# The Effect of Using Video Learning Media on Science Learning Outcomes for Class IV Students at SDN 20 Sitiung

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**Abstract**

This research aims to reveal the influence of the use of learning video media on the science learning outcomes of class IV students at SD Negeri 20 Sitiung. This research uses quantitative research methods in the form of quasi-experiment. The population of this research was class IV students at SD Negeri 20 Sitiung, totaling 62 students. Sampling used a total sampling technique, that is, all students were taken as samples, namely 31 students in the experimental class and 31 students in the control class. Data collection techniques use test techniques. From the research results, the experimental group's average value was 80.403, which was higher than the control group's average value of 74.67. From the t test analysis, it is obtained that t_count > t_table = 2.99 > 2.00, with α 0.05. So it can be concluded that the use of learning video media in science and science learning at SD Negeri 20 Sitiung Regency has had significant results on student learning outcomes.

**Keywords:** *Learning Video Media, Natural and Social Sciences, Student learning outcomes*

**Abstrak**

Penelitian ini bertujuan untuk mengungkapkan pengaruh dari penggunaan media video pembelajaran terhadap hasil belajar IPAS siswa kelas IV di SD Negeri 20 Sitiung. Penelitian ini menggunakan metode penelitian kuantitatif dengan bentuk kuasi eksperimen. Populasi penelitian ini adalah siswa kelas IV di SD Negeri 20 Sitiung yang berjumlah 62 peserta didik. Pengambilan sampel menggunakan teknik *total sampling,* yaitu seluruh peserta didik diambil sebagai sampel yakni kelas eksperimen sebanyak 31 peserta didik dan kelas kontrol sebanyak 31 peserta didik. Teknik pengumpulan data menggunakan teknik tes. Dari hasil penelitian diperoleh nilai rata-rata kelompok eksperimen sebesar 80,403 lebih tinggi dari nilai rata-rata kelompok kontrol sebesar 74,67. Dari analisis uji t diperoleh $t_{hitung} > t_{tabel} = 2,99 > 2,00$, dengan α 0,05. Maka dapat disimpulkan bahwa penggunaan dari media video pembelajaran dalam pembelajaran IPAS di SD Negeri 20 Sitiung Kabupaten terdapat hasil yang signifikan terhadap hasil belajar siswa.

**Kata Kunci:** *Media Video Pembelajaran, Ilmu Pengetahuan Alam dan Sosial, Hasil Belajar Siswa*

## INTRODUCTION

Current educational developments have been affected by technological developments. To balance the impact of this technology, it is hoped that teachers will be able to provide active, inspiring, fun, challenging learning, motivate students to participate actively, and provide sufficient space for initiative, creativity and independence according to students' talents, interests and physical development. student psychology. Education aims to develop the potential and skills of students so that the potential and skills of students also develop.As a way to transform education in Indonesia, the Minister of Education, Culture, Research and Technology has launched the implementation of the Merdeka curriculum. This policy is intended as an effort to reform the education system in Indonesia to improve the quality of human resources.

According to the Ministry of Education and Culture (2020), the Merdeka Belajar policy aspires to provide quality education for all Indonesian people, which is characterized by high participation rates at all levels of education,

quality learning outcomes, and high quality education.equally, both geographically and socio-economic status. The advantages of the Merdeka curriculum are that it is simpler and deeper, more independent and more relevant and interactive. Science and Technology is a science that studies living things and inanimate objects in the universe and their interactions, and examines human life as individuals as well as social creatures who interact with the environment.

Science and science learning needs to present a context that is relevant to the natural conditions and environment around students. ImplementationlearningIPAS must be implemented in a conducive atmosphere in the sense that the learning activities carried out are active, creative, effective and enjoyable. One of the materials contained in this subject is in Topic B Chapter 2 regarding what forms of matter actually exist, with the main material being Characteristics and properties of Solid, Liquid and Gaseous Objects.

From the results of observations and interviews conducted in class IV of SDN 20 Sitiung, it was found that teachers had not used

technology-assisted learning media in the learning process, one of which was using video learning media. The media used include whiteboards, textbooks and worksheets in the learning process. The material in the textbook does not explain the material studied by students and the lack of illustrations that describe the material results in students not understanding the material. This can be seen from the results of students' daily tests in the science and sciences subject on the Characteristics and Properties of Solid, Liquid and Gas objects, which are located in the value interval 68 to 78 which is included in the sufficient category (C). One solution that can be done is the use of learning video media. According to Benny A. (2019:135) video media is classified as audiovisual media which is capable of broadcasting messages and information through image and sound elements delivered simultaneously. This advantage makes video media very widely used in teaching and learning activities. With its advantages as an audiovisual media, video media is able to show objects, places and events comprehensively through moving images. According to Atikah (2016:3) the characteristics of video media are that it clarifies things that are unclear, provides a real picture and can overcome the limitations of distance and time. 135) video media is classified as audiovisual media which is capable of broadcasting messages and information through image and sound elements delivered simultaneously. This advantage makes video media very widely used in teaching and learning activities. With its advantages as an audiovisual media, video media is able to show objects, places and events comprehensively through moving images. According to Atikah (2016:3) the characteristics of video media are that it clarifies things that are unclear, provides a real picture and can overcome the limitations of distance and time. 135) video media is classified as audiovisual media which is capable of broadcasting messages and information through image and sound elements delivered simultaneously. This advantage makes video media very widely used in teaching and learning activities. With its advantages as an audiovisual media, video media is able to show objects, places and events comprehensively through moving images. According to Atikah (2016:3)

