The Training and Assistance for Junior High School Science Teachers in Making Animated Videos through Canva Application

Sardianto Markos Siahaan*[1], Evelina Astra Patriot[1], Yora Inda Lestari[2], Ruth Helen Simarmata[4], Fathya Nurul Jannah[2], Ari Guna Nugraha[3],Yendri Tri Hartati N.[2], Evi Yuliani[2], Hanisa Feranti[1], Anjeli Putriani[1], Hafizhah Aulia Husna[1]

[1] Physics Education Study Program, Sriwijaya University, Palembang, South Sumatra, Indonesia
[2] Master of Physics Education Study Program, Sriwijaya University, Palembang, South Sumatra, Indonesia
[3] Master of Technology Education Study Program, Sriwijaya University, Palembang, South Sumatra, Indonesia
[4] Mathematics Education Study Program, Sriwijaya University, Palembang, South Sumatra, Indonesia

Abstract: The rapid development of technological advances has changed the paradigm in education, especially in learning innovation. This service aims to improve the quality of teachers in designing and making products in the form of animated videos. The technological innovation guided in this service is to produce animated videos as learning media. Participatory Action Research (PAR) is a method used in the implementation of service activities with stages: 1) giving an initial test, 2) service implementation activities, 3) evaluation and reflection stages, and 4) then giving the final test. The target participants of the service activities were the MGMP teacher community of science subjects in Palembang City. Based on the data obtained, there is an increase in test results with an N-gain of 0.56 which is included in the moderate category. Based on the above results, the training participants strongly agreed that this service activity could improve the skills and insights of teachers in making animated videos as science learning media.

Keywords: Animation Video; Canva; Technology; Training; Service; Science

Introduction

The rapid development of technological advances has changed the paradigm in education, especially in learning innovation. The implementation of the learning process requires a novelty that can be utilized by educators or learners. Adjustment to this technological advancement needs to be considered by educators because the current generation is digital, educators must realize the need to adjust their teaching approach to suit students' evolving preferences and learning styles. In addition, educators can also increase student engagement, stimulate interest in learning, and help them understand the material better, especially in science learning (Rohmah et al., 2023).

Science learning is scientific learning (Rahmawati & Atmojo, 2021). Science learning consists of a combination of physics, chemistry, and biology which are integrated with other fields of science (Patriot et al., 2023). Many science learning materials require understanding therefore educators need to explore innovative media that can support learning activities in the form of learning media (Danish et al., 2021).

Learning media is a supporting tool that makes it easier for educators to convey material to students. Therefore, the material to be given or shown to students can be conveyed through learning media (Markos Siahaan et al., 2023). Appropriate media assistance will encourage the achievement of learning targets (Astuti, 2021). The use of learning media can make learning more interactive and inspiring, thus encouraging students to

participate more actively and develop their creativity (Cholik & Umaroh, 2023). One of the effective learning media is video.

The integration of educational technologies, such as animated videos, has become a growing trend in classrooms as teachers find innovative solutions to capture students' attention and improve learning outcomes (Unsworth, 2020; Nadi et al., 2019). Animated videos offer a dynamic visual approach to presenting material, making complex concepts, especially in Science subjects in Junior High School, easier for students to understand (T. S. Putri et al., 2023). The use of animated videos can not only increase the attractiveness of learning, but can also stimulate students' involvement more actively, so that they are more motivated in understanding the subject matter (S. R. Putri & Ahmadi, 2023). Animated videos, in particular, have emerged as a powerful tool to enhance the teaching and learning process, especially in STEM subjects where concepts can be quite abstract and complex. Numerous studies have demonstrated the efficacy of animated videos in increasing student engagement, comprehension and retention of subject matter, making them an increasingly popular instructional resource for educators (Puspita & Raida, 2021).

Based on previous research, the use of animated videos in learning is proven to increase student engagement, stimulate learning interest, and help them understand the material better (Ardi isnanto, 2023). Research shows that the use of visually appealing media, such as animated videos, can significantly increase students' intrinsic motivation, as they feel more interested and motivated to explore the material more deeply (Devi & Subali, 2021). Thus, learning centered on the use of interactive technology has the potential to have a positive impact on student learning outcomes in science subjects. Animated videos can be an effective bridge between traditional teaching methods and modern, multimedia-based student expectations. However, for teachers to successfully incorporate animation into their teaching practices, they need access to comprehensive training and continuous professional development opportunities that equip them with the necessary skills and knowledge to utilize this technology in the classroom by utilizing the Canva application.

