

THE EFFECT OF REALIA MEDIA ON STUDENT LEARNING OUTCOMES IN SCIENCE SUBJECTS OF GRADE IV

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui Pengaruh Media Realia Terhadap Hasil Belajar Siswa Pada Mata Pelajaran IPA Kelas IV UPTD SD Negeri 125543 Pematangsiantar. Penelitian ini menggunakan jenis metode penelitian kuantitatif dengan "Pre-Experimental Design" bentuk One Group Pre-test Posttest yang dilaksanakan di UPTD SD Negeri 125543 Pematangsiantar pada siswa kelas IV dengan jumlah populasi 25 orang dan sampel sebanyak 25 orang. Teknik pengumpulan data penelitian ini menggunakan test sebanyak 2 kali yaitu Pretest-Posttest. Data diolah menggunakan Teknik Quota Sampling, pengujian hipotesis menunjukkan terdapat pengaruh yang signifikan pada penelitian ini dari data yang sudah diujikan datanya dapat dilihat dari analisis data diperoleh hasil rata-rata pretest (53,20) dan posttest (86,20). Berdasarkan hasil penelitian ini maka dapat disimpulkan bahwa ada pengaruh media Realia Terhadap Hasil Belajar Pada Mata Pelajaran IPA Kelas IV UPTD SD Negeri 125543 Pematangsiantar, hal ini juga dibuktikan pada hasil uji analisis data di peroleh dari taraf signifikan $0,00 < \text{probabilitas } 0,05$ dan $t_{\text{hitung}} 11,264 > t_{\text{tabel}} 1,711$. Maka di simpulkan H_0 ditolak dan H_a diterima yang berarti "Pengaruh Media Realia Terhadap Hasil Belajar Siswa Kelas IV Pada Mata Pelajaran IPA UPTD SD NEGERI 125543 Pematangsiantar".

ABSTRACT

Keywords:

Learning Media, Realia, Learning Outcomes

This study aims to determine the effect of realia media on student learning outcomes in science subjects for fourth-grade students at the UPTD SD Negeri 125543 Pematangsiantar. This study used a quantitative research method with a "Pre-Experimental Design" in the form of a One Group Pre-test/Posttest. This study was conducted at the UPTD SD Negeri 125543 Pematangsiantar on fourth-grade students with a population of 25 students and a sample of 25 students. The data collection technique used two tests: a pretest and a posttest. Data were processed using quota sampling. Hypothesis testing showed a significant effect in this study. The data analysis showed an average pretest (53.20) and posttest (86.20). Based on the results of this study, it can be concluded that Realia media has an effect on learning outcomes in science subjects for grade IV students at the UPTD SD Negeri 125543 Pematangsiantar. This is also evidenced by the results of the data analysis test obtained with a significance level of $0.00 < \text{probability } 0.05$ and a calculated t-value of $11.264 > t\text{-table } 1.711$. Therefore, it is concluded that H_0 is rejected and H_a is accepted, meaning "The Effect of Realia Media on Learning Outcomes for Grade IV Students in Science Subjects at UPTD SD NEGERI 125543 Pematangsiantar".



1. Introduction

The 21st century requires quality human resources. One component that can improve and enhance the quality of human resources is education. Education is a conscious and planned effort to create a learning atmosphere and process that allows students to actively develop their potential to possess spiritual and religious strength, self-control, personality, intelligence, noble character, and the skills needed by themselves, society, the nation, and the state (Dewi et al., 2024).

Based on data conditions in Indonesia, Indonesia's education ranking in 2023 was 67th out of 209 countries, indicating that the quality of education in Indonesia is still very low. The ranking is based on five levels of education: early childhood school enrollment rate of 68%, elementary school completion rate of 100%, secondary school completion rate of 91.19%, high school graduation rate of 78%, and college graduation rate of 19%. To improve the quality of education in Indonesia, qualified human resources are essential (Azizah, 2025).

One of the main problems in education in Indonesia is the quality of teachers at various levels, for example in professionalism. It is true that qualified teachers will produce quality education, and vice versa. Teachers are at the forefront of developing human resources and are a key component in determining the quality of education (Fitri et al., 2025a). It is also true that student success rests in the hands of their teachers, whether academically, in terms of ability, emotional maturity, or even spiritual morality (Yunita & Supriatna, 2021). Achieving this requires highly qualified, competent, and dedicated teachers in carrying out their duties in education (Fitri et al., 2025b).

