

The Influence of Using Animation Media in IPAS Learning on the Learning Outcomes of Fourth Grade Students at SD Al-Khairaat Mamboro

Aulia Sabrina^{1*}, Arif Firmansyah², Surahman³, Yusdin Bin. M. Gagaramusu⁴,
Ammar Abdullah Joni Guci⁵
FKIP, Universitas Tadulako

Corresponding Author: Aulia Sabrina auliasabrina2424@gmail.com

ARTICLE INFO

Keywords: Animation Media,
Learning Outcomes, IPAS

Received : 21 April

Revised : 23 May

Accepted: 23 June

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ABSTRACT

This study aims to determine the effect of using animation media in IPAS learning on the learning outcomes of fourth-grade students at SD Al-Khairaat Mamboro. The method used is quantitative with a pre-experimental one-group pretest-posttest design. A sample of 20 students was selected using a saturated sampling technique. Data were collected through tests, observations, interviews, and documentation, and analyzed using descriptive and inferential statistics. The results showed that the average pretest score was 54.00 and the posttest score increased to 74.25. Statistical analysis using SPSS version 23 showed a significance value of $0.000 < 0.05$, indicating that H_0 is rejected and H_a is accepted. Thus, animation media has a significant effect on improving students' learning outcomes in IPAS learning

INTRODUCTION

Learning is a process of interaction between teachers and students aimed at achieving predetermined educational goals. In contrast, learning in a psychological sense refers to changes in an individual as a result of experiences. These changes are not limited to behavior but also encompass knowledge, attitudes, and values. Education seeks to develop spiritual strength, self-control, personality, intelligence, noble character, and skills that are beneficial both to individuals and to society (Abd. Rahman et al., 2022).

In Indonesia, the education system has undergone numerous changes, especially regarding curriculum policy. According to the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek, 2022), the Merdeka Curriculum offers a more flexible and differentiated learning structure that allows students to optimize the development of their competencies. As part of this reform, Natural Sciences (IPA) and Social Sciences (IPS) are integrated into a single subject known as Natural and Social Sciences (IPAS). This subject aims to foster curiosity, interest, and students' ability to explore knowledge and build essential skills (Agustina et al., 2022). Purba (2023) emphasizes that effective IPAS learning under the Merdeka Curriculum requires active interaction between teachers and students, enabling two-way communication and deeper understanding.

One instructional strategy that supports such interaction is the use of animation media. When used appropriately, animation can align with both the subject matter and students' characteristics, making the learning process more engaging and easier to understand. According to Cahyani (2020), animation possesses strong visual and auditory appeal, which can stimulate students' imagination and creativity. This is particularly valuable in explaining abstract or complex concepts in a more accessible and meaningful way.

Preliminary observations conducted at Al-Khairaat Mamboro Elementary School revealed that the use of media in teaching is still limited. Fourth-grade teachers often rely on traditional lecture methods and printed textbooks, which has resulted in low student engagement, decreased motivation, and poor academic performance. These issues highlight the need for more interactive, creative, and enjoyable learning approaches.

In light of these challenges, this study aims to examine the influence of using animation media in IPAS learning on the learning outcomes of fourth-grade students at Al-Khairaat Mamboro Elementary School. It is expected that the integration of animation media into classroom instruction will enhance student engagement and improve academic performance.

LITERATURE REVIEW

The medium used in this study is animation media. Animation possesses strong visual and auditory appeal, which can stimulate students' imagination and creativity. When used appropriately, animation can simplify complex or abstract learning materials, making them easier for students to understand. According to Yuliansah (2018), animation also presents information in an interactive format, enabling students to participate more actively in the learning process.

The researcher is particularly interested in analyzing "the influence of using animation media in IPAS learning on the learning outcomes of fourth-grade students at Al-Khairaat Mamboro Elementary School." This study seeks to examine whether the integration of animation-based learning media in IPAS instruction can improve students' academic achievement, foster engagement, and support a more effective learning environment.

