. The learning media packages learning by utilizing the Canva application in the form of interactive audiovisual multimedia. Therefore, the researcher wanted to conduct research with the title "Development of Canva-Based Interactive Learning Media to Improve Learning Outcomes in Science Education for Grade VI Students at SD Negeri Gumilir 05 Cilacap".

2. METHOD OF THE RESEARCH

This research is a development or Research and Development (RnD) study that aims to develop and produce a product. The development carried out in this research is the development of learning media using the Canva application. According to Sugiyono, development research is a method for developing and producing certain products which are then tested for the effectiveness of the products produced⁵. The development of this research refers to the model developed by Thiagarajan, namely the 4-D model (Define, Design, Development, and Dissemination). The steps of the 4-D model development research are illustrated as follows:



Figure 1 The 4-D Model

This research was conducted at SD Negeri Gumilir 05, which has 2 groups in class VI, namely classes VI A and B. The number of students in class VI A is 23 students, while in class VI B there are 25 students. The subjects to be studied are the entire sixth grade. In the limited test (small group), the sample consisted of 6 students, namely 3 students from class A and 3 students from class B, selected randomly. According to Darmawan, Random Sampling is sampling that gives the same opportunity to the population to be sampled, because each student has the same characteristics (homogeneous)⁶. Meanwhile, for the field test (large group), the subjects used in the control class were all 23 students in class VI A, and the experimental class were all 25

² Akrim, "Media Learning in Digital Era," Int. J., vol. 231, 2018.

³ M. M. Moto, "Pengaruh Penggunaan Media Pembelajaran dalam Dunia Pendidikan," vol. 3, no. 1, 2019.

⁴ R. E. Tanjung and D. Faiza, "Canva Sebagai Media Pembelajaran Pada Mata Pelajaran Dasar Listrik Dan Elektronika," J. Educ. Learn., vol. 7, no. 2, 2019.

⁵ Sugiyono, "Metode Penelitian dan Pengembangan," Bandung: Alfabeta, 2016.

⁶ Darmawan, "Metode Penelitian Kuantitatif," Bandung: Remaja Rosdakarya, 2014.

students in class VI B. The research time was in the even semester of the 2023/2024 Academic Year from April to June 2024.

Data collection techniques carried out by researchers in this study were through observation, questionnaires, tests, and documentation. The researcher conducted validity and reliability tests before the instrument was given to the sample class. Normality and homogeneity tests were carried out after the validity and reliability tests of the instrument had established the validity and reliability of the instrument. Next, a linearity test was performed to show the linear relationship between research variables. The data analysis technique used t-test and simple linear regression analysis. The t-test is needed to determine the difference in the mean of the two sample groups. The two sample groups referred to are the experimental class and the control class. The t-test carried out was in the form of a paired sample t-test and an independent sample t-test. Simple linear regression analysis aims to determine how much influence the independent variable has on the dependent variable. The simple linear regression equation is a model equation that shows the correlation of one independent variable/predictor (Canva-Based Learning Media) with one dependent variable/response (student learning outcomes).

3. RESULT AND DISCUSSION

3.1 Development of Canva-Based Interactive Learning Media

The development in this research was carried out according to the model developed by Thiagarajan, namely the 4-D model (Define, Design, Development, and Dissemination). The steps are as follows:

3.1.1 Define Stage

At the defining stage, there are five stages: front-end analysis, learner analysis, task analysis, concept analysis, and specifying instructional objectives.

1) Front-End Analysis

What is done in this front-end analysis is to find out what problems are faced in the learning process. The results of the analysis at this stage show that learning outcomes are less than optimal. The lack of teacher innovation in learning is one of them developing learning media used for teaching and learning processes.

This makes learning one-way, students become passive, and students have difficulty understanding the subject matter and the assignments given. This happens because students are bored with just reading books without any visual explanations in the form of pictures, videos, or sounds.

So with these problems, solutions are sought to overcome them. The right solution is the need to deliver material using interactive learning media that can be used anywhere and anytime and can be accessed online. This is done to maximize the learning process so that the material can be delivered in its entirety and increase learning outcomes.