One of the factors contributing to the low quality of education in Indonesia is teacher quality. The state of teacher quality in Indonesia is quite concerning, this is because many teachers still lack the professionalism to carry out their duties as stated in Article 39 of Law No. 20 of 2003, namely planning learning, implementing learning, assessing learning outcomes, providing guidance, conducting training, conducting research, and carrying out community service (Salsabilah et al., 2025).

However, in Indonesia, there are still many teachers who do not have teaching qualifications. Qualified teachers must be professional, as stated in Law Number 14 of 2005 concerning Teachers and Lecturers and Government Regulation Number 19 of 2005 concerning National Education Standards, which stipulate that teachers are professional educators. A professional teacher or educator has a minimum academic qualification of a bachelor's or diploma (IV), has acquired skills (pedagogical, professional, social, moral) and has obtained teaching qualifications, must be physically and mentally healthy (Noviati, 2017) . So, a qualified teacher or educator will be able to

create a comfortable, active, creative and of course quality learning atmosphere and can educate their students as expected in Law No. 20 of 2003. With a quality atmosphere as mentioned above, it will certainly have an impact on improving student learning outcomes. What is meant by learning outcomes is the ability that students have after receiving learning experiences through other people or experiences that are evidence of success that has been achieved by someone (Oviana et al., 2023).

Based on observations conducted on June 14, 2025, at the UPTD of Public Elementary School 125543, the following student learning outcomes were found: Of the 25 students in grade IV, only 10 completed the test (40%), while the remaining 15 students did not complete the test (60%). The predetermined criteria (KKTP) is 70. One way to foster a strong sense of curiosity in students is by using learning media tailored to their needs and interests. This means that students are not merely recipients of information but also actively participate in the learning process by asking reasonable questions and making informed statements. This allows them to develop their skills by identifying problems and distinguishing between facts and opinions. Wijayanti and Ekantini (Perdana et al., 2024) implemented the Independent Curriculum in elementary schools, combining science and social studies into a single curriculum. Although textbooks contain both science and social studies material, the practical aspects of science learning are taught separately from social studies. Natural Sciences are taught in the odd semester, and Social Sciences are taught in the even semester. This research, conducted during the odd semester, focused on science subjects (Hidayati, 2018).

One of the factors that causes low student learning outcomes is known to be due to the lack of student activity in participating in the learning provided, this is seen from the attitude of students who are often silent and less active in responding to the material presented by the teacher. Teachers have tried to make improvements by providing exercises and homework at the end of each meeting, even teachers have also implemented several learning models and media such as lectures and group discussions but have not obtained the expected results. The efforts made by teachers are still lacking in attracting student interest because students tend to be bored with models that are less varied and not supported by the use of learning media (Nurwita, 2019).

The learning process is the key to achieving good quality education. The learning process that takes place in class IV is less interesting. Because teachers only use textbooks to teach material to students and the teaching methods are still conventional, many students feel bored, inactive, busy themselves and even feel sleepy during learning activities. Therefore, the effect is that students do not have a deeper interest and curiosity in the learning material. This is supported by the results of the final semester exam for the subject of Natural Sciences. Therefore, learning media is needed that involves students so that they play an active role. There are many learning media that teachers can use in teaching, including visual media, audio media, and audiovisual media. These learning media are further divided into concrete visual media such as graphs, charts, pictures or photos, maps, globes, and others (Megawati, 2017).

Realia media are objects that can be seen, touched, or held by students; they can provide direct assistance. The use of realia objects makes it easier for students to have concrete thinking skills to understand learning based on their own perspectives (Huwaida et al., 2023). The properties of realia media can be used in learning activities in their original form, without modification, without alteration, unless removed from the original environmental conditions, and media that facilitate students in learning independently through fun learning activities and students are actively involved (Kuswariyanti, 2021). Especially in science subjects, this media is suitable for use because at the elementary/Islamic elementary school level, so it is very important for students to be actively involved in learning (Parmawatika et al., 2018).

So, based on the opinion above, using realia media will produce a positive impact. This can be seen from the responses shown by students, students become active and involved in the learning process and can trigger motivation from within themselves to find out more deeply about the learning material they are studying (Sitorus et al., 2022). Thus, the use of realia media will trigger students' curiosity, because students can not only read but also analyze, explore, and conclude their own information from the media they have seen. The benefits of using realia media are making it easier for teachers to explain the subject matter, information presented in visual form is easier to remember than plain text, encourages students to think creatively and be curious, with the presentation of material being more concrete and easy to understand and finally learning is more enjoyable and not boring (Kurniansyah et al., 2024).

