# PROBLEM BASED LEARNING WITH POP-UP BOOKS TO ENHANCE READING ABILITIES FICTION COMPREHENSION AND CRITICAL THINKING

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**ABSTRACT**

This research aims to investigate the challenges related to reading comprehension and critical thinking among elementary school students. Specifically, it examines the effectiveness of a pop-up book-assisted problem-based learning model in enhancing sixth-grade students' abilities to read, understand fictional stories, and think critically. Employing a mixed-methods approach with an exploratory sequential design, the study first conducted qualitative research, followed by quantitative research. Qualitative data were collected through observations of teachers and students, while quantitative data were gathered via tests. The qualitative phase yielded a positive outcome, demonstrating an 80% success rate in improving students' reading comprehension and critical thinking skills with the pop-up book-assisted model. The quantitative phase further revealed that students who used this model achieved reading comprehension and critical thinking scores exceeding the minimum completion criterion of 70. Mastery of reading, understanding, and critical thinking is crucial for elementary students as it prepares them for subsequent educational levels.

**Keywords**: PBL, pop-up book, comprehension, critical


***ABSTRAK***

*Penelitian ini diperlukan untuk mengkaji lebih mendalam tentang permasalahan kesulitan membaca pemahaman dan critical thinking pada peserta didik di sekolah dasar, bertujuan untuk mengetahui proses penerapan pembelajaran dan ketuntasan belajar peserta didik dalam kemampuan membaca pemahaman cerita fiksi dan critical thinking menggunakan model problem based learning berbantuan pop up book pada peserta didik kelas VI sekolah dasar. Metode penelitian yang digunakan adalah mix method dengan design yaitu exploratory sequentiall design. Penelitian ini dilakukan dengan menguji penelitian kualitatif terlebih dahulu kemudian menguji penelitian kuantitatif. Pengumpulan data kualitatif pada penelitian ini menggunakan observasi guru dan peserta didik, kemudian pengumpulan data kuantitatif melalui tes. Hasil pengujian tahap pertama (kualitatif) guru dan peserta didik mendapatkan representasi baik dengan perolehan 80% dari penerapan model problem based leraning berbantuan media pop up book terhadap kemampuan membaca pemahaman dan critical thinking peserta didik selanjutnya hasil pengujian tahap dua (kuantitatif) terdapat ketuntasan belajar pada peserta didik dengan perolehan kemampuan membaca pemahaman dan critical thinking pada peserta didik yang mendapatkan model problem based learning berbantuan pop up book lebih dari 70 sebagai kriteria ketuntasan minimum di sekolah. Kemampuan membaca pemahaman dan critical thinking sangat penting dikuasi peserta didik di sekolah dasar sebagai bekal dan tumpuan pada jenjang sekolah berikutnya.*

***Kata Kunci****: PBL, pop-up book, pemahaman, kritis*

## INTRODUCTION

The linguistic aspect of reading is one of the cornerstones of learning success that can be applied to other fields of study. It is important for students to master reading skills as a way to gain mastery of knowledge and knowledge in various fields of study (Feronika, 2016). The purpose of the reader is to understand what he reads. According to Akhaidah (Nadzifah, 2016: 3) states that, 'reading comprehension gains language improvement, logical thinking, creativity and appreciation related to moral values.' Understanding the reading is presented and obtained

by text-based learning such as reading fiction stories that refer to the curriculum. High-achieving students need to possess strong cognitive and critical thinking skills, as these are crucial for their learning in the classroom. These skills facilitate a structured approach that enables them to develop and assess their own beliefs and opinions. This systematic process is an organized process that allows learners to evaluate the evidence, assumptions, logic, and language underlying other people's statements so that they will achieve a deep understanding (Nugraha, 2018).

The results of observations made by researchers through observations show the low ability to read comprehension of fiction stories and critical thinking of students, there are 33% of students who reach the minimum completeness criteria (KKM) and there are 67% of students who do not meet the minimum completeness criteria standards (KKM) that have been set while learning can be said to be successful if classical learning completeness reaches ≥ 85%. These problems can be improved by applying a learning model and media that can provide opportunities for students to actively learn, especially in providing simple explanations, building basic skills, inferring, providing further explanations, capturing the meaning of words, expressions, constructing students' thoughts at a higher level, explicit meaning and conclusions. The application of the Problem Based Learning model can improve the quality of learning in accordance with the competencies developed by the curriculum so that students have the ability to read comprehension and critical thinking. This is in line with research (Nugraha, 2018) from the results of his research obtained the results of an increase in critical thinking skills after learning with an average of 30.70 means that there is a significant increase.

In addition, pop up books can help stimulate critical thinking skills through text and questions or problems presented with fictional stories and materials in the learning process. This is supported by research by Aeni, Kasdi and Riyanto (2018) according to the results of their research obtained the results of increasing students' critical thinking skills by 82.86%. This is in line with the results of research conducted by Rismawati (2017) the results of her research showed an increase in students' reading ability with very good qualifications after using the problem-based learning model. In accordance with the results of research by Mustika (2022), it is suggested that there are results of an increase from the application of the problem-based learning model, namely 28.2 on students' reading comprehension skills. This is supported by Febriyanto and Yanto (2019) the use of problem-based learning models increases the effectiveness of students' reading comprehension skills. The difficulty of reading comprehension and critical thinking makes students less understanding of learning so that they lack interest in learning. These difficulties hinder the process of learning activities, especially grade VI students who will continue at the next level (high school) so that an in-depth study is needed in this study by applying a problem-based learning model assisted by pop up books that have characteristics to improve students' reading comprehension and crittical thinking skills.