In other words, there is a need to develop learning media that can be accessed online, anywhere, and anytime. The application that can be used to create online learning media is Canva. The Canva application can be published and accessed via the web, html5/link, and android applications.

2) Learner Analysis

This student analysis stage is carried out to obtain information about student characteristics in accordance with the design of learning device development, namely using the Canva application. The research subjects used were sixth grade students, who still need visual and concrete material delivery. In the Canva application, there are images, colors, animations, videos, and sounds that can directly support the visualization of the material.

Therefore, using the Canva application to develop learning media is considered appropriate and easy to create. This is because almost all teachers are familiar with the Canva application and find it easy to use to create interactive learning media with publication results in the form of web, html5/link, and android applications.

3) Concept Analysis

The concept analysis stage is carried out to identify the main concepts that will be conveyed in the material and arranged systematically. This is to find out what materials will be conveyed in the developed learning media. Material about the Solar System for Science subjects. The results of the concept analysis carried out obtained a concept map as follows:



Figure 2 The Concept Maps „Solar System“

4) Task Analysis

The task analysis stage is carried out to design what content or material will be conveyed in the learning media. The specified material is Theme 9 about the Solar System. The competencies contained in the Solar System material are as follows:

Table 1. Basic Competencies and Indicators of Theme 9 - Solar System

Basic Competencies	Indicators
Natural Sciences	
3.7 Explain the solar system and the characteristics of the members of the solar system	3.7.1 Analyze the characteristics of the solar system with great curiosity.

5) Specifying Instructional Objectives

This stage aims to formulate learning objectives based on the basic competencies and indicators to be achieved. Through Canva-based interactive learning media, students can analyze the characteristics of the solar system with great curiosity.

3.1.2 Design Stage

1) Preparation of Tests

This stage is carried out by researchers to compile instruments used as measuring tools to determine the achievements being studied. The results of these achievements are used to determine the feasibility and effectiveness of the Canva-based learning media created. Through the instruments distributed to students, it will be seen whether using Canva-based interactive learning media can improve student learning outcomes. Previous studies have shown that interactive media for elementary school learning can effectively support student self-learning ⁷

2) Media Selection

The media selection stage is carried out to identify student needs and determine what media is appropriate and in accordance with the characteristics of the learning material. In this study, the material developed in this learning device is material about theme 9 Solar System. This media is expected to help students understand the Solar System and the concepts in it. With the selection of this media, it is hoped that the products produced will be appropriate, precise, and relevant.

3) Format Selection

The selection of learning formats used in this study includes what content is in the learning media as follows:

⁷ S. H. Anwariningsih and S. Ernawati, "Development of interactive media for ICT learning at elementary school based on student self learning," J. Educ. Learn., vol. 7, no. 2, pp. 121-128, 2013.

Table 2. Learning Media Format/Content

No	Content Name	Description
1.	Start	This content contains filling in the title page and start button
2.	Menu	This content contains what menus are in the media
3.	Profile	This content contains information about the developer profile
4.	Material	This content contains learning material theme 9 about Exploring Outer Space, Solar System material
5.	Games	This content contains games on solar system questions
6.	Learning Videos	This content contains 6 links that connect directly to YouTube
7.	Evaluation	This content is a learning evaluation that is connected to Google Form to assess whether the learning objectives have been achieved

4) Initial Draft

The main activity in the initial design stage is the preparation of learning tools, such as the Learning Implementation Plan (RPP) and the design of learning media. The RPP is made for the implementation of learning so that it is more directed and the design of learning media is as follows:

a. Start



This page is the page where students open the application to Start

b. Menu



c. Developer Profile



This page contains information from the learning media developer.

d. Learning Material



This page contains learning material that will be studied by students during learning using Canva learning media

e. Learning Videos



The Learning Videos page contains links that connect to YouTube.

f. Games



g. Evaluation



3.1.3 Development Stage

This development stage aims to determine the development carried out. At this development stage, the researcher makes stage 1 learning media before revision. After that, the stage 1 learning media is assessed by media experts and learning material experts.

