

## The Influence of Pop-Up Book Media on Student Learning Outcomes on Subtema 1 Ecosystem Components Class V at UPTD SD Negeri 122337 Pematang Siantar

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### ABSTRACT

This research aims to determine the influence of media Pop-up Book on the learning outcomes of class V students at UPTD SD Negeri 122337 Pematang Siantar, the method in this research is a quantitative experimental type method whose research design is pre-experimental type one group pretest-posttest. Conducted in September 2023, the population of all students at UPTD SD Negeri 122337 Pematang Siantar and a sample of 28 students consisting of 14 female students and 14 male students used was purposive sampling with two research variables: the dependent variable (x) in the form of learning outcomes, as well as the independent variable (y) in the form of the Media Pop-up Book model. Data collection techniques are test techniques with validity tests, reliability tests, difficulty level tests, and differentiating power tests. The results of hypothesis testing using the N-gain technique with the help of the SPSS version 21 program, based on the calculation results obtained a mean of 0.7467, with an effectiveness of  $0.7 > 0.7467 > 0.3$  which is included in the medium category, in the ANOVA test the significant value is 0.000. where  $0.000 < 0.05$  then  $H_0$  is rejected and  $H_a$  is accepted. This means that all independent variables have a significant influence on the dependent variable. So it can be concluded that there is an influence of Pop-up Book media on student learning outcomes in sub-theme 1 component of the system in class V at UPTD SD Negeri 122337 Pematang Siantar.

## **INTRODUCTION**

The foundation of a country's civilization is education. Education is an important activity for every human being on earth. Education can build a civilized society, as history has shown. Humans with talent and moral fiber are needed to develop civilization. According to Law no. 20 of 2003 concerning the national education system, education is basically a conscious and planned effort to foster 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 that needed by himself, society, nation and state.

In the learning process at school, teachers must also be able to choose the right learning media. According to Sipahutar (2018:76), selecting appropriate learning media, taking into account student characteristics, the infrastructure used for encouraging activities and the learning environment, is one of the supports for the success of narrative learning. To build mutually beneficial relationships that occur in an effective learning environment, teachers and students must develop strong communication.

Based on observations and interviews conducted by researchers on May 24 2023 in class V UPTD SD Negeri 122337 Pematang Siantar, there were problems faced by teachers and the media used lacked variety, students felt bored with learning activities that only focused on books, learning without assistance. media as a support for learning, centered on the teacher so that students do not pay attention to the teacher who is delivering the material, especially on theme 5 ecosystems, subtheme 1 ecosystem components, it was found that some students had low learning outcomes. These things have an impact on student learning outcomes which are low and have not yet reached the Minimum Completeness Criteria (KKM).

Where there are 80% of students in Indonesian language subjects who do not complete and only 20% who complete, and in science subjects there are 73% of students who do not complete and only 27% who complete. From this data, there are still many students who have not completed their learning.

According to Rahmawati (2014: 4) , a pop-up book is something that takes the form of an image whose object can be erected vertically, which gives a beautiful impression and provides an amazing effect displayed in a book. Pop-up books can provide more interesting visualization of stories starting from images that appear to have a three-dimensional and kinetic appearance, images that can move when the page is opened or parts are shifted so that they can be shaped like the original object Widowati, et al (1015:22).

With the existence of learning media, it is hoped that it can improve student learning outcomes and overcome learning problems that occur at UPTD SD Negeri 122337 Pematang Siantar.

## **THEORETICAL REVIEW**

The thinking framework is a conceptual framework of how theory relates to various factors that have been identified as important problems. Learning outcomes are evidence of learning so that changes occur in an individual. The learning outcomes referred to in this research are learning

outcomes in theme 5 subtheme 1 learning 1 with the focus subjects being Indonesian and natural sciences. Learning outcomes are influenced by several external and internal factors. External factors come from outside the student, while internal factors are factors that come from within the student.

So that students can be active in learning, teachers need to increase student learning activity, one of which is by using Pop-up Book learning media. Pop-up Book media is a book that displays three-dimensional images made from folds of paper containing the material that will be presented in the lesson.

From the problem formulation it can be seen that there is one independent variable which is expressed as (X) and one dependent variable which is expressed as (Y). The independent variable is the Pop-up Book media (X), and the dependent variable is student learning outcomes (Y), thus the Pop-up Book media is related to the learning outcomes of class V UPTD students at SD Negeri 122337 Pematang Siantar.

