

## INFLUENCE OF POP UP BOOK MEDIA USE ON THE LEARNING OUTCOMES OF IPAS GRADE 4 SD MUHAMMADIYAH 1 KEDUNGGALAR

Syalikah prety dwi agustinai<sup>1</sup>, Uci Ulfa Nur'afifah<sup>2</sup>, Budi Rachman<sup>3</sup>

<sup>123</sup> STKIP MODERN NGAWI

[agustinaprettydwi@gmail.com](mailto:agustinaprettydwi@gmail.com)  
[uciulfa@stkipmodernngawi.ac.id](mailto:uciulfa@stkipmodernngawi.ac.id)  
[budirachman982@unesa.ac.id](mailto:budirachman982@unesa.ac.id)

(\*) Corresponding Author  
[agustinaprettydwi@gmail.com](mailto:agustinaprettydwi@gmail.com)

### ARTICLE HISTORY

Received : 27-05-2025  
Revised : 10-06-2025  
Accepted : 12-06-2025

### KEYWORDS

Learning Media,  
Pop Up Book Media,  
IPAS Learning

### ABSTRACT

Natural and Social Sciences (IPAS) education at the elementary school level has an important role as a means for students to get to know themselves, understand the surrounding environment, and apply the knowledge gained in daily life. The lack of variety in the learning process can result in students having difficulty understanding the material being taught. The use of conventional methods such as lectures is one of the main causes. The type of research used is using a quantitative approach with the Pre-Experimental Design type. The researcher used the One Group Pretest-Posttest Design research design to be carried out in one class without a comparison class using a pretest before being given treatment. With that, the results of the treatment can be known more accurately, because it can be compared with the situation before being given treatment. The results of this study are that there is a significant influence of the use of Pop Up Book media on the reading ability of 4th grade students of SD Muhammadiyah 1 Kedungalar.

This is an open access article under the CC-BY-SA License.



### INTRODUCTION

Education is a planned and systematic process that has an important role in creating a supportive learning environment. Through education, students are given the opportunity to actively develop their potential, both in spiritual aspects, personality, intelligence, morals, and skills that are useful for themselves and society. In addition, education also plays a key role in shaping future generations who are superior and qualified, and able to face various challenges of the times. This is done by understanding that each student has a different learning style, for example, some are more effective at learning through games, while others are more interested in interactive learning media. (Desi Pristiawanti, 2022)

Natural and Social Sciences (IPAS) education at the elementary school level has an important role as a means for students to get to know themselves, understand the surrounding environment, and apply the knowledge gained in daily life. IPAS combines natural elements that have been around students naturally. With IPAS in the elementary school curriculum, students have the opportunity to learn through hands-on experience. This learning process is tailored to the cognitive abilities of elementary school students, so the approach is different from the

methods used by scientists. In addition to honing critical thinking skills and scientific attitudes, students are also guided to master scientific process skills. Therefore, IPAS learning in elementary school is more focused on developing process skills based on knowledge that is constantly evolving. (Afifa & Hanif, 2023) Natural and social sciences IPAS is a field of study that studies the mutual relationships between the components of the *Biotic* (living beings) and *Abiotics* (inanimate objects) in the surrounding environment, as well as understanding the mechanisms of interaction that occur between the two.

Based on the results of initial observations and interviews conducted by researchers with grade IV teachers at SD Muhammadiyah 1 Kedunggalar, it is known that students still have difficulties in understanding the material about plant parts. This can be seen from the results of the scores obtained by students, most of which are still below the Minimum Completeness Criteria (KKTP) set by the school, which is 75. Of the total 20 students in grade IV, only 7 students managed to achieve grades above the KKTP, while the other 13 students have not reached completion. In addition, it is known that students tend to have difficulty understanding the material if they only rely on package books as the main learning resource.

The lack of variety in the learning process can result in students having difficulty understanding the material being taught. The use of conventional methods such as lectures is one of the main causes, as this method tends to make students feel bored and lose motivation to receive information from the teacher. Therefore, effective tools are needed in conveying learning messages so that the material can be better received. One of the solutions that can be used to support learning success is the use of learning media, such as *Pop Up Book books*, which are able to present material in an interesting and interactive manner.

As educators, teachers have a responsibility to help solve problems faced by students to improve their quality and learning outcomes. In an effort to overcome the learning difficulties experienced by students, the researcher suggests the use of *Pop Up Book learning media*, because this media is considered to be in accordance with the characteristics of students who easily feel bored and interested in new things. Therefore, *Pop Up Book* was chosen as a learning medium to support the improvement of student learning outcomes.

