The Influence of Using Multimedia-Based Microsoft Power Point on Class VI Science Learning Outcomes at SDN 03 Alai

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Abstract

The use of learning media is one way to develop education, the influence of media use provides results that show the extent to which the success of learning media has an impact on education so that the supporting factors and disadvantages will be known. The learning media examined in this research is Microsoft Powerpoint or PPT learning media. This research aims to determine the significant influence of using multimedia-based Microsoft Power Point media on the science learning outcomes of class VI students at SDN 03 Alai Padang. The research results show that the average score obtained from the learning outcomes of students who use Microsoft Power Point-based multimedia (experimental class) is higher. This is in accordance with the average student learning outcomes in the experimental class of 75.17, which is higher than the control class, namely 63.92. Based on the results of the t test, the calculated t is 2.083 and the t table with a significance level of 0.05 is 2.004. So if we compare the numbers 2.083 > 2.004 then it can be interpreted that H1 is accepted. So it can be concluded that the use of multimedia-based Microsoft Power Point has a significant effect on the science learning outcomes of class VI students at SDN 03 Alai.

Keywords:*The Effect of* Microsoft Powerpoint Learning Media

Abstrak

Penggunaan media pembelajaran merupakan salah satu cara dalam mengembangkan pendidikan, pengaruh penggunaan media memberikan hasil yang menunjukkan sejauh mana keberhasilan media pembelajaran memberikan dampak bagi pendidikan sehingga nantinya diketahui faktor pendukung dan faktor kerugiannya. Media pembelajaran yang diteliti dalam penelitian ini adalah media pembelajaran Microsoft Powerpoint atau PPT. Penelitian ini memiliki tujuan untuk untuk mengetahui pengaruh yang signifikan penggunaan media Microsoft Power Point berbasis multimedia terhadap hasil belajar IPA siswa kelas VI SDN 03 Alai Padang. Adapun hasil penelitian menunjukkan bahwa rata-rata skor yang diperoleh dari hasil belajar siswa yang menggunakan multimedia berbasis Microsoft Power Point (kelas eksperimen) lebih tinggi. Hal ini sesuai dengan rata-rata hasil belajar siswa pada kelas eksperimen sebesar 75,17 lebih tinggi dibandingkan dengan kelas kontrol yaitu 63,92. Berdasarkan hasil uji t diperoleh t hitung sebesar 2,083 dan t tabel dengan tingkat signifikansi 0,05 sebesar 2,004. Jadi jika kita bandingkan angka 2,083 > 2,004 maka dapat diartikan H1 diterima. Jadi dapat disimpulkan bahwa penggunaan Microsoft Power Point berbasis multimedia berpengaruh signifikan terhadap hasil belajar IPA siswa kelas VI SDN 03 Alai.

INTRODUCTION

Education in every country is the right foundation to use in improving human resources. The level of progress of each country can be seen from the high or low level of human resources available in each country and human resources themselves depend on the high or low quality and quantity of education in each country. The Indonesian state upholds a life that is broad-minded, disciplined, faithful and devout and is responsible for improving the quality of human resources through increasing the quality and quantity of education. In Law No. 20 of 2003 concerning the National Education System chapter 1 article 1 it is stated that "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality , intelligence, noble morals, and skills needed by himself, society, nation and state."

The process of improving the quality and quantity of education in Indonesia has been carried out in various ways to form a generation that is superior and able to compete in the global world, with its existence making changes to the curriculum, methods and learning models in Indonesia has implemented the process of improving the quality and quantity. This is in accordance with the objectives of national education which have been proclaimed in Law No. 20 of 2003 chapter 2 article 3 which states that: national education functions to develop life and shape the character of the nation's civilization,

developing the potential of students to become superior human beings who have faith and devotion to God. The Almighty, has noble character, is healthy, knowledgeable, capable, creative, independent, and a democratic and responsible citizen.

Bentri, et al (2019:7) state that learning is an activity that makes students learn. In the world of education there are two complex activities, namely studying and learning which are interconnected with each other.

Learning media must have innovation to attract students' interest in studying learning material. According to AECT (Association for Education Communications and Technology) defines learning media as all forms and channels used to convey messages or information. Mudhlofir (2019:124) states that learning media is an intermediary or tool used to convey messages from the sender to the recipient so that the recipient has the motivation or interest to learn so as to obtain satisfactory learning results. According to Indrawan, et al (2020:3) learning media is a learning resource that is used to channel messages so that differences in learning styles, interests, intelligence, limited energy, physical disabilities, or geographical barriers, time distance, etc. can occur. helped by using educational media to facilitate the learning process. Zainiyati (2017:63) also states that learning media is anything that can be used to convey messages from the sender to the recipient so that it can stimulate students' thoughts and feelings in the learning process with the aim of achieving effective learning. The use of learning media in the learning process has advantages such as facilitating interaction between teachers and students so that learning activities become effective.

