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Research Article

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The Influence of Demonstration Method on Learning Outcomes of Class 5 B Science Subjects Even Semester Madrasah Ibtidaiyah Negeri 2 Karawang

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Abstract: This type of research is a "quantitative" study with a Group Pretest-Posttest Design. This study aims to determine the effect of the demonstration method on student learning outcomes in class 5 B science subjects in the even semester of Madrasah Ibtidaiyah Negeri 2 Karawang. The subjects of this study were 22 students in grade 5 B. This research was conducted using a test of learning outcomes. The collected data were analyzed quantitatively using descriptive statistics and inferential statistics. The results of the descriptive statistical data show that there is an influence on student learning outcomes which is indicated by the difference in the average score of students which is 51,41 on the pre-test while on the post-test it is 68,23 which means that the acquisition of the score is in the very good category. While the results of the inferential statistical data show that the sig value at the pretest and posttest is 0.001. If the results of the hypothesis testing show 0.001 <0.05, it can be concluded that H0 is rejected and H1 is accepted. Based on the results of the two analyses, it can be concluded that learning methods affect student learning outcomes in grade 5 science subjects even semester at Madrasah Ibtidaiyah Negeri 2 Karawang.

Keywords: Learning Outcomes, Demonstration Methods, Science.

Introduction

The learning process has a central role in helping students acquire knowledge, skills and attitudes, as well as forming confidence in themselves. Education in Islam also emphasizes the importance of knowledge, both for the world and the afterlife. As stated in the Hadith narrated by Ahmad: "Whoever wants the world, let him master knowledge. Whoever wants the afterlife, let him master knowledge. And whoever wants both (the world and the afterlife), let him master knowledge." (HR Ahmad).

This message underlines how important science is in human life, both in this world and in the afterlife. According to Amri, as quoted (Kuswandi, 2021), teaching and learning methods can be defined as the methods used to convey or impart knowledge to students, or children, through teaching and learning activities, whether at school, home, campus, boarding school, etc. other. Furthermore, Rusman in (Arifudin, 2022) stated that learning methods are used by teachers to create a learning atmosphere and learning process so that students achieve basic competencies or a set of predetermined indicators.

This research carries the theme "The Influence of the Demonstration Method on the Learning Outcomes of Class 5 B Students in Even Semester Science Subjects at Madrasah Ibtidaiyah Negeri 2 Karawang". The demonstration method is a teaching method used to show a process or how an object works that is related to the lesson material. This method is used to get a clearer picture of things related to the process of moving something and prioritizing one way over another (Saputra & Priyanto, 2016). The demonstration learning method is a learning method used to show a process or how an object works related to the learning material (Ali & Zainal., 2016). So, demonstration is a teacher's way of showing or showing a process (Kuswandi, 2022).

According to (Sagala, 2013) the demonstration method is an indication of the process of occurrence of an event or object in the performance of the behavior being exemplified so that it can be known and understood by students in real terms. In the world of education, teachers must have a deep understanding of the obstacles faced by students during the learning process. For example, students may have difficulty understanding the material being taught or lack interest in certain lessons. As a solution, teachers need to develop more interesting learning strategies. Sometimes, student learning outcomes have not reached the

targets set by the school, such as the minimum completeness criteria (KKM), this may be due to the application of conventional learning methods, including in science subjects. Learning methods are defined as the methods used by teachers to carry out their functions and are a tool to achieve learning goals (Uno & Nurdin, 2011).

According to Nasution in (Fitria, 2023) that choosing the right learning method can increase the effectiveness of achieving learning goals. Teachers need to choose appropriate learning methods so that students can more easily understand the lesson. Apart from that, teachers also need to create a conducive classroom atmosphere and encourage students to actively participate in learning. However, based on researchers' experience, the science learning process still often uses conventional methods, such as lectures and questions and answers, which have not provided satisfactory results. Students tend not to understand the material in depth, and the concepts taught are difficult to understand. This phenomenon can be seen from student behavior in the classroom, such as lack of interest in learning, lack of interaction, and lack of involvement in learning.