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Based on the learning problems that exist in the field as explained above, the author wants to provide a solution with the help of learning video media which can later be used by teachers and students so that they can achieve good learning outcomes and achieve learning goals.

Based on the description above. So it needs to be donestudy. This research aims to determine whether there is an influence of the use of learning video media on the science and science learning outcomes of class IV students with the research title "The Effect of Using Video Learning Media on the Science and Technology Learning Outcomes of Class IV Students at SDN 20 Sitiung"

**METHOD**

This type of research is Quasi-experimental (quasi-experiment) whose design is used when complete control cannot be carried out.Experimental research is research carried out between two groups the same, then the final test results really are the results of whether or not there was treatment.

The research was carried out at SDN 20 Sitiung which consisted of two classes, IVA as the experimental class and IVB as the control class. The population in this research is all students of class IV at SDN 20 Sitiung. The samples taken were class IV students at SDN 20 Sitiung. Sampling was determined using total sampling technique. So a sample of 62 students was obtained.

The independent variable of this research is learning video media. The dependent variable in this research is the learning outcomes of students in science learning.

The data collection technique for this research is using objective test questions. The data collection tool for this research is a test instrument.

## RESULTS AND DISCUSSION
### Data Description

This research was carried out at SDN 20 Sitiung, Dharmasraya Regency. The data description in this research consists of two groups of data, namely the experimental class and the control class. The experimental class group used video media in the learning process carried out in class IVA and the control class group used textbook media for Natural and Social Sciences subjects in class IVB.

The learning outcomes for Natural and Social Sciences in both samples were given tests using 40 multiple choice questions with four alternative answer choices for each experimental class and control class which were carried out at the end of the meeting.

### Data on Student Learning Results by Applying Learning Video Media

From learning outcome data obtained in class IVA at SDN 20 Sitiung, Dharmasraya Regency, semester 1 of the 2023/2024 academic year. The number of students taking part in Natural Sciences learning in the experimental class at the time of the research was 31 people. After obtaining the learning outcome scores, the highest score achieved by students was 95, while the lowest score obtained by students was 65 with the total score achieved in the experimental class being 2492.5 with an average score of 80.403 and a Standard Deviation of 7.80.

### Student Learning Outcome Data Without Applying Learning Video Media

From learning outcome data obtained in class IVB at SDN 20 Sitiung, Dharmasraya Regency, semester 1 of the 2023/2024 academic year. The number of students taking part in Natural Sciences learning in the experimental class at the time of the research was 31 people. After obtaining the learning outcome scores, the highest score achieved by students was 82.5, while the lowest score obtained by students was 60 with the total score achieved in the control class being 2,315 with an average score of 74.67 and a Standard Deviation of 6.94.

Table 1. Comparison of Learning Outcome Data for Class IVA and IVB Students

| VARIABLES | EXPERIMENT CLASS | CONTROL CLASS |
|---|---|---|
| N | 31 | 31 |
| Highest Score | 95 | 82.5 |
| Lowest Score | 65 | 60 |
| Number of Values | 2492.5 | 2313 |
| Average | 80.403 | 74.6774 |
| elementary school | 7.8022 | 6.9445 |
| Variance | 60,874 | 48.2258 |

### Normality test

The normality test used is the Liliefors test. The normality test is carried out to determine whether the data obtained comes from normally distributed data or not. In the Liliefors test, if < then the data comes from a group with a normal distribution. $L_{hitung} L_{tabel}$

Table 2. Normality Test Results

| Class | Experiment | Control |
|---|---|---|
| elementary school | 7.80 | 6.94 |
| N | 31 | 31 |
| $L_{hitung}$ | 0.1282 | 0.1292 |
| $L_{tabel}$ | 0.1591 | 0.1591 |
| Information | Normal | Normal |

Based on the normality test in the experimental class, the value obtained was 0.1282, which is smaller than 0.886. $L_{hitung} L_{tabel}$ with a real level of α 0.05 with N 31. Thus it can be seen that it is smaller than , it can be concluded that the

experimental class value comes from normally distributed data. $L_{hitung}L_{tabel}$

In the control class the normality test obtained = 0.1292 and = 0.886 $L_{hitung}L_{tabel}$ with a real level of α 0.05 with N 31. This explains that < , it can be concluded that the control class group comes from normally distributed data. $L_{hitung}L_{tabel}$

*Homogeneity Test*

The homogeneity test was carried out to ensure that the two sample groups had homogeneous variances. The technique used to test the homogeneity of population variance is the Barlett test.