METHODOLOGY

In this study, the researcher employed a quantitative research method. The research design used was a quasi-experimental design. Among various forms of pre-experimental design, this study used the One-Group Pretest-Posttest Design. In this design, tests are conducted twice: before and after the treatment. The experimental class was first given a Pre-test (O_1), then subjected to treatment (X) using animation media, followed by a Post-test (O_2). Subsequently, the effect of the treatment is measured by comparing the results before and after the treatment. The research design can be illustrated as follows:

Table 1. One Group Pretest-Posttest Research Design (Sugiyono, 2017:79)

O_1	X	O_2
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Note:

O1: pre-test (before treatment)

X: treatment (use of animation media)

O2: Post-test (after treatment)

This study involved 20 respondents as samples. Data collection was conducted through two sources: primary data and secondary data. Primary data were obtained directly from the test answers given to the respondents, while secondary data were gathered from previous studies such as books, journals, articles, and similar references. The study employed ratio scales as measurement instruments. According to Pradana (2024), the ratio scale is characterized by the existence of an absolute zero point that carries significant meaning and cannot be equated with other values.

The data collection methods in this study included tests, interviews, and documentation. Instrument testing was carried out through validity and reliability tests. Validity testing aims to measure the accuracy of the instruments, while reliability refers to the consistency of the results when the instrument is applied to the same subjects. The data analysis techniques used in this research include descriptive statistical analysis, N-Gain test, normality test, and hypothesis testing.

RESULTS AND DISCUSSION

Descriptive statistical analysis in this study was conducted using IBM SPSS Statistics 23 software. The purpose of this analysis was to describe the data obtained from the pretest and posttest results comprehensively. The analysis includes statistical information such as mean, standard deviation, minimum, and maximum values. A total of 20 students participated in both the pretest and posttest.

Table 2. Descriptive Statistics of Pretest and Posttest Data

Test	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test	20	35	70	54.00	9.403
Post-test	20	65	90	74.00	6.742

Based on the data in the table, the mean score of students in the pretest was 54.00 with a minimum of 35 and a maximum of 70. The posttest mean increased to 74.25, with a minimum of 65 and maximum of 90. This indicates a significant improvement in students' learning outcomes.

Additionally, the standard deviation decreased from 9.403 in the pretest to 6.742 in the posttest, indicating that posttest scores were more homogeneous and evenly distributed. Overall, these findings suggest that the use of digital media positively impacted student learning outcomes

N-Gain Test

The N-Gain test was used to measure the improvement in student learning outcomes by comparing the difference between pretest and posttest scores. Based on the data obtained, the increase in test scores was calculated using the N-Gain score and N-Gain percentage (N-Gain%) to assess the effectiveness of using animation media in the learning process. The calculations were performed with the assistance of IBM SPSS Statistics 23 software to ensure accuracy and systematic analysis.

Table 3. N-Gain Calculation Results

Variabel	N	Minimum	Maximum	Mean	Std. Deviation
N-Gain Score	20	0.29	0.70	0.4396	0.10936
N-Gain Percent	20	28.57%	70.00%	43.95563	10.93634

Based on the analysis, the average N-Gain score was 0.4396, categorized as moderate ($0.3 \leq g \leq 0.7$), and the average N-Gain percentage was 43.96%. This suggests that the effect of using animation media in IPAS learning on fourth-grade students at SD Al-Khairaat Mamboro falls within the moderate classification. Animation media provided opportunities for students to seek knowledge independently and actively participate, thus positively influencing their learning outcomes.

Normality Test

Normality testing was conducted to determine whether the learning outcome data followed a normal distribution. The Shapiro-Wilk method was employed using IBM SPSS Statistics 23 software. The decision criterion was based on the significance value (sig.): if sig. > 0.05, the data is considered normally distributed; if sig. < 0.05, the data is considered not normally distributed.

Table 4. Normality Test Results

Class	Statistic	df	Sig.
Pre-Test	0.955	20	0.445
Post-Test	0.926	20	0.131

The Shapiro-Wilk significance values for the pretest (0.445) and posttest (0.131) were both greater than 0.05, indicating that both datasets are normally distributed. Since the data met the normality assumption, hypothesis testing proceeded using the Paired Sample T-Test to evaluate significant differences between pretest and posttest results.