Canva app has emerged as an easy-to-use and accessible platform that empowers educators to create visually appealing animated videos to support their instructional goals (Saputra et al., 2022). Canva provides a variety of templates and visual elements that allow teachers to create learning content quickly and easily, without requiring in-depth technical skills ((Sirajuddin & Wahditiya, 2024). Training and mentoring on the use of the Canva application is crucial in improving teachers'

competencies so that they can utilize this technology optimally. Through training, teachers can produce relevant and high-quality animated videos that meet students' needs and learning objectives (Rahmat & Ardiansyah, 2024). Thus, improving teachers' skills in utilizing Canva can have a direct impact on teaching quality and student learning outcomes.

Through training and assistance in making animated videos using the Canva application, junior high school science teachers can create more creative and innovative learning materials. This not only facilitates the delivery of difficult science concepts but is also able to foster student enthusiasm and motivation to learn. Through community service activities, the Sriwijaya University Physics Education Study Program team conducted training and assistance in making animated videos through the Canva application aimed at junior high school science teachers in Palembang City.

Method

This service activity through training in making animation videos is carried out through the Participatory Action Research (PAR) method. This research is situation-based and builds theory from practice involving individuals or groups of people with the same goal of improving their practice by analyzing, evaluating, and reflecting so that it can be useful for solving real problems (Puri, 2023). The training and mentoring program in creating animated videos using the Canva application for junior high school science teachers aims to equip educators with the skills and knowledge needed to improve their teaching practices. Therefore, several steps are taken to achieve the set goals, namely 1) giving a pretest or initial test, 2) implementing the service, and 3) giving a final test and evaluation and reflection.

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Then the final stage is evaluation and reflection through giving a post-test and distributing a response

questionnaire to their perspective on the use of Canva as a learning media that can be used by teachers. Furthermore, the service team processed data on participant responses, namely the results of the initial and final tests that had been carried out. The data were analyzed using the N-gain test. The following formula is used to determine how much the trainees' understanding of the material increases both before and after it is given. The N-gain test formula is as follows (Hake, 2002):

$$N - Gain = \frac{\bar{X}_{post} - \bar{X}_{pre}}{\bar{X}_{max} - \bar{X}_{pre}} \qquad (1)$$

Then N-Gain can be categorized through Table 1.

Table 1. N-Gain Criteria

N-Gain Scale	Criteria
N-gain ≤ 0.3	Low
0.7 ≥ N-gain > 0.3	Medium
N-gain > 0.7	High

Result and Discussion

Community service is an effort to spread science, technology, and art to the community. This activity must be able to provide benefits to the community in several activities. The Community Service Team plans this program to help the community, especially educators, through the development of community welfare and progress. One part of the Tri dharma of Higher Education is to do good things for the community. This training consisted of 40 members of the Palembang City Science MGMP who participated in the training.

Pre-test

The purpose of the initial test given to the trainees was to measure the ability and initial knowledge of teachers about the use of Canva in supporting learning media. Ten multiple-choice test questions were given to participants via Google form and completed using electronic devices directly.

