

# Effectiveness of Using Canva-Based Learning Media on Physics Education

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**Abstract:** This study aims to find out how effective learning is using Canva application-based learning media. This research is a research and development (R&D). Actually, there are ten stages of development, but in this study, the researcher only limited three stages in the development of Canva media, namely the planning stage, the development stage, and the trial stage. The test subjects in this study are students of Physics Education at Cenderawasih University. The data collection technique used in this study is in the form of a questionnaire or questionnaire in the form of a checklist. The data collected is in the form of quantitative data and qualitative data that is formed by words. The data analysis technique used in this study is descriptive. Based on the data analysis that has been carried out, students have responded well to the use of the Canva application. In this study, the researcher used 2 indicators in general, namely the effectiveness of learning and the learning process. The results of the analysis obtained were the percentage score for learning effectiveness of 79.46% in the good category, while for the presentation learning process obtained was 80.71 and in the good category. From the results of the analysis mentioned above, it can be said that the use of Canva-based learning media is good or effective in learning physics at Cenderawasih University.

**Keywords:** Canva; Learning effectiveness; Learning media; Physics education; Student learning motivation

## Introduction

The development of digital technology currently has a significant impact on the world of education, especially in terms of presenting learning materials that are interesting, interactive, and easy to understand by students (Mayer, 2021). One form of technological innovation in learning is the use of Canva-based media, an online graphic design platform that allows users to create presentations, infographics, and learning videos with attractive and communicative visual displays (Suparman, 2020). In the context of physics education, which is known as one of the courses that requires an understanding of abstract and complex concepts, the use of learning media that can simplify concepts through visual displays is very important (Prasetyo, 2021). Physics education students are required not only to understand the theory, but also to have pedagogical

skills and creativity in delivering material when they become teachers later (Puspita, 2022). However, in reality, physics learning in many universities, including Cenderawasih University, still predominantly uses conventional methods such as lectures and static presentation media, which tend to be boring and less motivating for students. (Widodo, 2020). This has the potential to reduce student learning outcomes and interest in deepening the lecture material. (Yuliana, 2021).

Many physics courses in universities still use lectures or static presentations (PowerPoint) without dynamic visual interaction. This often leaves students bored, unmotivated, and struggling to grasp abstract physics concepts. Physics requires visual representations to aid students' understanding of topics such as temperature, heat, energy, and waves. Conventional media generally fail to present

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information with interactive and easily digestible visual illustrations (Arsyad, 2019). Physics Education students need to master the skills of creating creative learning media (Daryanto, 2017). However, many are not yet trained to independently create engaging and educational modules, infographics, or presentations. In the modern educational era, integrating technology like Canva is crucial for increasing the appeal of the material, enhancing student engagement, and improving overall learning effectiveness (Setiani et al., 2024).

Based on the results of initial observations carried out within the Physics Education Study Program, Cenderawasih University, several specific problems were found that are the focus of this research, including Physics is a field of science that contains many abstract concepts, mathematical formulas, and phenomena that are difficult to observe directly. Canva-based learning media allows for the presentation of physics materials in the form of attractive visuals, infographics, illustrations, and simple animations, helping students understand physics concepts more concretely and systematically. Learning in higher education, especially in the Physics Education Study Program, is still dominated by lecture methods and the use of conventional media such as static slides. This condition has the potential to reduce student interest and involvement in the learning process. Therefore, innovative learning media based on digital technology is needed, one of which is Canva, to improve the quality and effectiveness of learning; Canva is an easy-to-use, flexible, and free-to-access digital design platform. Faculty and students can take advantage of Canva without the need for complex design skills. This makes Canva a potential learning medium that is practical and efficient, so it is necessary to study its effectiveness in the context of physics learning.

Canva-based media offers advantages in visualization and interactivity, which can increase student attention and understanding of abstract material (Paden, 2025). Another issue identified was students experiencing difficulty understanding physics material. Physics is known as a subject that contains many abstract and mathematical concepts. Interviews with several students revealed that they struggled to understand concepts such as motion, temperature, heat, and energy because the material was presented solely in text or formulas, without adequate visual (Zahra, 2025). Interactive media plays a crucial role in enhancing students' conceptual understanding of science material, particularly the abstract nature of physics. As prospective physics teachers, students should be equipped with the skills to develop innovative learning media. However, an analysis of assignment documents for the learning media course revealed that most students created conventional modules or presentations without considering visual, interactive, or aesthetic

aspects (Puspita, 2022). Observations of student attendance and discussion participation indicated that students were less active in responding to lecturers' questions or engaging in discussions during the lesson. This is thought to be due to the media and learning strategies not stimulating their active engagement (Prasetyo, 2021).