3.1.4 Dissemination Stage

The dissemination stage is the final stage in this development, namely the dissemination/publication of the Canva learning media that has been created by the researcher. The dissemination/publication of the results of the development of this Canva learning media is published to all sixth-grade students, sixth-grade teachers, and can be accessed on the SD Negeri Gumilir 05 website.

3.2 Feasibility of Canva-Based Interactive Learning Media

The feasibility of Canva learning media is obtained from calculating the results of validation by media experts and learning material experts. The feasibility of this product is carried out before the Canva learning media is tested directly on students. The validation results data are as follows:

3.2.1 Media Expert Validation

Media expert validation was carried out twice, namely before and after improvements. The media expert validator is Mr. Agus Riyadi, M. Kom. The validation results showed that in the first assessment, the media received a score of 77.5 with a "Good" category, and in the second assessment after revisions, it received a score of 94 with a "Very Good" category.

3.2.2 Learning Material Expert Validation

The validation of learning material experts was carried out by Mrs. Ani Kuspriyatmi, S.Pd.SD as the Principal of SD Gumilir 05. The validation results showed that the learning material received a score of 97 with a "Very Good" category. The comment given was that the media created is good and suitable for online learning, because learning is via mobile phones, so this media is suitable for use.

Table 3. Results of Media Expert and Learning Material Expert Validation

No	Validator	Score	Category
1	Media Expert	94	Very Good
2	Learning Material Expert	97	Very Good
Sum		191	
Average		95.5	Very Good

3.3 Teacher and Student Responses

3.3.1 Teacher Response

The assessment was carried out by the teacher of class VI B who was then given a questionnaire to assess the teacher's response to the Canva learning media to support online learning on theme 9 about the Solar System. The teacher's response resulted in a score of 92.5 with a "Very Good" category.

3.3.2 Student Responses

The assessment was carried out after the learning process was completed. Students were given a questionnaire to evaluate the use of Canva learning media to support learning. The control class student response obtained a value of 64.04 with a "Good" category, and the experimental class student response obtained a value of 89.16 with a "Very Good" category.

The assessment of learning media effectiveness needs to consider both concept understanding and student learning activity⁸, therefore both teacher and student responses were measured

3.4 Effectiveness of Canva-Based Interactive Learning Media

In this study, there are three prerequisite tests, namely the normality test, homogeneity test, and t-test. The results of this test are a requirement to conduct research hypothesis testing.

3.4.1 Normality Test

The normality test results were calculated using SPSS 20.0. The results showed that the significance value was $0.200 > 0.05$, which means that the data is normally distributed.

3.4.2 Homogeneity Test

After the normality test, a homogeneity test was carried out. The results showed that the significance value was $0.056 > 0.05$, which means that the control and experimental class data have the same/homogeneous variance.

3.4.3 T-Test

After the normality and homogeneity tests, it can be concluded that the data from both the control and experimental classes are normally distributed and homogeneous. Next, hypothesis testing was carried out using the independent t-test. The results showed that the 2-way significance value (t-tailed) was $0.000 < 0.05$, which means there is a difference, so H_0 is accepted. This research hypothesis states that student learning outcomes using interactive learning media are more visible and different than student learning outcomes when learning does not use interactive learning media.

Previous research has shown that inquiry learning models with appropriate strategies can significantly improve science process skills and learning outcomes⁹, which aligns with the findings of this study.

4. CONCLUSION

The product in this research is Canva-based interactive learning media to improve student learning outcomes on theme 9 Solar System material for sixth-grade students at SD Negeri Gumilir 05 Cilacap. Based on the results and discussion, the following conclusions are obtained:

- The product in this study has been developed with reference to the research model developed by Thiagarajan, namely the 4-D model (Define, Design, Development, and Dissemination). The product was made with the help of the Canva application.
- The results of the media expert validation showed an average total score of 94 with a "Very Good" category, while the assessment from the learning material expert was 97 with a "Very Good" category. Based on the calculations, the final result of the expert validation assessment is 95.5, which falls into the "Very Good" criteria.