Material presentation activity

In this activity, educators gain knowledge about the definition of animation videos and various types of learning videos. The resource person delivered the material for 45 minutes. In addition, they were also taught a tutorial on using Canva on science materials to create animated videos. Students who are members of the service team will accompany teachers during the training. This activity produces good results, this can encourage teacher motivation to make animated videos related to science subjects.
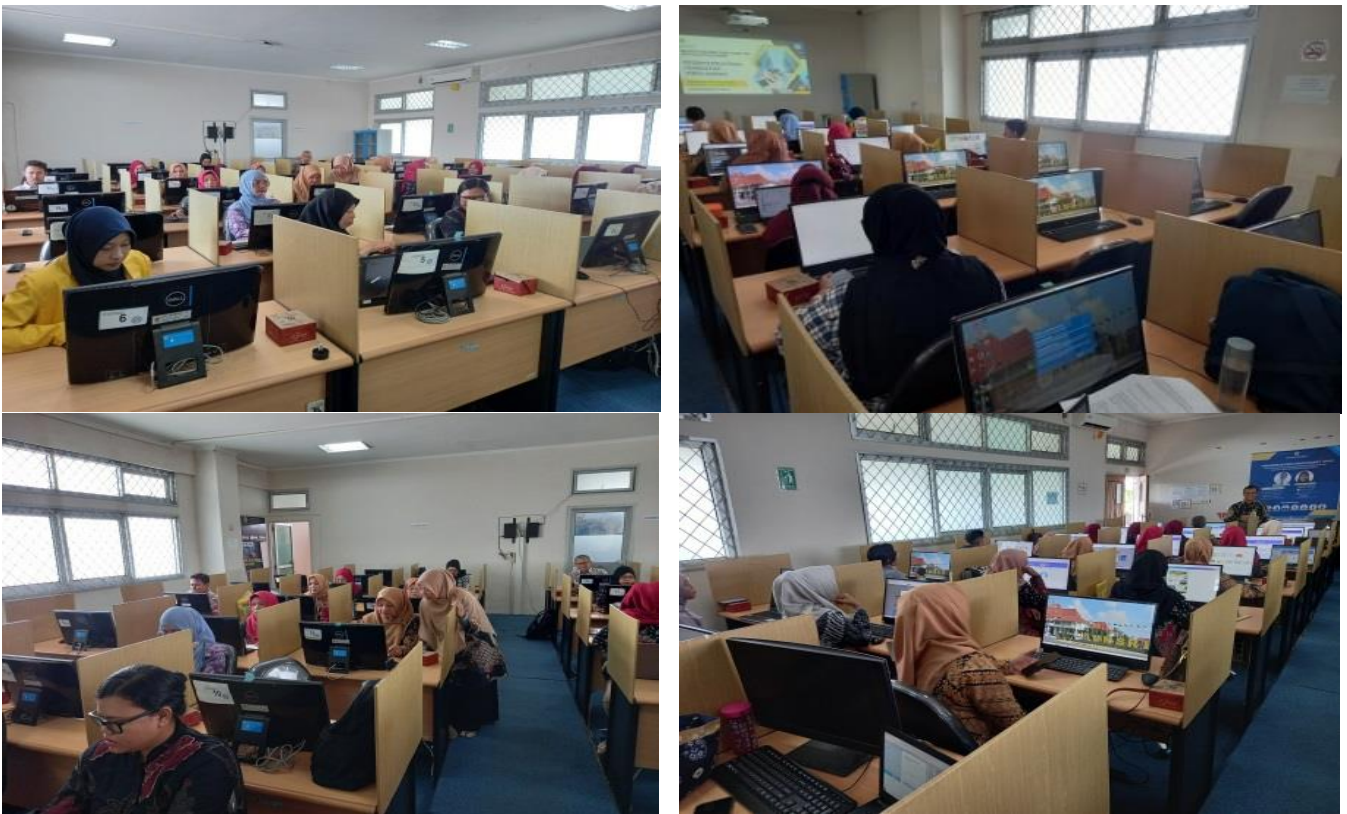

Figure 1. Implementation of Service Activity in the Multimedia Laboratory

First, teachers are given instructions on creating a Canva account to make it easier to create learning media in animated videos. Furthermore, teachers are asked to log in to their respective Canva accounts. Then, the resource person showed an example of an animated video made directly to the teacher. Not only that but some essential features of Canva were also conveyed by the resource person so that this application would be more accessible to teachers. Before entering the video-making process, the training participants were first given directions to create a video storyline that would be developed.

The Canvas application is the right choice for training because it has many advantages. Teachers can easily create animated videos with Just Canvas. Canva has an easy-to-use graphic design with various templates and features to create multiple types of visual content, including video editing capabilities, making it easier to create and customize animated videos designed by teachers (Melinia & Nugroho, 2022).

Assistance in making animation videos

The implementation of mentoring is carried out online through Zoom meetings. Teachers were given four weeks to complete the animated video project on the desired science subject. This mentoring was done twice online to provide assistance to the trainees while running their projects. This activity has a good impact on teachers' perfecting the animated video products that have been made. The results of animated video products with various materials created by trainees can be seen in Figure 2.