Choosing the right learning method is very important so that students can actively participate in learning and achieve the expected learning outcomes. Therefore, innovation is needed in the learning process to build student interest, motivation and participation. One alternative taken in this research is to apply the demonstration learning method. The demonstration method is a way of teaching that shows the process or workings of an object related to the subject matter. Learning using the demonstration method is considered effective for students. Through this method, students are shown the process of an event, from beginning to end, the demonstration method provides examples that are demonstrated to students with the aim of providing an understanding of the occurrence of an event, and training students to put it into practice (Abizar., 2017).

The goal of demonstration combined with practice is to make changes in the skill domain. The demonstration method is very effective when teaching skills, step by step, for example the process of doing something, comparing one way with another way or seeing, knowing the truth of something, how to organize something and so on. Meanwhile, according to Suaedy in (Mayasari, 2022), the demonstration method is a way of delivering material by demonstrating the activity process. This method focuses on direct visualization which can help students understand better. In this context, researchers are interested in examining the impact of using the demonstration method on the learning outcomes of class 5 B students in science subjects in the even semester at Madrasah Ibtidaiyah Negeri 2 Karawang.

Therefore, the main aim of this research is to investigate the effect of the demonstration method on student learning outcomes in science subjects. Thus, it is hoped that this research can contribute to efforts to improve the quality of learning and student learning outcomes at Madrasah Ibtidaiyah Negeri 2 Karawang.

Method

The research method used is a descriptive method with a quantitative approach. According to Leo as quoted (Rahayu, 2020) this descriptive method involves collecting data to test hypotheses or answer questions about people's opinions on an issue or topic. Quantitative research is research that is based on collecting and analyzing data in the form of numbers (numerics) to explain, predict and control phenomena of interest. According to (Arifudin, 2023) quantitative research emphasizes analysis on numerical data processed using statistical methods. With quantitative methods, the significance of the relationship between variables will be obtained.

According to Sujarweni as quoted (Hanafiah, 2021) that research instruments are tools used in collecting research data. Meanwhile, according to (Haris, 2023), in quantitative research, generally the data collection tools/research instruments used by researchers are developed from the description of research variables developed from theories that will be tested through the research activities carried out.

This research uses research methods using survey and questionnaire techniques with a quantitative approach. According to (Mardizal, 2023) survey research is usually carried out to draw generalizations. Generalizations will be more accurate if research uses representative samples. This type of research

reveals the relationship between variables, namely research aimed at investigating the relationship between the influence of the demonstration method on the learning outcomes of class 5 B students in Science Subjects, Even Semester, Madrasah Ibtidaiyah Negeri 2 Karawang.

According to Sugiyono, quoted (Mayasari, 2023), a questionnaire is a data collection technique that is carried out by giving a set of questions or written statements to respondents to answer. In this research, the author used a questionnaire to seek data directly from members taken as samples.

In quantitative research, data analysis is an activity after data from all respondents or other data sources has been collected. According to (Sugiyono, 2015) the activities in data analysis are grouping data based on variables and types of respondents, tabulating data based on variables from all respondents, presenting data for each variable studied, carrying out calculations to answer the problem formulation, and carrying out calculations to test hypotheses that have been submitted.

In this research, the research location took place at Madrasah Ibtidaiyah Negeri 2 Karawang, with a total sample of 22 students from class 5B. The research was conducted for 2 months, starting from January 27 2023 to March 11 2023. The research design used was "One group Pretest-Posttest Design", where there were measurements before and after treatment. Data were analyzed using descriptive and inferential statistical techniques using SPSS for Windows version 29. Data collection was carried out through tests (pretest and posttest), questionnaires and documentation. The validity of the research instrument was tested using the validation method. Data normality and homogeneity testing was carried out before hypothesis testing. The research procedure stage includes problem identification, literature study, development of a conceptual framework, identification of variables, hypotheses and research questions, as well as data collection and analysis (Kuswandi, 2023).