⁸ F. Arifin and T. Herman, "Pengaruh Pembelajaran E-Learning Model Web Centric Course Terhadap Pemahaman Konsep dan Keaktifan Belajar Matematika Peserta didik," J. Pendidik. Mat., vol. 12, no. 2, pp. 1-12, 2018.

⁹ Y. Jiwandjaya, L. Lisdiana, and A. Yuniastuti, "Analysis of Science Process Skills and Learning Outcomes In Inquiry Learning Model With Mini Research Strategy to Support Pharmacy Science in Vocational High Schools," J. Innov. Sci. Educ., vol. 9, no. 1, pp. 109-117, 2020.

- c. The results of the teacher response questionnaire are 92.5 with a "Very Good" category. Based on this assessment, the Canva learning media for improving student learning outcomes on theme 9 Exploring Outer Space material for sixth-grade students at SD Negeri Gumilir 05 is feasible and can be used during learning.
- d. The results of the student response questionnaire for the control class obtained a value of 64.04 with a "Good" category, while the student response for the experimental class obtained a value of 89.16 with a "Very Good" category. From the data obtained, it can be concluded that interactive media helps learning more. This makes it easier for students to understand the material, not get bored, learn on their own initiative, make learning fun, and improve student learning outcomes.
- e. The results of calculating the effectiveness of this research were taken from the normality test, homogeneity test, and t-test. The result is that the data is normally distributed, has homogeneous variance, and there is a significant difference between the control class and the experimental class. Therefore, it can be concluded that Canva-based interactive learning media affects the science learning outcomes of sixth-grade students at SD Negeri Gumilir 05 by 5%.

The implementation of effective learning media is crucial for science education at the elementary school level¹⁰, as demonstrated by the positive effects of Canva-based interactive learning media on student learning outcomes.

REFERENCES

- UU No. 20 Tahun 2003 tentang Sistem Pendidikan Nasional.
- Akrim, "Media Learning in Digital Era," Int. J., vol. 231, 2018.
- M. M. Moto, "Pengaruh Penggunaan Media Pembelajaran dalam Dunia Pendidikan," vol. 3, no. 1, 2019.
- R. E. Tanjung and D. Faiza, "Canva Sebagai Media Pembelajaran Pada Mata Pelajaran Dasar Listrik Dan Elektronika," J. Educ. Learn., vol. 7, no. 2, 2019.
- Sugiyono, "Metode Penelitian dan Pengembangan," Bandung: Alfabeta, 2016.
- Darmawan, "Metode Penelitian Kuantitatif," Bandung: Remaja Rosdakarya, 2014.
- S. H. Anwariningsih and S. Ernawati, "Development of interactive media for ICT learning at elementary school based on student self learning," J. Educ. Learn., vol. 7, no. 2, pp. 121-128, 2013.
- F. Arifin and T. Herman, "Pengaruh Pembelajaran E-Learning Model Web Centric Course Terhadap Pemahaman Konsep dan Keaktifan Belajar Matematika Peserta didik," J. Pendidik. Mat., vol. 12, no. 2, pp. 1-12, 2018.
- Y. Jiwanjaya, L. Lisdiana, and A. Yuniastuti, "Analysis of Science Process Skills and Learning Outcomes In Inquiry Learning Model With Mini Research Strategy to Support Pharmacy Science in Vocational High Schools," J. Innov. Sci. Educ., vol. 9, no. 1, pp. 109-117, 2020.
- Hisbullah et al., "Pembelajaran Ilmu Pengetahuan Alam Di Sekolah Dasar," Makasar: Aksara Timur, 2018.

¹⁰ Hisbullah et al., "Pembelajaran Ilmu Pengetahuan Alam Di Sekolah Dasar," Makasar: Aksara Timur, 2018.