*Pop Up Books* are a type of book that has three-dimensional elements that appear when the pages are opened. This book is decorated with interesting pictures that can stand upright, so that it can attract attention and increase students' interest in learning in the learning process. The use of *Pop Up Books* can also stimulate students' imagination, making the learning atmosphere more enjoyable. According to Setyanigrum (2020), one of the advantages of *the Pop Up Book* is the existence of attractive color pictures, which not only attract students' attention but also make it easier for them to understand the material presented by the teacher. Therefore, *Pop Up Books* are considered an effective learning medium because they are able to present material visually and encourage active participation of students in teaching and learning activities.

*Pop Up Book* It is a creative learning medium, using paper folding techniques to produce visual effects in the form of three-dimensional images that can move, thus providing interesting visual surprises (Novita & Tegeh, 2021).. This media is designed to make reading activities more fun and interesting. As a means of learning, *Pop Up Book* It is considered effective in attracting students' attention and arousing their enthusiasm for learning. With attractive visuals, this media helps students focus more and easily understand the material presented.

Research conducted by (Afifa & Hanif, 2023) found that the use of book media *Pop Up Book* positively affect the science learning outcomes of fourth-graders. Previous research focused on the use of *Pop Up Book* media which has contributed to efforts to improve science learning outcomes of fourth grade students. However, my research has not discussed the influence of media use *Pop Up Book* on the learning outcomes of IPAS.

Use *Pop Up Book* It is expected to increase students' interest in learning as well as help them to concentrate more on the learning material. The attractive visual appearance of the *Pop Up Book* can facilitate a deeper understanding of the material (Eri Karisma et al., 2020). Reasons to choose elementary school Muhammadiyah 1 Kedunggalar is based on the identification of the problem of low learning media used by teachers for social studies learning activities.

## RESEARCH METHODS

Research design is a systematic design that is used to direct the research process so as to produce valid and accountable data. This study uses an experimental quantitative approach with a quasi-experimental design or pseudo-experiment. According to Sugiyono (2021), quantitative research with experimental methods aims to determine the cause-and-effect relationship between independent variables and bound variables under controlled

conditions. In the context of this study, the free variable is the use of media Pop Up Book, while the bound variable is the learning outcomes of IPAS students in grade 4 of SD Muhammadiyah 1 Kedunggalar.

This study uses a Quasi Experimental design with a type of one group pretest posttest. Only one group was studied in this study. Pre-tests are administered before treatment, and post-tests are administered after treatment to ensure the accuracy of the final findings in the design of this study. Grade IV students are first given a pre-test before being given treatment. The goal is to test them on learning the IPAS material of the Plant Section before giving them an assignment. Then after experiments and the use of Pop Up Book media, do a posttest on the learning outcomes of IPAS class IV.

The population in this study includes all Class IV students in the school which totals 20 students, so the sample in this study is in grade IV of SD Muhammadiyah 1 Kedunggalar which totals 20 students.

The data collection technique in this study uses tests (pre-test and post-test). The second is documentation, documentation used in this study by collecting event records. The documentation used is in the form of pictures of activities, student learning outcomes, and teaching modules

It is carried out to find out whether the instrument used is good for the research to be carried out. This study uses an essay test instrument. The instrument is said to be good, it must meet several requirements, namely; validity, reliability, difficulty, and power difference. If each question item meets all the criteria, then the question item is valid to use.

To find out whether or not the use of Pop Up Book media has an effect on the learning outcomes of 4th grade students at SD Muhammadiyah 1 Kedunggalar a hypothesis test tool using SPSS 24, namely the paired sample t-test. The basis for decision-making is that if the value of Sig. (2-tailed) < 0.05, then Ho was rejected and Ha accepted. If the value of Sig. (2-tailed) > 0.05, then Ho was accepted and Ha was rejected. If - t counts < t table then Ho is accepted and Ha is rejected. If - tcount > ttable then Ho is rejected and Ha is accepted.

## RESEARCH RESULTS

The validation test is useful to determine the validity or suitability of the instruments used in measuring and obtaining research data from the respondents. This test is performed using a *SPSS for windows* with the following results:

The basis for decision-making on the validity test using SPSS 24 for windows shows that 20 variables are said to be valid.