Results and Discussion

This research consisted of 22 students in class 5 B of Madrasah Ibtidaiyah Negeri 2 Karawang. This research is about the influence of the demonstration method on the learning outcomes of class 5 B students at Madrasah Ibtidaiyah Negeri 2 Karawang. The results of this research are descriptive results expressed in numbers. The description of students' science learning outcomes before and after implementing physical classroom management and student arrangements is:

Table 1. Pretest Results

Descriptif Statistic	Statistic value
sample	22
The highest score	72
Lowest value	26
Most value	53
Score rate	51,41
Standard deviation	11438

The table above shows that the average score for students' science learning outcomes before being given treatment or pretest was 51.41. The highest score achieved by students was 72 and the lowest score was 26 with a standard deviation of 11,438. This means that the learning outcomes scores for class 5 B students during the pretest at Madrasah Ibtidaiyah Negeri 2 Karawang were from the lowest score of 26 to the highest score of 72.

If student learning outcomes scores before treatment or pretest are grouped into five categories, then the distribution of frequency and percentage scores is obtained as shown in the following table:

Table 2. Frequency and Percentage Scores

No.	Score	Category	Frequency	Percentage (%)
1.	90-100	Very high	0	0
2.	80-89	Height	0	0

3.	70-79	Currently	1	04,5
4.	60-69	Low	4	18,1
5.	0-59	Very Low	17	77,2
		Amount	22	100

The table above shows that there were no students who got a very high score, 1 student who got a medium score with a percentage of 04.5%, 4 students who got a low score with a percentage of 18.1%, and 17 students who got a very low score with a percentage 77.2 %.

Table 3. Posttest Learning Results

Descriptif Statistic	Statistic value
sample	22
The highest score	87
Lowest value	40
Most value	82
Score rate	68,23
Standard deviation	12255

The table above shows that the average score for student descriptive writing skills learning outcomes after being given treatment is 68.23. The highest score achieved by students was 87 and the lowest score was 40 with a standard deviation of 12.255. This means that the score for class 5 B learning outcomes at Madrasah Ibtidaiyah Negeri 2 Karawang is spread from the lowest score of 40 to the highest score of 87.

If students' learning outcome scores in science subjects after being given treatment or posttest are grouped into five categories, then the frequency and percentage score distribution is obtained as shown in the following table:

Table 4. Frequency And Percentage

No.	Score	Category	Frequency	Percentage
1.	90-100	Very high	0	0
2.	80-89	Height	6	27,2
3.	70-79	Currently	4	18,1
4.	60-69	Low	8	36,3
5.	0-59	Very Low	4	18,1
		Amount	**22**	**100**

The table above shows that there were 6 students who got the high score category with a percentage of 27.2%, 4 students who got the medium score category with a percentage of 18.1%, 8 students who got the low score with a percentage of 36.3%, and 4 students which obtained a very low score with a percentage of 18.1%.

Table 5. Normality Test of Pretest and Posttest Values

One-Sample Kolmogorov-Smirnov Test			
		Pre	Post
N		22	22
Normal Parameters a,b	Mean	51.41	68.23
	Std. Deviation	11.438	12.255
Most Extreme Differences	Absolute	.144	.142
	Positive	.117	.106

	Negative		-.144	-,142
Test Statistic			.144	.142
Asymp. Sig. (2-tailed)c			.200d	.200d
Monte Carlo Sig. (2-tailed)e	Sig.		.274	.290
	99% Confidence Interval	Lower Bound	.263	.278
		Upper Bound	.286	.302

Sig value. in the pretest it is 0.200 and in the posttest, it is 0.200, it is known that 0.200 > 0.05 and the posttest normality test is known to be 0.200 > 0.05, so it can be concluded that the results from Kolmogorov Smirnov above are normally distributed.

Table 6. Test Homogeneit

Tests of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
post	Based on Mean	2914	7	9	.069
	Based on Median	1617	7	9	.246
	Based on Median and with adjusted df	1617	7	2000	.434
	Based on trimmed mean	2821	7	9	.075

Sig value. on the pretest and posttest got 0.69. If we look at the results of the pretest and posttest homogeneity tests, it is known that 0.69 > 0.05, it can be concluded that the data obtained is homogeneous in distribution.