Therefore, the advantages of using realia media are attracting students' attention so that they become more focused in learning, increasing understanding of concepts both difficult and abstract, to encourage students to remember material more easily combined with direct image forms and being able to increase good cooperation to complete the material that will be delivered by the teacher by paying attention to the reality of science learning outcomes that are still low which in this case focuses on science subjects, and the importance of using media in learning, the researcher will conduct a study entitled, "The Effect of Realia Media on Learning Outcomes of Grade IV Students in Science Subjects at UPTD SD NEGERI 125543 Pematangsiantar". This research is expected to contribute to further development to improve student learning outcomes

2. Method

This research uses quantitative research with experimental research methods. The quantitative approach research method is a research method in the form of data or numbers. According to Sugiyono (Anugrah et al., 2024), the quantitative approach research method is suitable for testing existing hypotheses and theories. Yusuf (Amalia & Nur, 2023) states that experimental research is an investigation designed in such a way that the phenomenon or event can be isolated from other influences. The purpose of this study is to test the effect of realia media on the learning outcomes of fourth-grade students in science subjects at the UPTD SD Negeri 125543. Disclosure of this research data requires data content and display of data results.

The research design used is "Pre-Experimental Design" with One Group Pretest-Posttest Design. In this design, a pretest is administered to the sample before treatment, and a posttest is

administered at the end of the study to ensure more accurate data. This experimental model involves three steps:

Provide a pretest to measure the dependent variable (student learning outcomes in science subjects) before the treatment is carried out. Providing treatment to the class of research subjects using realia learning media. Population can be interpreted as all subjects in a study that are studied and recorded in any form that exists in the field. A more complex understanding of population is that the population does not only include the number of subjects (MAGHFERA, 2025) .

The population in this study was all fourth-grade students at SD Negeri 125543 Pematangsiantar, totaling 25 students, consisting of 16 males and 9 females. A sample is simply defined as a portion of a population that serves as the actual source of data for the study. In other words, a sample is a portion of a population that represents the entire population. In this study, the sampling technique used was nonprobability sampling using quota sampling. Quota sampling is a technique for determining samples from a population that has certain characteristics up to the desired quota (Fhasya, 2022) .The sample in this study was all fourth grade students of UPTD SD Negeri 125543. Researchers used the entire population as a sample in the study, namely 25 students consisting of 16 boys and 9 girls.

3. Result and Discussion

This research is a pre-experimental (quantitative) research using a one group pretest and posttest design conducted in class IV of UPTD SD Negeri 125543 Pematangsiantar with a total of 25 students. The questions given during the research had been tested for validity first in class IV at a different school, namely UPT SD Negeri 081 Hutasoit II with a total of 25 students. After the validation of the questions was carried out, the research was continued in class IV UPTD SD Negeri 125543 Pematangsiantar on the Science subject with the material "Plants as a Source of Life", the first thing done in this research was giving a pretest to students in order to find out the results of student learning before the Realia media was carried out, then learning was carried out on the Science subject in the 2nd lesson using Realia learning media after the learning was carried out, then a posttest was carried out, the aim was to find out the results of student learning after being given treatment or after using Realia media (Lestari & Sumarno, 2025).

Instrument Trial Results

The study conducted a trial of 35 questions on the instrument in class IV of UPT SD Negeri 081 Hutasoit II Jln. Prof. Dr. JH. Hutasoit, Lintongnihuta District, Humbang Hasundutan Regency, on August 25, 2025. 25 students were given the instrument trial. The trial was conducted to determine the validity and reliability as well as the level of difficulty and discrimination of the questions. Validity is a measure that shows the levels of validity of an instrument. In testing the validity of the questions that had been completed by respondents, the researcher used the SPSS 26 application. After the researcher corrected the questions that had been worked on by the students, the researcher input the data into SPSS 26. The questions were said to be valid if the value of

$r_{\text{(calculated)}} > r_{\text{(table)}}$ with a significance level of 5% or 0.05%, and vice versa if $r_{\text{(calculated)}} < r_{\text{(table)}}$ then the questions were said to be invalid (Prihandari et al., 2024). In determining $r_{\text{(calculate)}}$ it can be seen from the r product moment table with $N = 25$, then obtained = 0.3961.