Hypothesis Testing

Following the normality test, it was confirmed that the IPAS learning outcome data were normally distributed. Therefore, hypothesis testing was conducted using the Paired Sample T-Test to determine the significant effect of animation media usage on the learning outcomes of fourth-grade students at SD Al-Khairaat Mambo. The analysis was performed with IBM SPSS Statistics 23 software. The hypotheses were formulated as follows:

1. **H_a**: There is a significant effect of animation media usage on the IPAS learning outcomes of fourth-grade students at SD Al-Khairaat Mambo.
2. **H₀**: There is no significant effect of animation media usage on the IPAS learning outcomes of fourth-grade students at SD Al-Khairaat Mambo.

The significance level was set at 5% ($\alpha = 0.05$). The decision criteria were: if significance > 0.05, accept H₀ and reject H_a; if significance < 0.05, accept H_a and reject H₀. The test results were processed using IBM SPSS Statistics 23.

Table 5. Paired Samples Test Results

Paired Samples Test	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 pretest - posttest	-20,250	6,584	1,472	-23,332	-17,168	-13,754	19	,000

The significance value obtained was 0.000, which is less than 0.05, thus the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. This means that there is a significant effect of using animation media in IPAS learning on the learning outcomes of fourth-grade students at SD Al-Khairaat Mambo.

CONCLUSION AND RECOMMENDATION

During the learning process, the researcher observed that students were highly enthusiastic in responding to the questions posed. Throughout the lesson, students appeared active and excited, especially when asked to observe and discuss the richness of Indonesian culture around them. They also worked collaboratively to complete the Student Worksheet (LKPD) accurately. The use of animation media provided opportunities for students to think critically and deepen their understanding of Indonesia's cultural diversity, particularly the cultures of Sulawesi, both within and beyond the school environment. This finding aligns with the study by Tsamara & Dafita, R. (2021), which states that the implementation of animated video media can significantly enhance students' critical thinking skills, especially in terms of analysis, evaluation, and logical reasoning.

The animated media used in this study consisted of an animation video titled "Indonesia's Cultural Wealth," presented through engaging moving animations. This animation media played a significant role in facilitating students' understanding of the material while also creating an enjoyable and interactive learning atmosphere. These findings are supported by Eka (2023), who stated that animation can visualize complex concepts in a form that is easier for students to comprehend. The use of animation as an instructional medium offers advantages in conveying complex information visually and interactively. Through the use of motion, color, and sound elements, animation brings learning material to life and enriches the students' learning experience. The researcher presented the video at the beginning of the lesson, following a few light introductory questions designed to spark students' curiosity. Subsequently, the animation video was shown to help students better grasp the content and reduce boredom during the learning process.

This animated media supported students in exploring various aspects of Indonesian culture, such as traditions, dances, traditional clothing, and the arts, making the learning experience more interactive and meaningful.



Figure 1. IPAS (Integrated Science and Social Studies) learning using animation media

Based on the findings and data analysis, it can be concluded that the use of animation media in IPAS learning has a significant impact on the learning outcomes of fourth-grade students at Al-Khairaat Mamboro Elementary School. This is evidenced by the posttest results, where the average score reached 74.25. The Paired Sample T-Test analysis showed a significance value of 0.000, which is less than 0.05. Therefore, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, confirming a significant influence of animation media on students' learning outcomes.

This significant impact is attributed to the fact that animation media makes students more engaged and active during lessons. Saifullah and Nur Khalid et al. (2023) also found that the use of animated videos influenced the learning outcomes of fourth-grade students at SDN 35 Pontianak Selatan. Similarly, Ayub Prayuda (2020) stated that interactive or animated media has a positive effect on science learning outcomes. These findings reinforce the idea that instructional media plays a vital role in improving the quality of classroom learning and supporting better academic achievement.

FUTHER STUDY

This research still has delays, so further research needs to be conducted regarding the topic The Influence of Using Animation Media in IPAS Learning on the Learning Outcomes of Fourth Grade Students at SD Al-Khairaat Mamboro in order to improve this research and add insights for readers

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