Tabel 7. Paired Sample Test

Paired Samples Test

		Paired Diffeences								
				95% Confidence Interval of the Difference					**Significance**	
		Mean	**Std. Deviation**	**Std. Error Mean**	**Lower**	**Upper**	**t**	**df**	**One-Sided p**	**Two-Sided p**
Pair 1	Pre-post	-16.81818	14.54494	3.10121	-23.26749	-10.36887	-5.423	21	<.001	<.001

Sig value. on the pretest and posttest is 0.001. If we look at the results of the pretest and posttest hypothesis tests, it is known that 0.001<0.05, then it can be concluded that H0 rejected and H1 accepted. This means that there is an influence of the demonstration method on learning outcomes in science subjects for class 5 B students at Madrasah Ibtidaiyah Negeri 2 Karawang.

Table 8. Results of Descriptive Statistical Data Analysis

The highest score	72	87
Lowest value	26	40
Most value	53	82
Score rate	51,41	68,23
Standard deviation	11438	12255

There are differences in learning outcomes using the demonstration method as shown by the difference in the average score which was 51.41 for the pretest and 68.23 for the posttest.

Table 9. Comparison of Frequencies and Percentages

No.	Score	Category	Frequency		Percentage	
			Pretest	posttest	pretest	posttest
1.	90-100	Very high	0	0	0	0
2.	80-89	Height	0	6	0	27,2
3.	70-79	Currently	1	4	4,5	18,1
4.	60-69	Low	4	8	18,1	36,3
5.	0-59	Very low	17	4	77,2	18,1
Amount			22	22	100	100

The table above shows that there are differences in learning outcomes when using learning methods, initially none of the students got a high category score at the pretest, then at the posttest there were 6 students in the high category with a percentage of 27.2%. During the pretest, there were only 8 students who got scores in the low and very low categories, whereas during the posttest, only 8 students got low scores, the percentage was 36.3% and there were fewer students who got scores in the very low category.

Table 10. Completeness of learning outcomes

Score	**Category**	**Frequency**		**Percentage**	
		Pretest	**posttest**	**pretest**	**posttest**
> 70	Complete	2	18	09,0	54,5
< 70	Not Complete	20	4	90,8	18,1

The table above shows that there are significant differences in completion results. From those who have not used the demonstration method to those who have used the demonstration method.

Inferential statistical data analysis in this research there were three tests carried out, namely the normality test, homogeneity test and hypothesis test. These three tests are SPSS programs. The normality test shows that the sig. on the pretest it was 0.200 and on the posttest 0.200. If we look at the results of the pre-test normality test, it is known that 0.200 > 0.05 and the post-test results are 0.200 > 0.05, so the conclusion is that the data obtained is normally distributed. Furthermore, the homogeneity test shows that the sig. on the pretest and posttest was 0.69. It is known that 0.69 > 0.05, so it can be concluded that the data obtained is homogeneous in distribution. Meanwhile, the hypothesis test shows that the sig. in the pretest and posttest is 0.001 <0.05, so it is concluded that Ho is rejected Hi is accepted. This means that there is an influence of the use of the demonstration method on the learning outcomes of class 5 B students in science subjects in the even semester of Madrasah Ibtidaiyah Negeri 2 Karawang. This is in

line with research (Ulfah, 2022) which suggests that the role of methods has a high level of success in achieving learning goals.

Conclusion

The conclusion of this research is that learning methods have a significant influence on the learning outcomes of grade 5 students in even semester science subjects at Madrasah Ibtidaiyah Negeri 2 Karawang. Descriptive data analysis shows an increase in students' average scores from pretest (51.41) to posttest (68.23), which indicates a very good learning outcomes category. The results of inferential data analysis show that the sig value in the pretest and posttest is 0.001, indicating rejection of H0 and acceptance of H1. Therefore, it is concluded that the demonstration learning method has a positive effect on student learning outcomes.

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