One of the solutions offered to the above problems is the Development of Interactive Physics Learning Media Based on Canva. Setiani (2022) developed interactive learning media for temperature and heat materials using the ADDIE model. The validation results showed a media feasibility of 85%, and an increase in conceptual understanding with high N gain. There is also research conducted by Sarnia et al. (2024) applying a nonequivalent control group design to high school students. An increase in interest in learning physics was found: the average posttest score of the experimental class (Canva) was 119.0 vs. the control 107.9—showing a significant effect. Research by Goe (2025) at MAN 1 Pohuwato examined Canva-based media for geography materials, but the methodology and findings were similar—the experimental class showed a score of 90.7 vs. 69.4 in the control, which conclusively supports the effectiveness of interactive visual media. Endaryono (2023) conducted training on the use of Canva for teachers in managing learning through an LMS, enabling them to independently create Canva-based digital teaching media. Triningsih (2021) implemented a project-based approach in a critical text course using Canva, which successfully improved the ability to compose texts with more communicative visuals. Meylinda (2024) applied the Problem Based Learning (PBL) model with Canva-based animation media in the parabolic motion material. The results showed a significant improvement in students' physics learning outcomes. Gravitas (2025) reported the development of physics learning videos (atoms, the periodic table) using Canva. This medium proved effective in improving academic achievement and student engagement. Fatria (2023) concluded that most students agreed that Canva was an innovative learning medium that was not only visually appealing but also increased creativity and motivation. Arcana (2021) found that Canva was able to improve learning interest in elementary school science courses due to its ease of use, relevance, and aesthetically pleasing templates.

Higher education, particularly at Cenderawasih University, is still very limited or unavailable. Several specific gaps have been identified, for example: The majority of previous research was conducted at the elementary, middle, and high school levels (Anggelia et al., 2025; Binongko, 2023) while the need for innovative learning media is even more pressing at the tertiary level, especially for prospective teacher students (Meylinda et al., 2024). Research examining the ability or

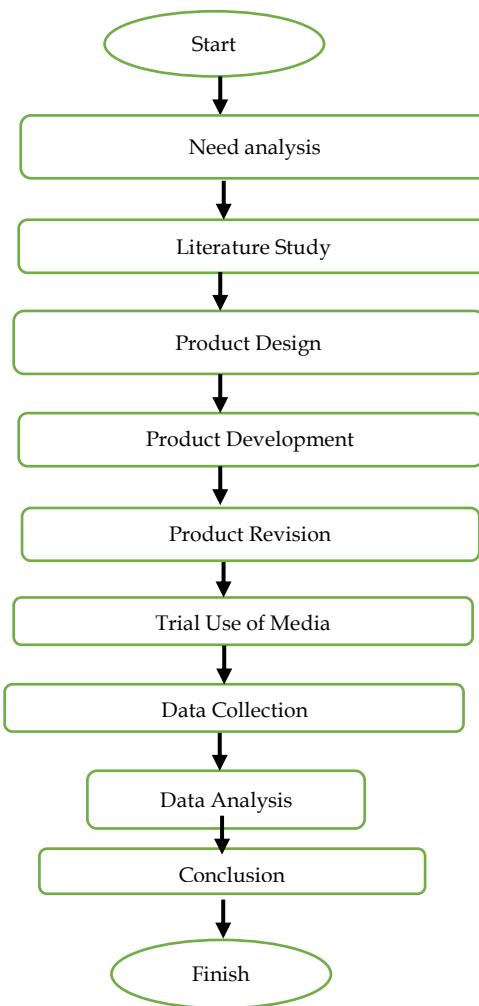
effectiveness of Canva in improving the learning outcomes of physics education students is scarce. Prospective teachers must possess not only the skills of learners but also those of media designers (Sugiyono, 2019). Many previous studies were only descriptive or qualitative, without experimentally testing (pretest-posttest) the effectiveness of Canva on student learning outcomes or engagement; To date, there has been no locally based research that examines the use of Canva in the Physics Education Study Program at Cenderawasih University, so the actual conditions and student responses to this media in the Papuan context are unknown. And the Solutions offered are developing and implementing Canva-based learning media in physics courses (e.g., temperature, heat, and motion); Conducting effectiveness testing through a quasi-experimental method (pretest-posttest with control and experimental classes); Exploring the perceptions and responses of Cenderawasih University physics education students towards Canva media; Providing local and actual data from Cenderawasih University students as a scientific contribution to the development of ICT-based contextual learning in eastern Indonesia; and integrating Canva media creation training as part of lectures, to improve students' pedagogical skills.