The Reliability Test is carried out with the help of SPSS 24 for windows. The basis for making decisions for reliability tests is said to be reliable if you have a Cronbach Alpha of more than 0.40. The results of the reliability test show that the Cronbach Alpha value is 0.844 > 0.40 can be seen in the table below:

**Table 4.3 Reliability Test Results**

### Reliability Statistics

Cronbach's Alpha	N of Items
0,844	20

The difficulty test was carried out using *SPSS 24 for windows*. Based on the data from the difficulty test, the questions show a range of 0.00-0.30 (difficult), 0.31-0.70 (medium), and 0.71-1.00 (easy). Of the 20 questions, 16 questions had moderate criteria, while 4 questions had easy criteria.

The results of the differentiating power test in this study used *SPSS 24 for windows*. Judging from the results of the differentiating power test, the 20 multiple-choice question items that have a positive discrimination index value can be categorized as good question items and can be maintained for use again, the difference strength shows DB 0.70-1.00 (Very Good), DB 0.40 - 0.69 (Good), DB 0.20 - 0.39 (Sufficient), DB 0.00-0.19 (Less) The results of the data on questions that indicate the good category are 11 questions, namely numbers and those that show n in the sufficient category as many as 9 questions.

### Tests of Normality

Kolmogorov-Smirnova

Shapiro-Wilk

	Statistics	Df	Sig.	Statistics	Df	Sig.
Pretest	0,197	20	0,040	0,904	20	0,050
Posttest	0,187	20	0,065	0,916	20	0,084

a. Lilliefors Significance Correction

The basis for making decisions for the normality test is that if the *Sig* > 0.05, then the residual value is normally distributed and if the *Sig* value is < 0.05, then the residual value is not normally distributed. Based on the results of the normality test, it is known that the pretest results show a *Sig* of 0.050 > 0.05 and the results of the posttest show a *Sig* of 0.084 > 0.05, so it can be concluded that the residual value is normally distributed.

**Table 4.9 Paired Sample T-Test Test Results**

		Paired Samples Test							
		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
Pair 1	Pretest – Posttest	-22,250	5,250	1,174	Lower	Upper			
					-24,707	-19,793	-18,952	19	0,000

The basis for making decisions for the *Paired Sample t-test* is that if the *Sig* (2-tailed) value < 0.05, then  $H_0$  is rejected and  $H_a$  is accepted. If the value of *Sig* (2-tailed) > 0.05 then  $H_0$  is accepted and  $H_a$  is rejected. Based on the Paired Sample t-test test table, the value of *sig.* (2-tailed) is 0.000 or less than 0.05, so in this case  $H_0$  is rejected and  $H_a$  is accepted. This means that in this study there is a significant influence of *the Pop Up Book media* on the learning outcomes of social studies in 4th grade students of SD Muhammadiyah 1 Kedunggalar

## DISCUSSION

Based on the Paired Sample t-test test table, the value of *sig.* (2-tailed) is 0.000 or less than 0.05, so in this case  $H_0$  is rejected and  $H_a$  is accepted. This means that in this study there is a significant influence of *the Pop Up Book media* on the learning outcomes of social studies in 4th grade students of SD Muhammadiyah 1 Kedunggalar.

In science learning, the media has an important role in helping students understand the material, especially about plant parts. The results of this study show that the use of media has a significant influence on improving student learning outcomes. Junaidi (2019) stated that learning media plays an important role in the world of education, especially in the teaching and learning process in schools. The presence of learning media is needed to support student development, so that the knowledge and materials conveyed by teachers can be better received and understood. This opinion is in line with the statement of C. Rudi S. (2020), who explained that learning materials that are abstract and difficult to explain directly to students can be made more concrete and easy to understand through the use of appropriate learning media.

The use of *Pop Up Book media* provides students with visual and interactive stimulation, so they can understand the concept of plant parts in a more real and fun way. This medium allows students to explore the material through engaging simulations, which simultaneously activate the right brain function in terms of visualization and the left brain in understanding concepts. This is in line with the findings of Beno et al. (2022), which show that the use of *Pop Up Books* can increase students' enthusiasm for learning, making the learning process more interesting. Thus, this medium not only saves students from boredom, but also helps them in understanding the material about plant parts more effectively.

The use of Pop Up Book media in learning about plants provides an interactive and fun learning experience for students. This media is designed with the implementation of inviting students to observe, analyze, and identify plant parts in science learning. Actively engage students, such as by having them come forward to explain parts of the plant. If all questions are answered correctly, students will receive a five-star award. This feature encourages students to be more focused and excited about completing challenges, as they feel challenged to earn a full star.