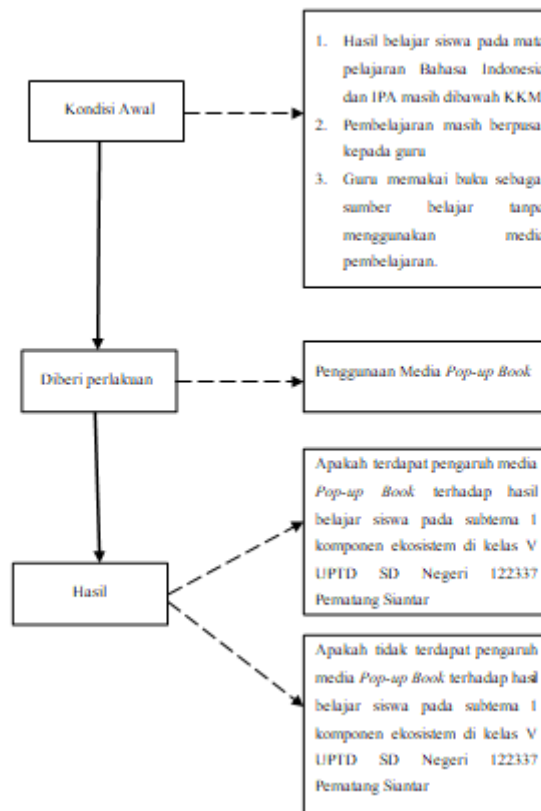


Figure 1. Conceptual Framework

## METHODS

The research used in this research uses a quantitative approach. With a pre-Experimental Design type. Where the researcher used a One-group Pretest-Posttest Design . In research, the results of the treatment will be known more accurately because you can compare the conditions before the treatment was given. (Sugiyono: 2018).

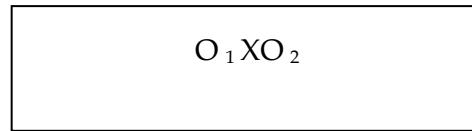


Figure 1 One-Group Pretest-Posttest Design

Information:

$O_1$  = pretest score

$O_2$  = posttest score

X = treatment given

The population in this study were all students in class V of SD Negeri 122337 Jln Haji Adamalik Pematang Siantar with a total of 28 students . This research uses a test instrument in the form of multiple choices with the aim of measuring learning outcomes. Before it is used for data collection, the data testing stage uses validity testing, reliability testing, difficulty level testing, and differentiating data testing. In data analysis, the N-gain test and anova test were used.

## RESULTS & DISCUSSION

### Results

Pre-experimental type research using a One group pretest-posttest design which was carried out in Class V UPTD SD Negeri 122337 Pematang Siantar with a total of 28 students. Before being given questions, a validity test is carried out first in class V UPTD SDN 122345 Jl. Thamrin, Pematang Siantar hero with 25 students. After the validation questions have been carried out, proceed to the research implementation stage in class V UPTD SD Negeri 122337 Pematang Siantar on Theme 5 "Ecosystem" sub-theme 1 "Ecosystem Components".

Before learning begins, the first stage is to give an initial test (pretest) so that we can find out the student's abilities before being introduced to the media that will be used. After being given an initial test, treatment is then given using pop-up book media. After being given learning treatment , a final test (posttest) was carried out to see whether there was an influence of pop-up book media on student learning outcomes in sub-theme 1 of ecosystem components in class V at UPTD SD Negeri 122337 Pematang Siantar.

In this research, instrument testing was carried out on class V students of UPTD SD Negeri 122345 Jl. Thmrin, the hero of Pematang Siantar, numbering 25 students. The instruments in this research include multiple choice tests to measure student learning outcomes. The instrument trial results data consists of 30 questions. Before conducting the research, a validity test, reliability test, difficulty level test, discrimination test were first carried out, then analyzed the data using the N-gain and anova tests.

## Test instrument

### 1. Validity test

An instrument is said to be valid if  $r_{count} > r_{table}$  and if it is not valid then  $r_{table} > r_{count}$  of 30 questions. After testing the instrument at another school, there were 20 valid questions and 10 invalid questions, so that what was distributed were questions with a total of 20 valid statements.

### 2. Reliability Test

The question reliability test aims to see the accuracy of the tool in assessing what it assesses. In this case, observe how each question item is determined in assessing or testing students' abilities and knowledge. Based on the results of the reliability test with the Kr20 model, the correlation coefficient is  $0.80 < r_{11} < 1.00$  so the interpretation is included in the high value range. Then it can be concluded that the data is declared reliable.

### 3. Test Difficulty Level

The difficulty level test is carried out to see the level of difficulty of each question that has been distributed and determine whether the question is too easy or too difficult. The 30 questions that were tested were 8 questions in the easy question category ( 1, 3, 5, 13, 18, 21, 22, 30. ), the question category which contains 15 questions ( 2, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 19, 20, 27, 28 ), and There are 7 questions in the difficult question category ( 4, 12, 23, 24, 25, 26, 29 ).

### 4. Discriminating Power Test

The test is carried out by computing the coefficient between the scale score distribution itself, which has a classification of the distinguishing power of questions that are very bad, bad, fair, good, or very good. There are 5 questions in the good category, 15 questions in the adequate category, 7 questions with very adequate interpretations, and 3 questions in the bad category.