This study aims to determine the effectiveness of learning using the Canva application. After further analysis of students, we can determine whether their ability to use Canva-based learning media has improved.

## Method

This research falls into the category of Research and Development (R&D). Referring to the model proposed by Borg & Gall (1983), the development process consists of ten steps; however, this study focuses on only three main stages: planning, development, and testing the Canva media. The trial was conducted with students in the Physics Education Study Program at Cenderawasih University. The data collection technique used was a checklist-style questionnaire. The data collected consisted of both quantitative and qualitative data, presented in narrative or verbal form. The flow of this research is shown in Figure 1.

In analyzing the data, the researchers used a descriptive analysis approach. To determine the level or category for each research variable, a comparison was made between the actual score and the ideal score. The exact score was calculated by accumulating the respondents' answers based on the assigned scoring weights (i.e., 1 to 5). Meanwhile, the ideal score was calculated by multiplying the highest possible score by the number of questionnaire items and the number of respondents. Mathematically, this calculation can be expressed as Formula 1.



**Figure 1.** Research flow diagram research & development

$$\% \text{ Actual Score} = \frac{\text{Actual Score}}{\text{Ideal Score}} \times 100\% \quad (1)$$

Source: Sugiyono (2016)

Description:

The actual score is the answer score obtained from all respondents.

The ideal score is the maximum score or the highest score obtained.

The results of the comparison between the actual score and the ideal score are presented in Table 1.

**Table 1.** Percentage criteria for respondent responses

Total Score (%)	Criteria
20.00-6.00	Not Good
36.01-52.00	Not Good
52.01-68.00	Fair Good
68.01-84.00	Good
84.01-100	Very Good

Source: Sugiyono (2016)

## Result and Discussion

The research data on the effectiveness of Canva-based media use among Physics Education students at

the University of Indonesia was analyzed using a questionnaire. Sixteen students completed the questionnaire.

#### *Descriptive Analysis of the Effectiveness of Canva-Based Learning Media*

Based on the results of the questionnaire survey, two aspects were identified that measured the effectiveness of Canva as an online learning medium: Learning Effectiveness and the Learning Process.

The following are respondents' responses to the effectiveness of Canva as a learning medium, based on their answers using a predetermined formula (Table 2).

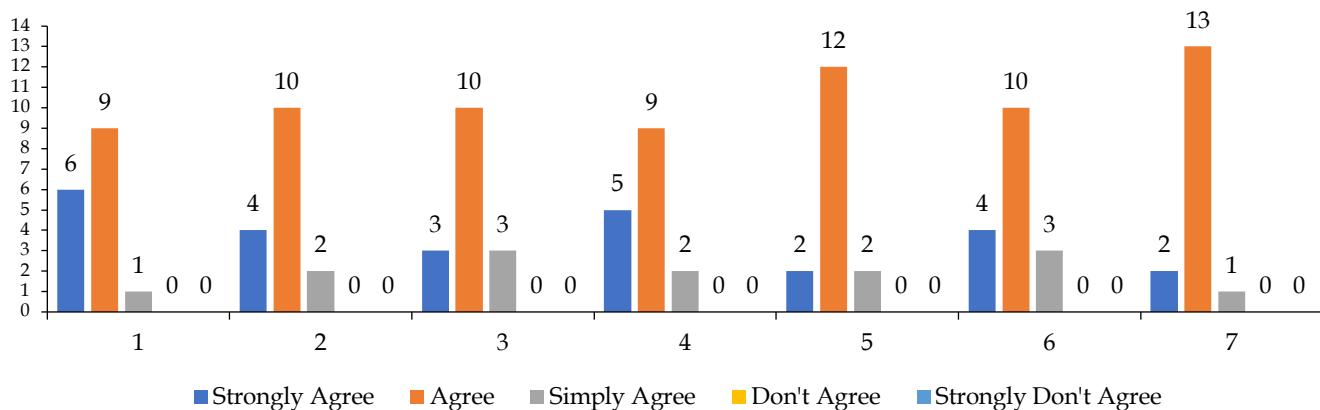
**Table 2.** Results of analysis of student responses to Canva learning media

Indicator	Actual Score	Ideal Score	Percentage of Actual Score (%)	Information
Learning Effectiveness	445	560	79.46	Good
Learning Process	452	560	80.71	Good

Based on Table 2, it can be concluded that the effectiveness of learning using Canva media falls into the good category, as evidenced by the large percentage of 79.46. Meanwhile, the learning process indicator using Canva media also falls into the good category with a rate of 80.71.