Table 3. Homogeneity Test Results

| Class | Experiment | Control |
|---|---|---|
| SD2 | 60.87 | 63.23 |
| N | 31 | 31 |
| χ2 count | 0.01 | |
| χ2 table α 0.05 | 3,841 | |
| Conclusion | Homogeneous | |

By comparing the chi square table with dk = (2-1) it is obtained χ2 table is 3,841 at the significant level α = 0.05. From the homogeneity test table it can be seen that χ2 calculate the experimental class and control class is smaller than χ2 table (0.01<3.841), which can be concluded that the experimental class and control class have homogeneous variances.

*Hypothesis testing*

Hypothesis testing is an important step in research. In this research, hypothesis testing was carried out using the t-test, so for the t-test the researcher used the formula:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{SD^2 X1}{N_1 - 1} + \dfrac{SD^2 X2}{N_2 - 1}}}$$

Information :

t = Average difference number $_1$ - $X_2$

$\overline{X}_1$ = Mean of experimental group

$\overline{X}_2$ = Control group mean

SD2 = Variance

elementary school = Standard deviation

$N_1$ = Number of experimental groups

$N_2$ = Number of control groups.

Table 4. Hypothesis Testing

| ASPECT | EXPERIMENT CLASS | CONTROL CLASS |
|---|---|---|
| N | 31 | 31 |
| $\overline{X}$ | 80.403 | 74,677 |
| $SD^2$ | 60.87 | 48.23 |

To test the hypothesis, the t-test is used. From the results of hypothesis testing using the t-test, the following results were obtained:

Table 5. Hypothesis t test results

| Class | Experiment | Control |
|---|---|---|
| $\overline{X}$ | 80.403 | 74,677 |
| $t_{hitung}$ | 2.99 | |
| $t_{tabel}$ | 2.00 | |
| Conclusion | Significant | |

T-test calculation results In table t with dk (N1-1) + (N2-2) for α 0.05 is 2.000. Results are compared with . to look at the table first calculate df = (Nx - 1) + (Ny - 1), so df = (31 - 1) + (31 - 1) = 30 + 30 = 60. So it can be concluded that the learning outcomes of students who do learning using video media is higher than the learning outcomes of students who use printed books and worksheets. Thus, there is a significant influence on student learning outcomes between classes that use video media compared to the control class that uses printed book media. It is stated that the results were obtained $t_{hitung}t_{tabel}t_{hitung}$ = 2.99 greater than $t_{tabel}$ = 2.00.

Discussion

Based on the data obtained from the research results, it shows that the average score achieved

in the science and science subjects of the IVA experimental class which implemented the use of video learning media was higher than the average of the control class (IVB) which used printed book media with a significant difference. The average learning outcomes achieved by students who learn by applying learning videos are different from classes that do not use learning videos.

The results are compared with those used to see the table first calculated $t_{hitung}$ $t_{tabel}$ df (N1-1) + (N2-1) so df = 60 for α 0.05 is 2.000. The results of looking at the table first calculate df = (Nx - 1) + (Ny - 1), so df = (31 - 1) + (31 - 1) = 30 + 30 = 60. So it can be concluded that there is a significant influence significant in the application of the influence of the use of learning video media on science learning outcomes at SDN 20 Sitiung, which means "accepted". In accordance with what Daryanto (Erni et al., 2018:30) stated, students can absorb and remember material optimally, because students' absorption and memory will increase significantly if the process of acquiring information is initially greater through the senses of hearing and sight, in this case the use of video media.

## CONCLUSION

Based on the results of the data description, data analysis and discussion that have been described previously, it can be concluded that the results of the data analysis that have been carried out are the results of the t test with a value of 2.99 compared to $2.00 t_{hitung} t_{tabel}$ for α 0.05. The results for looking at the table are first calculated as df = (Nx - 1) + (Ny - 1), so df = (31 - 1) + (31 - 1) = 30 + 30 = 60. So the value > Which can be concluded as a hypothesis H1 is acceptable. $t_{hitung} t_{tabel}$.

From the results of research using social science learning video media in class IV at SDN 20 Sitiung, class IVA as an experimental class which uses video learning media in delivering material on the characteristics and properties of liquid, solid and gas objects has a higher score with an average of 80.403, while the results studying in class IVB as a control class which did not apply learning video media but instead used printed book media and LKS had an average score of 74.67.

## SUGGESTION

After carrying out research based on the conclusions above. So the suggestions that researchers can convey are: Researchers hope that teachers who teach science and science will use learning video media that is relevant to the material being taught in the classroom because using learning videos can increase students' interest in learning and improve learning outcomes.

The research carried out is still limited, so it is hoped that there will be further research on different problems and materials that are newer and can be developed and created in schools..

## THANK-YOU NOTE

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