One form of learning media is through Microsoft Power Point. According to Iswanto (2018:147) Microsoft Power Point is one of the applications used in designing reliable electronic presentations. This Power Point presentation consists of text, graphics, objects, images, clipart, films, sound and animation. This application can be displayed as an online or offline presentation.

In relation to multimedia-based learning media, Munir (2015:4) said that the term multimedia is a program for delivering digital content as a whole using an integrated combination of text, audio, two-dimensional and three-dimensional images, as well as video and animation. This was clarified by Kustandi, et al (2021:199) who explained that multimedia is a combination and integration of text, images, audio and motion graphics that are presented in a balanced manner and pay attention to the artistic elements contained in a program that uses a computer.

Based on the results of the author's observations and interviews with the teacher Mrs. Desmaini on 2-5 May 2023 at SD Negeri 03 Alai, it can be seen that during the science learning process the teacher delivered material in a lecture style assisted by LKS. Apart from that, teachers also occasionally use simple learning media, such as when learning science about the solar system, teachers usually use learning media in the form of image displays which are simply pasted on cardboard and then displayed in front of the class and also occasionally the teacher uses power point media. The power point media used by this teacher is still considered ordinary, because the power point used only contains writing without any images, even though in the science learning process, supporting images or illustrations are needed which function to make it easier for students to understand. material presented by the teacher. This causes a lack of student attention when the teacher delivers material based on focused observation. Students pay attention to the teacher's material for a maximum of 10 minutes at the beginning after students carry out activities that are not related to learning.

This problem is an important concern for a teacher, what are the ways and how to make students focus more and understand the material in the learning process so that student learning outcomes are better. One way to overcome this problem is for teachers to improve or design the

media used in the learning process so that it attracts more students' attention. One of the media that can be used by teachers is multimedia-based power point media. Power Point media is a learning media that is very simple to use so it can make it easier for teachers to convey material during the learning process. According to Khaerunnisa (2018:33), Power Point learning media is a medium that helps teachers simplify the teaching process and students more easily accept learning so that it can arouse students' interest in learning. The use of power point media can help teachers to increase students' interest and focus in learning.

Table 1. Data on Learning Results Using Teacher Media

Class	KKM	Mark
VIA	80	60.50
VI.B	80	60.25
VI.C	80	77.46
VI.D	80	66.57
VI.E	80	72.25

Therefore, from this presentation, researchers hope that there will be a discussion about the use of multimedia-based Microsoft Power Point learning media, namely an application used to create interesting material summaries, equipped with tools that function to add images and videos to pages so that they become interesting and interesting. also the features used to make the page an interactive page so it is easy to use. Thus, it is hoped that the use of this media can stimulate and motivate students in the learning process so that they can understand the material provided and can also improve student learning outcomes. Based on these problems, the author will carry out research with the title The Effect of Using Multimedia-Based Microsoft Power Point on the Science Learning Outcomes of Class 6 Students at SD Negeri 03 Alai Padang.

RESEARCH METHOD

The research method used in this research is quantitative research. According to V. Wiratna Sujarweni (2014:39) quantitative research is a type of research that produces discoveries that can be achieved (obtained) using statistical procedures or other methods of quantification (measurement). Therefore, researchers used quantitative methods

In this research, quantitative research methods were used to determine the effect of using Microsoft Power Point-based multimedia on the science learning outcomes of class VI students at SDN 03 Alai Padang. To find out the results of this research, several data are needed, starting from data collection, data interpretation, data processing, and appearance of data results.

The approach taken in this research is to use a quasi-experimental or quasi-experimental approach. According to Sugiyono (2018:120) the experimental method is a method that is part of the quantitative method which has its own characteristics, namely the existence of a control group. The aim is to determine the influence or cause and effect relationship by comparing learning results before being given treatment with learning results after being given treatment.

This research uses an experimental method because the researcher wants to test whether the use of multimedia-based Microsoft Power Point media has an effect on student learning outcomes in class VI science subjects at SD Negeri 03 Alai Padang. In this research there are two classes, namely the control class (VI.A) and the experimental class (VI.B). The experimental class is a trial class whose learning process uses multimedia-based Microsoft Power Point media, while the control class is a class that is not given any treatment but uses worksheets and books and media from the teacher as usual. in learning. Next, a test will be carried out to find out what the student's learning outcomes are.

The population in this study was class VI students at SD Negeri 03 Alai Padang consisting of class VI. A to VI. B. Meanwhile, the sample

collection technique used was purposive sampling technique. According to Sugiyono (2018:138), purposive sampling technique is a sample collection technique with certain considerations: 1) The teacher who teaches, 2) The average class score 3) The class environment, and 4) The same number of students. student. The sample in this study consisted of 56 students consisting of 28 students in class VI.A or control class and 28 students in class VI.B or experimental class.