Hypothesis

Hypothesis testing is a decision-making method based on data analysis. After considering the characteristics of the studied variables and the analysis statement, the next step is to test the hypothesis using SPSS 26. Based on the problem formulation and proposed hypothesis, a *paired sample test will be used* to answer the proposed hypothesis. The first hypothesis test uses a one-sample t-test. (Aulia et al., 2020). This test was conducted to compare results within the same class (same sample), namely the pretest and posttest learning outcomes in the class using Realia media. It was used to determine whether there was a mean between the two paired samples. In SPSS 26, the basis for decision-making is as follows:

- If sig (2-tailed) < 0.05, then there is a significant difference between the pretest and posttest scores.
- If sig (2-tailed) > 0.05, then there is no significant difference between the pretest and posttest scores.

In this study, a sample test was used to determine the significant positive influence of Realia media on the science learning outcomes of fourth grade students, as can be seen in the following table:

Table 1. Hypothesis Test Results

		Paired Samples Test		Paired Differences		95% Confidence Interval of the Difference		t	Sig. (2-tailed)
		Mean	Std. Deviation	Lower	Upper				
Pair 1	Before treatment - After treatment	-3,000	14,293	-39,047	26,953	-1,264	2,000		

Based on the table above, it is known that the sig value (2-tailed) is 0.00 and this value is smaller than 0.05, which indicates that there is a significant influence between student learning outcomes in the pretest and posttest. Therefore, it can be concluded that in this study, H_a is accepted and H_o is rejected, which means that there is an influence of Realia media on the science learning outcomes of fourth-grade students at UPTD SD Negeri 125543 Pematangsiantar. (Habaridota, 2022).

Discussion of Research Results

This research was conducted in the fourth grade of the UPTD of SD Negeri 125543 Pematangsiantar in the academic year of 2025/2026. The population was 25 fourth grade

students of SD Negeri 125543 Pematangsiantar. The sample size was 25 students. In this study, the researcher used a pre-experimental research type with a one-group pretest and posttest design.

This section will describe the results found in the research that has been carried out. The intended results are taken based on the collected data and data analysis carried out, this researcher aims to determine the Effect of Realia Media on Science Learning Outcomes of Grade IV Students of UPTD SD Negeri 125543 Pematangsiantar with a total of 25 people. Before conducting the research, the researcher first conducted an Instrument Trial at the same level with a different school conducted at UPT SD Negeri 081 Hutasoit. The test was carried out to determine the number of questions from 35 items that will be tested in the form of multiple choices, namely there are 20 items that are included in the valid category and 15 items that are not valid. The questions that are declared valid are 20 items which will later be used during the pretest and posttest in the research class. (Cahyaningrum et al., 2019) .

Based on the pretest results, the average value of student learning outcomes was 53.20 with the highest score being 85 and the lowest score being 35. Three students scored above the KKTP and 22 students scored below the KKTP. Looking at the existing percentages, it can be said that the level of student learning outcomes before using Realia Media was relatively low. (Hastuti, 2017) .

Furthermore, the average posttest score was 86.20, meaning that after using Realia Media, students had better learning outcomes compared to before using Realia Media. After the pretest and posttest normality tests were conducted, the hypothesis test was continued. The student test results obtained a sig (2-tailed) value of $0.00 < 0.05$, indicating that there was a significant difference between the pretest and posttest scores. In this case, H_0 was rejected and H_a was accepted

4. Conclusion

Based on the research results and discussions that have been presented, it can be concluded that from the pretest results, the average value obtained is 53.20 which is classified as low. While the average value of student learning outcomes in the posttest is 86.20 which indicates that the results after being given treatment increased with a very large range. From the average pretest and posttest scores there is a difference of 33 and based on the data analysis of the pretest and posttest scores, it shows that the sig value (2-tailed) is $0.00 < 0.05$. Where H_0 is rejected and H_a is accepted, meaning there is a significant difference between the learning outcomes of students who use Realia media which is more improved. So it can be concluded that there is an Effect of Realia Media on the Learning Outcomes of Grade IV Students of UPTD SD Negeri 125543 Pematangsiantar on the material of Plant Parts and Their Functions in the 2025/2026 Academic Year.

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