Figure 2. Developed Animation Video

Animated videos in science learning are made and developed by trainees from selected materials and adapted to learning objectives. Examples of science materials the trainees chose include addictive substances, Archimedes' law, environmentally friendly technology, pressure, introduction to dangerous symbols in the laboratory, and Newton's law. The animated videos show that teachers acting as educators are very motivated to improve the quality of learning so that concepts can be conveyed easily to students. Learning media in the form of this video is one of the innovative solutions to provide exciting learning for students.

Some of the advantages of animated videos presented in previous studies are: 1) Attract the attention of students, 2) the language used is easy to understand, and 3) the material becomes easily understood by students (Dewayanti et al., 2023). Implementing this training has several development obstacles expressed by teachers when developing animated videos, among others, such as Canva features that need to be better understood. Therefore, some features still become obstacles in completing the animated videos; for example, when adding music and inputting talking animation characters into Canva, some experience limitations in making AI animations because they are not pro mode and difficulty in making moving animations in the canvas application. But overall, the trainees were able to create some very creative and innovative animation videos. Some participants included elements such as animation and sound, which increased student learning motivation. This infographic media can also be used on other gadgets such as tablets and mobile phones. Thus, giving students independent online access.

Final test (Post-Test)

The final test was given to the trainees at the end of the training and mentoring activities for making animated videos using Canva as an auxiliary tool for making learning media. The purpose of giving this final test is to find out whether the trainees have better abilities and insights into animation videos and the use of Canva. The final test given to the trainees consisted of ten multiple-choice questions. The test was distributed through g-form and conducted directly with their respective mobile devices.

The data processed from the Pre-test, post-test, and N-Gain values show that teachers' understanding of animated videos and the use of Canva as a science learning media have increased. The pre-test value, namely, is obtained before giving it to the trainees in the form of a series of service activities. The post-test value is the value obtained after being given treatment or after the trainees participate in the service. Information on the

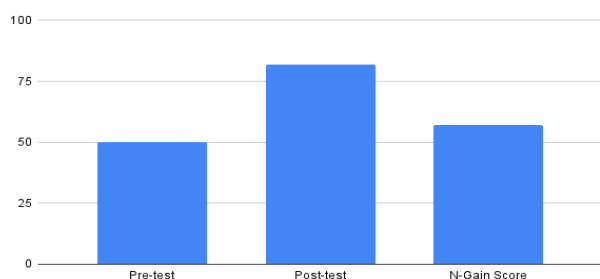initial and final test results is shown in Figure 3 as follows.

Figure 3. Data results of the initial knowledge test given to trainees in the pre-training and post-training sessions.

The pre-test and post-test scores are shown in Figure 3 for 40 trainees, having an average of 50% pre-test score and an average of 82% post-test score, as well as an N-Gain score of 56%. Based on this score, the interpretation of the category has increased quite effectively. This means that training and service have improved the ability and insight of junior high school science teachers to produce animated videos. This increase is in connection with previous service activities, which showed a rise in video-making skills tested on school teachers in the Sleman district (Sarofah et al., 2023).

Canva, as a medium for creating videos, has enabled teachers to design and explain learning materials easily, saving more time (Sari et al., 2021). In addition, Ayunia Lestari et al., (2022) showed that an increase in teachers' positive views regarding Canva. From the training, 85% of teachers expressed positive opinions and interest in using Canva to create digital learning media, and 85% considered Canva easy to use. They were motivated to learn to learn better. Implementing community service activities improved teachers' skills in making animated videos in science subjects as learning media for junior high school students.

Conclusion

Science Junior High School MGMP teachers in Palembang City received training and assistance in making animated videos using the Canva application. as part of a community service program. Several stages are carried out in training and mentoring activities: 1) giving an initial test, 2) implementing the service, and 3) giving the final test. Teachers understand and are proficient in using Canva to create animated videos. The results show that the ability of the pretest and posttest results increased by 56%. This indicates that the training participants better understood the Canva application, which can be used to create easy and exciting animated videos. Participants who participated in the training also felt immensely helped by the training involving digital learning media based on Canva.

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