Table 1. Sample Distribution

Class	The number of students	KKM	Mark
VIA	28	80	60.50
VI.B	28	80	60.25
VI.C	29	80	77.46
VI.D	29	80	66.57
VI.E	28	80	72.25

The technique used in the data collection process in this research was a test. This test was used to get an overview of the learning outcomes of students who were taught using multimedia-based Microsoft Power Point learning media compared to students who were taught using textbook learning media. The data taken was obtained from students' answers to questions given at the end of the research in the form of a posttest. The tools used in the data collection process in the classroom are test question sheets given to experimental class and control class students which consist of 30 posttest multiple choice questions.

Before entering into research, it is necessary to test the validity of the question items. According to Arikunto (2010:211) validity is a measuring tool that measures the validity of an instrument. The validity test aims to determine the level of reliability of the questions. This test is carried out using the following formula.

Information:

$$r_{xy=} \frac{N.\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N.\sum X2 - (\sum x)2\}\{N.\sum Y2 - (\sum Y)2\}}}$$

rxy = correlation coefficient between variables X and Y

N = many test takers

$\sum X$ = total value of test results

$\sum Y$ = number of test results

with criteria:

Between 0.800 to 1.00 = very high
Between 0.600 to 0.800 = high
Between .400 to .600 =Enough
Between 0.200 to 0.400 = low Between
0.00 to 0.200 = very low

When testing the validity of the question items, the following results were obtained.

Table 3. Validity Results of Test Questions

Test Questions	r-count	r-table	Information

1	0.435048	0.374	Valid
2	0.448925	0.374	Valid
3	-0.04954	0.374	Invalid
4	0.387705	0.374	Valid
5	0.634687	0.374	Valid
6	0.446987	0.374	Valid
7	0.400044	0.374	Valid
8	0.356044	0.374	Invalid
9	0.188858	0.374	Invalid
10	-0.09102	0.374	Invalid
11	0.36504	0.374	Invalid
12	0.260028	0.374	Invalid
13	0.318892	0.374	Invalid
14	0.470597	0.374	Valid
15	0.667493	0.374	Valid
16	0.105018	0.374	Invalid
17	0.433445	0.374	Valid
18	0.644108	0.374	Valid
19	0.471642	0.374	Valid
20	0.648998	0.374	Valid
21	0.403929	0.374	Valid
22	0.670311	0.374	Valid
23	0.553416	0.374	Valid
24	0.706589	0.374	Valid
25	0.088324	0.374	Invalid
26	0.156359	0.374	Invalid
27	0.547457	0.374	Valid

28	0.464405	0.374	Valid
29	0.448925	0.374	Valid
30	0.421555	0.374	Valid

Based on the results of the validity analysis of 30 questions using the 'Product Moment Correlation' formula (Pearson Method), the results of the analysis were that there were 20 valid questions, including 1, 2, 4. 5. 6 7. 14. 15. 17. 18. 19. 20. 21. 22. 23. 24. 27. 28. 29. 30, while the number of questions that were not 10 valid, namely 3,8,9,10,11,12,13,16,25,26

The data analysis technique used in this research is to first carry out a normality test and a homogeneity test. Because variance analysis requires that the data comes from a normally distributed population and that both classes have homogeneous variance.

The normality test in Syafril (2010: 211) aims to find out whether the data to be processed comes from normally distributed data. In this normality test, the Liliefors test is used using the following formula:

$$Zi = \frac{K_1 - K}{S}$$

Information :

$\bar{K}1$ = Student score obtained by the *Z*ith student
in K2 = Control group mean
S = Standard Deviation

Test the hypothesis using the following formula

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{SD^2X_1}{N_1 - 1} + \frac{SD^2X_2}{N_2 - 1}}}$$

t = Average difference number X1−X2
$\bar{X}1$ = Mean of experimental group
$\bar{X}2$ = Control group mean
$SD2$ =Variance
elementary school = StandardVariation
N1 =Number of experimental groups
N2 =Number of control groups

The calculated t results are compared with the table results contained in the t distribution table. If t count > t table, it means there is a significant difference between the two groups. This is in accordance with the opinion stated by Syafril (2010: 138), namely, if t count is the same or greater than t table, it means there is a significant difference and vice versa if t count is smaller than t table, it means there is no significant difference .