## Data analysis

### 5. N-gain test

In this study, Descriptive Statistics was used to assess the influence of Pop-up book media on student learning outcomes in subtheme 1, class V ecosystem components, which can be seen in the following table:

**Table 1** N-Gain Test  
**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Ngain_Score	28	0.54	1.00	0.7467	,10344
Valid N (listwise)	28				

Based on the table above, it can be seen that the value (mean) in the trial class shows that student learning outcomes are  $0.7 > 0.7467 \geq 0.7$ , which is a high category.

#### 6. Anova test

In this study, One Way Anova was used to see the significance of the differences between the averages of different groups in one or more response variables in one population using pop-up book media on student learning outcomes in subtheme 1 of class V ecosystem components. It can be seen in the table the following

**Table 2** Anova test  
**ANOVA**

#### RESULTS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	36516,071	1	36516,071	403,304	,000
Within Groups	4889,286	54	90,542		
Total	41405,357	55			

Based on the table above, the significance results in the anova test are 0.000, which means the significant value is  $0.000 < 0.05$ , so  $H_0$  is rejected and  $H_a$  is accepted. This means that all independent variables have a significant influence on the dependent variable.

### Discussion

This research was conducted to determine the effect of pop-up book media on student learning outcomes in subtheme 1 of ecosystem components in class V at UPTD SD Negeri 122337 Pematang Siantar. Before conducting research, first test the question instrument at another school, namely in class V UPTD SD Negeri 122345 JL. Thamrin, Hero for proving that this question is suitable to be used. There were 30 questions distributed to 25 students at the school. Then the results of the questions will be tested on the instrument. The tests carried out on the instrument test are the question validity test, reliability test, difficulty level test, and question power test. After carrying out question validity and reliability to provide valid and reliable results, the valid questions will be distributed to the research class at UPTD SD Negeri 122337 Pematang Siantar.

Then the researcher conducted research in class V UPTD SD Negeri 122337 Pematang Siantar, the researcher conducted a pretest before being given treatment on pop-up book media and a posttest after being given treatment. The pretest was carried out to see the condition of the students' initial abilities before being given treatment. After the pretest was carried out, the results of the students' scores showed that the scores were below the KKM (Minimum Completeness Criteria), then after giving the pretest the researchers provided material, namely theme 5 Ecosystems, subtheme 1 ecosystem components using pop media. up book, after being given the treatment the researcher gave a posttest, namely a final test to see the students' abilities after being given the pop-up book media.

Based on data tested by researchers through tests on the IBM SPSS Version 21 application, it can be concluded that the average score of the 28 students in the pretest and posttest results was 31.1 and 82.15 based on data on the scores before and after being given treatment had increased. value figure. After carrying out the descriptive test, the researcher also carried out data analysis tests, namely the N-Gain test and the One Way Anova test. In the N-Gain test, the mean value can be seen at 0.7467, that the effectiveness is  $0.7 > 0.7467 \geq 0.3$ , which is These results are in the high category. In the One Way Anova test, the significant value is 0.000, where  $0.000 < 0.05$ , so  $H_0$  is rejected and  $H_a$  is accepted, and in presenting the results of the N-Gain Test it can be concluded that the influence of pop-up book media has a positive and significant effect on learning outcomes. class V students, so it can be concluded that there is an influence of pop-up book media on student learning outcomes in subtheme 1 of ecosystem components for class V at UPTD SD Negeri 122337 Pematang Siantar.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the results of data analysis and hypothesis testing, it can be concluded that a significant improvement in student learning outcomes was obtained after being given treatment and getting high scores. In the N-Gain Test, there is effectiveness data, namely  $0.7 > 0.7467 \geq 0.3$ , which means the results are in the high category. Next, testing was carried out using the Anova test with the specified criteria, significance  $< 0.05$ , obtained a significance value of 0.000 so it can be said that the difference is significant because  $0.000 < 0.005$  then  $H_0$  is rejected and  $H_a$  is accepted. This means that all independent variables have a significant influence on the dependent variable.

This explanation shows that there is an influence of Pop-up Book media on student learning outcomes in subtheme 1 of the ecosystem component of class V at UPTD SD Negeri 122337 Pematang Siantar.

## ADVANCED RESEARCH

So further lessons that can be given to make it better in the future are:

a. Advice for teachers

Pop-up book learning media is very appropriate to use when carrying out the teaching and learning process because after research, the pop-up book media can improve student learning outcomes.

b. Suggestions for schools

To pay attention, evaluate internal and external factors that influence student learning outcomes and work together to build superior schools and innovate in learning.

c. Suggestions for other researchers

Other researchers can conduct similar research on other subjects, so that broader information is obtained regarding learning media and factors that influence student learning outcomes.

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