**Table 3.** Results of student response analysis regarding the effectiveness of learning using Canva-based media

Statement		Alternative Answers					Actual Score	Ideal Score	%
		5	4	3	2	1			
Feel happy and don't get bored quickly when the lecturer uses Canva.		6	9	1	0	0	69	80	86.25
The engaging presentation of learning media in Canva makes me more enthusiastic about participating in lessons.		4	10	2	0	0	66	80	82.50
The quality of the design and information presented in Canva is excellent and professional.		3	10	3	0	0	64	80	80.00
The text size, color selection, and layout in Canva are easy to read and not confusing.		5	9	2	0	0	67	80	83.75
Using Canva helps teachers deliver material more efficiently.		2	12	2	0	0	64	80	80.00
The material presented through Canva makes it easier for me to review or study independently.		4	10	3	0	0	65	80	81.25
Using Canva in my learning makes me more motivated to learn.		2	13	1	0	0	65	80	81.25
Average							65	80	82.14



#### *Learning Effectiveness*

To see the results of student perceptions regarding this learning effectiveness indicator, please see Table 3.

Table 3 is the result of an analysis of students' perceptions of the effectiveness of using Canva-based learning media. The table shows that there are seven statements distributed to 16 students. For the first statement, the actual score obtained is 69 out of an ideal score of 80 or 86.25%. Then, for the second statement, the actual score obtained is 66 out of a perfect score of 80 or 82.50%. For the third statement, the actual score obtained is 64 out of a perfect score of 80, or 80.00%. For the fourth statement, the actual score obtained is 67 out of a perfect score of 80 or 83.75%. And for the fifth statement, the actual score obtained is 64 out of a perfect score of 80 or 80.00%. Finally, for the sixth and seventh statements, the actual score obtained is 65 out of a perfect score of 80, or 81.25%. Then, to see the effectiveness of student learning using Canva-based learning media, it can be seen Figure 2.

From Figure 2, of the seven statements distributed to 16 students, we can see that the majority of students chose the "agree" response alternative. Of the seven indicators and 16 respondents, a total of 73 chose the "agree" option, 16 chose "strongly agree," and only 14 chose "somewhat agree."

**Figure 2.** Diagram of learning effectiveness with Canva-based learning media**Description:**

- 1 = Feel happy and don't get bored quickly when the lecturer uses Canva.
- 2 = The engaging presentation of learning media in Canva makes me more enthusiastic about participating in lessons.
- 3 = The quality of the design and information presented in Canva is excellent and professional.
- 4 = The text size, color selection, and layout in Canva are easy to read and not confusing.
- 5 = Using Canva helps teachers deliver material more efficiently.
- 6 = The material presented through Canva makes it easier for me to review or study independently.
- 7 = Using Canva in my learning makes me more motivated to learn.

**Learning Process**

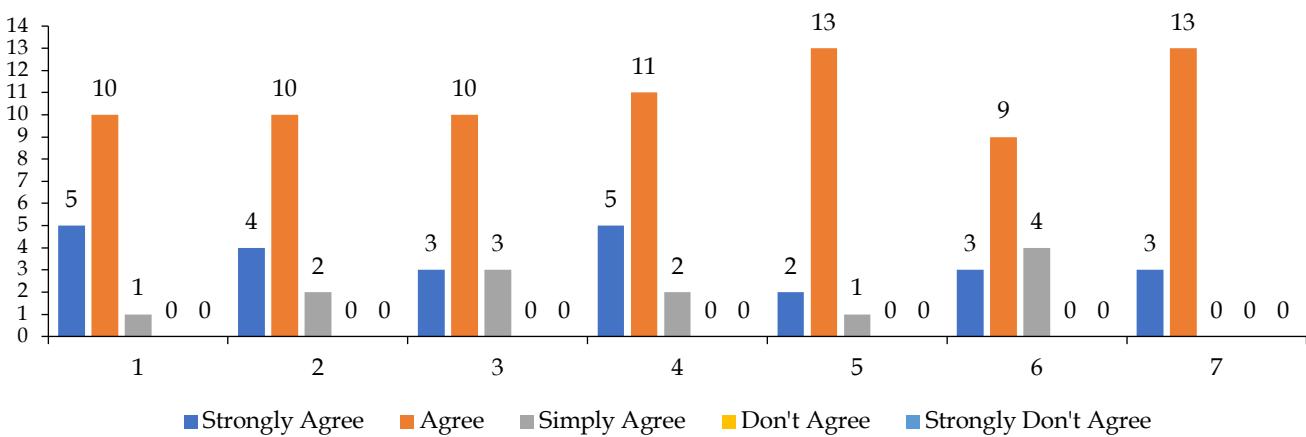
To see the results of student perceptions regarding the learning process indicators, see Table 4.