RESEARCH RESULTS AND DISCUSSION

Research result

This research was conducted at SD Negeri 03 Alai Padang on October 24 2023. This research focused on finding out the effect of using Microsoft Power Point-based multimedia on the science learning outcomes of class VI students at SD Negeri 03 Alai Padang. The data obtained came from two samples, namely the experimental class (VI.B) and the control class (VI.A). in the experimental class, treatment was given using Microsoft Power Point-based multimedia in the learning process. After the learning process was carried out in both classes, a test was given with a total of 20 questions whose validity had been tested.

Based on data obtained from the posttest results, in the experimental class, namely class VI.B, the highest score achieved by students was 95 and the lowest score was 30. For more details, the range of score intervals for experimental class learning results data can be seen in the table below:

Table 4. Experimental Class Learning Outcome Data

Intervals	**midpoint**	**Frequency**	**%**
30-40	35	1	4%
41-51	46	3	11%
52-62	57	2	7%
63-73	68	5	18%
74-84	79	4	14%
85-95	90	13	46%
Amount		28	100%

Based on the table above, the interval class that has the highest frequency is the 85-95 range with a frequency of 13 (46%). The data obtained has an average value of 75.17 and a standard deviation of 16.96. From the table above, you can see the interval of results for students who obtained learning outcomes with a score of 30 to 95.

Meanwhile, in the control class, namely class VI.A, the highest score achieved by students was 90 and the lowest score, namely 25. For more complete range of score intervals, the control class learning outcomes data are as follows.

Table 5. Control Class Learning Outcome Data

Intervals	**Midpoint**	**Frequency**	**%**
25-35	30	5	18%
36-46	41	5	18%
47-57	52	2	7%
58-68	63	2	7%
69-79	74	2	7%
80-90	85	12	43%

Amount	28	100%

Based on the table above, the interval class that has the highest frequency is in the 80-90 range with a frequency of 12 (43%). The data obtained has an average value of 63.92 and a standard deviation of 22. From the table above you can see the interval of results for students who obtained learning outcomes with a score of 25 to 90.

So through the posttest results, comparisons can be made as follows.

Table 6. Differences in Learning Outcomes of Control Class and Experimental Class

Variable	**Experimental Class**	**Control Class**
Highest Score	95	90
Lowest Score	30	25
Number of Values	2150	1790
Average	75.17	63.92

Based on test calculations carried out using the Lilieforster test for the experimental class and control class in the attachment. Based on the normality test for the experimental class and control class, the Lcount and Ltable values were obtained at a real level of 0.05 for N = 28

Based on the hypothesis test, t table with df = (n1 – 1) + (n2 – 1) = 54, then the reference to this table is that with a real level of α 0.05, the t table value is 2.004. Thus, the applicable criteria are tcount > ttable (2.083 > 2.004). This means that the hypothesis H1 is accepted and H0 is rejected. I t can be concluded that learning outcomes using Microsoft Power Point media are higher than learning outcomes using textbooks and image media. So there is a significant influence on student learning outcomes between the experimental class which uses Microsoft Power Point compared to the control class which uses textbooks and image media.

Discussion

This research was conducted with the aim of finding out the significant influence of using multimedia-based Microsoft Power Point media on the science learning outcomes of class VI students at SDN 03 Alai Padang. The implementation of this research involved 56 students as samples, of whom 28 students were in the experimental class in class VI.B and 28 students were in the control class in class VI.A.

After testing the hypothesis on the data obtained during the research, there was a difference between the learning outcomes of students who used multimedia-based PowerPoint learning media and students who did not use multimedia-based PowerPoint learning media at a significant level of α 0.05. Based on the results of the hypothesis test, it can be concluded that the use of multimedia-based Powerpoint learning media in the science and science subject Solar System has an impact on improving the learning outcomes of class VI students at SDN 03 Alai.

From the results of data processing, it can be seen that several things are related to the proposed hypothesis, with almost the same initial abilities in the experimental class and control class students and they are given different treatment in the learning process, namely multimedia-based PowerPoint learning media for the experimental class and using textbook learning media. in the control class. The increase in student learning outcomes in the knowledge aspect in the experimental class is better than in the control class, this shows that learning using multimedia-based PowerPoint learning media has a role in the learning process and increasing practical values in the experimental class shows higher results compared to the control class . .

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CONCLUSION

Based on the results and discussion previously explained, it can be concluded that:

a. The hypothesis result using the t table test formula is 2.004. Thus, the applicable criteria are tcount > ttable (2.083 > 2.004). This means that the hypothesis H1 is accepted and H0 is rejected. It can be concluded that the learning outcomes that use learning media Multimedia-based Microsoft Power Point is higher than learning outcomes using textbooks and image media.
b. The average learning outcome score for experimental class students was 75.17 using multimedia-based Microsoft Power Point learning media, which was higher than the average score. The average learning outcomes of control class students who did not use multimedia-based Microsoft Power Point learning media obtained an average score of 63.92.

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