The use of Pop Up Book media in learning has an impact on the difference in scores between students' pretest and posttest. This research was carried out in three stages, namely the implementation of pretest, the provision of treatment through the Pop Up Book media, and the implementation of posttest. During the learning process with this medium, students show more active participation. Based on the results of the posttest, it can be concluded that the use of Pop Up Book has a significant influence on improving student learning outcomes in plant materials.

This increase can be seen from the average student score which was previously 62.75 during the pretest, then increased to 85.00 after using the Pop Up Book media in the posttest. These results show that the media is effective in helping students understand the concept of plant parts visually and interactively.

Based on the results of data analysis using a paired sample t-test, a significance value (Sig. 2-tailed) of 0.000 was obtained which was smaller than 0.05. Thus, the research hypothesis was accepted, which means that there is a significant influence of the use of Pop Up Book media on the learning outcomes of social studies on plant material in grade IV of SD Muhammadiyah 1 Kedunggalar.

## CONCLUSION

Based on the results of the research and discussion, it shows that the calculation results in the paired sample Sig (2-tailed) test are  $0.000 < 0.05$ . So in this case  $H_0$  was rejected and  $H_a$  was accepted. The results of the students' pretest and posttest experienced significant differences. In the pretest, the average (mean) was found 62.75, while the posttest was found the average (mean) 85.00. Judging from the average scores of the two tests, there was an increase in student scores. So it can be concluded that the use of Pop Up Book media on the learning outcomes of 4th grade students of SD Muhammadiyah 1 Kedunggalar

## BIBLIOGRAPHY

- Afifa, I. N., & Hanif, M. (2023). The Effect of the Use of Pop Up Book Media on the Learning Outcomes of Grade IV Students of Sdn 04 Madiun Lor. *Journal of Scientech Research and Development*, 5(2), 132–140. <https://doi.org/10.56670/jsrd.v5i2.173>
- Desi Pristiawanti. (2022). The Definition of Education (Vol. 4).
- Eri Karisma, I. K., Margunayasa, I. G., & Prasasti, P. A. T. (2020). Development of Pop-Up Book Media on the Topic of Plant and Animal Breeding Class VI Elementary School. *Scientific Journal of Elementary Schools*, 4(2), 121. <https://doi.org/10.23887/jisd.v4i2.24458>
- Eri Karisma, I. K., Margunayasa, I. G., & Prasasti, P. A. T. (2020). Development of Pop-Up Book Media on the Topic of Plant and Animal Breeding Class VI Elementary School. *Elementary School Scientific Journal*, 4(2), 121. <https://doi.org/10.23887/jisd.v4i2.24458>
- Fitriani, N. (2021). Analysis of the level of difficulty, differentiation, and effectiveness of deception regarding maternal and neonatal emergency awareness training. *Paedagoria : Journal of Educational Studies, Research and Development*, 12(2), 199. <https://doi.org/10.31764/paedagoria.v12i2.4956>
- Hasan H. K. & PASINGGI y, s. (2021). *The effect of the use of pop up book media on the learning outcomes of fourth grade elementary school students in Pinrang district*. 1(2), 200-.
- Junaidi, Junaidi. "The role of learning media in the teaching and learning process." *Training Review: Journal of education and training management* 3.1 (2019): 45-56.
- Khatimah, A. H., & Bahri, A. (2023). The Influence of Pop Up Book Media on Story Reading Ability in Indonesian Language Learning Kela II SDN. *Journal of Education*, 2(1), 114-.
- Koesmadi, Dita Primashanti, et al. "Pengembangan website untuk implementasi PAUD holistik integratif di Kabupaten Ngawi." *Jurnal Pengabdian Masyarakat: Pemberdayaan, Inovasi Dan Perubahan* 4.6 (2024).



Volume 14 No. 1. May 2025

<https://ejournal.unibabwi.ac.id/index.php/sosioedukasi/index>

- Novita, L. P. E., & Tegeh, I. M. (2021). POP-UP Book Animal Life Cycle. *Journal of Pedagogy and Learning*, 4(2), 315. <https://doi.org/10.23887/jp2.v4i2.35044>
- Rudi Susilana, M.Si, Cepi Riana, M. P. (2009). *Gunawan Learning Media Book* (January Issue).
- Yours truly, Grace. "Pop-Up Book Media as a Post-Covid-19 Pandemic Learning Media." *Proceedings of the National Postgraduate Seminar*. Vol. 3. No. 1. 2020.