Table 4 is the result of an analysis of students' perceptions of the effectiveness of using Canva-based learning media. As shown in the table, there are seven statements distributed to 16 students. For the first statement, the actual score obtained is 68 out of an ideal score of 80 or 85.00%. Then, for the second statement, the actual score obtained is 66 out of a perfect score of 80 or

82.50%. For the third statement, the actual score obtained is 64 out of a perfect score of 80, or 80.00%. For the fourth statement, the actual score obtained is 67 out of a perfect score of 80 or 83.75%. For the fifth statement, the actual score obtained is 65 out of a perfect score of 80, or 81.25%. Finally, for the sixth and seventh statements, the actual scores obtained are 63 and 67 out of an ideal score of 80, or 78.75 and 83.75%. Then, to see students' perceptions of the use of Canva-based learning media in the learning process, this can be seen in Figure 3.

**Table 4.** Student perceptions of the use of Canva media in the learning process

Statement	Alternative Answers	Actual Score		Ideal Score		%		
		5	4	3	2			
Using Canva greatly supports my understanding during the learning process.	5	10	1	0	0	68	80	85.00
I find it easier to understand the material when it is explained through Canva.	4	10	2	0	0	66	80	82.50
I retain information better when the learning process is presented with a clear, Visually Appealing design, such as a Canva template.	3	10	3	0	0	64	80	80.00
I feel more actively involved in discussions/activities when using Canva.	5	11	2	0	0	67	80	83.75
Using Canva encourages me to ask more questions or provide opinions during the learning process.	2	13	1	0	0	65	80	81.25%
I find it easier to understand the lecture material after the lecturer uses Canva.	3	9	4	0	0	63	80	78.75%
Using Canva makes me feel actively involved during the learning process.	3	13	0	0	0	67	80	83.75%
Average								82.14

**Figure 3.** Diagram of student perceptions of the use of Canva-based learning media during the learning process**Description:**

- 1 = Feel happy and don't get bored quickly when the lecturer uses Canva.
- 2 = The engaging presentation of learning media in Canva makes me more enthusiastic about participating in lessons.
- 3 = The quality of the design and information presented in Canva is excellent and professional.
- 4 = The text size, color selection, and layout in Canva are easy to read and not confusing.
- 5 = Using Canva helps teachers deliver material more efficiently.
- 6 = The material presented through Canva makes it easier for me to review or study independently.

## 7 = Using Canva in my learning makes me more motivated to learn.

From the diagram above, of the seven statements distributed to 16 students, we can see that the majority of students chose the "agree" option. Of the seven indicators and 16 respondents, a total of 76 chose the "agree" option, 26 chose the "strongly agree" option, and only 13 chose "somewhat agree."

Student perception refers to the opinion of students regarding the use of Canva-based media after distributing a questionnaire with two indicators. The first indicator measures the effectiveness of using Canva-based press, while the second indicator assesses students' perception of the use of Canva-based media during the learning process. Based on the data analysis, students provided an assessment response that exceeded the use of Canva-based learning media, with an average score percentage of 82.14%. One of the factors that greatly determines the success of the learning process is how the media used is designed to attractively engage students, making them motivated and interested, and preventing them from feeling bored during the learning process. The Canva application used for designing learning media is very suitable, as it contains templates that can be used to create engaging material content, as developed in this study. Students can understand the material well if the learning media are made attractively and appropriately. The research by Setiani et al. (2024), Hanifah (2025), and Fitri et al. (2023) revealed that the use of Canva-based learning media is crucial in supporting both offline and online learning processes. Furthermore, the trial results also indicated that the developed media is highly suitable for use in the learning process. Feasibility and effectiveness can be measured through questionnaires and various other aspects, such as the attractiveness of the design and the clarity of the content presented in the media. The design of learning materials used by lecturers in the learning process is a key factor in successful learning, with appropriate media ensuring students feel comfortable and understand the material easily.

## Conclusion

Based on the data analysis and descriptive presentation of the research findings, it can be concluded that the Canva application-based learning media is highly suitable for implementation in the learning process. The use of this media has proven to be highly effective, as it aligns with the needs of the teaching and learning process and facilitates the implementation of learning activities for lecturers and students. The presence of Canva-based media also provides a new nuance to the dynamics of classroom learning.

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## Author Contributions

S.H: Conceptual, methodology, data analysis. All author has significant contribution and agree the published version of this article.

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## Conflicts of Interests

The authors declare that there is no conflict of interest in this article.

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