**METHOD**

The research method used to answer the problem formulation in this study is a mix method. according to Sugiyono (2014) argues that, first, the two methods can be combined but alternate in use. This method was selected due to its suitability for addressing the research questions, which involve examining both outcomes and processes through the integration of

qualitative and quantitative data. The design used is exploratory sequential design. According to Abidin (Putra, 2012) this type of design is a mixed methods research design carried out by carrying out qualitative research first and then continuing with quantitative research. In this study, data processing is carried out according to the specific type of data collected. There are two data used, the first is qualitative data, the second is quantitative data. Qualitative data in the form of observation results, then quantitative data using test results to measure the effectiveness of variables processed with inferential statistics using SPSS.

## RESULT AND DISCUSSION
### Result

The results of observations made by teachers regarding learning to grade VI elementary school students with the application of problem-based learning models assisted by pop up books to improve reading comprehension and critical thinking skills obtained 80% and were categorized as good. Then the results of observations made to students regarding the learning of grade six elementary school students with the application of problem-based learning models assisted by pop up books to improve reading comprehension and critical thinking skills obtained a percentage of 80% so that it was categorized as good. The results of teacher and learner observations can be formulated as follows:

**Table 1.** Results of teacher and learner observations

|  | Teacher observation results | Student observation results |
|---|---|---|
| **Score obtained** | 64 | 16 |
| **Maximum score** | 80 | 20 |
| **Percentage** | 80% | 80% |
| **Category** | Good | Good |

The test results of reading comprehension ability of fiction stories and critical thinking with the hypothesis H0 : $\mu < 70$ The ability to read comprehension and critical thinking of students who get problem-based learning model assisted by pop up book is less than 70 then H1: $\mu > 70$ The ability to read comprehension and critical thinking of students who get problem-based learning model assisted by pop up book is more than 70.

**Table 2.** Student test results

| Testing | Output | Results |
|---|---|---|
| *Test of Normality* | 0,630 > 0,05 | Normally distributed |
| *One sample statistis and test* | Sig 0.016 < 0.05 | $H_0$ is rejected and $H_1$ is accepted |

The criteria for testing the t test (one sample statistical test and test) are as follows: H0 is accepted if the probability value or sig. is greater than 0.05 H0 is rejected if the probability value is less than or equal to 0.05.

The results of the data in this study needed are the results of the learning evaluation because of one sample, to test the students' learning completeness in reading comprehension of fiction stories and critical thinking with the minimum completeness criteria is 70. Based on the data after reading comprehension and critical thinking skills, the normality test is carried out first. The results of the analysis after reading comprehension and critical thinking skills are normally distributed with a significance value after greater than 0.05, namely 0.630.

Table 3. Evaluation normality test results

**Table 4.** Sample statistics test results

**Tests of Normality**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| evaluasi pembelajaran | .154 | 18 | .200[*] | .961 | 18 | .630 |

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

After confirming that the normality test criteria are met, the analysis proceeds with a one-sample statistics test. The criteria for this test are: H0 is accepted if the significance value (sig.) is greater than 0.05, and H0 is rejected if the significance value is less than or equal to 0.05. Given that the hypothesis being tested is one-sided, the sig value was initially 2 but adjusted to 0.016. Therefore, H0 is rejected, indicating that students using the problem-based learning model with pop-up books have reading comprehension and critical thinking skills greater than 70, signifying that their learning is complete. The data results are as follows.

**Table 6.** One sample test results

**One-Sample Statistics**

| | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| evaluasi pembelajaran | 18 | 61.39 | 15.606 | 3.678 |

**One-Sample Test**

Test Value = 70

| | t | df | Significance One-Sided p | Significance Two-Sided p | Mean Difference | 95% Confidence Interval of the Difference Lower | 95% Confidence Interval of the Difference Upper |
|---|---|---|---|---|---|---|---|
| evaluasi pembelajaran | -2.341 | 17 | .016 | .032 | -8.611 | -16.37 | -.85 |

The results of this study obtained *H*0 rejected and *H*1 accepted, so it can be concluded that there is learning completeness with the problem-based learning model assisted by pop up book. With the hypothesis H0: $\mu < 70$ (The ability to read comprehension and critical thinking of students who get a problem-based learning model assisted by pop up books is less than 70, and H1: $\mu > 70$ (The ability to read comprehension and critical thinking of students who get a

problem-based learning model assisted by pop up books is more than 70). This is in accordance with Nugraha's research (2018) that there is an increase in critical thinking after learning with an average of 30.70 significantly and the results of Mustika's research (2022) there are results of an increase of 28.2 in reading comprehension skills in students with the application of problem-based learning models.

**Discussion**

The results of the teacher observation assessment obtained data through likert scores from 20 observation statements obtained the results, namely a score of three totaling 16 and a score of four totaling four which means that the teacher has accordingly implemented the stages and procedures of the problem-based learning model assisted by pop up book in learning optimally. A score of four was achieved in the core learning activities, particularly in the syntax of the problem-based learning model supported by pop-up books, during stages such as organizing students, guiding individual and group experiences, and analyzing and evaluating the problem-solving process. This score is derived from a total of 64 points out of a maximum of 80, which when calculated gives a percentage of 80%. This percentage, representing the data from student observation assessments, is calculated by dividing 16 by the maximum score of 20 and then multiplying by 100%. The results are based on a Likert scale with five observation statements: a score of three was achieved four times, and a score of four was achieved once. This indicates that students have effectively implemented the stages and procedures of the problem-based learning model with pop-up books. The score of four in core activities, especially in guiding individual and group investigations, shows that students are capable of making proper observations, conducting investigations to understand the material, and engaging in critical thinking through questions and discussions related to the problem. The process of teacher and student observation, assessed by the head of the SDN Tegalmandor education unit, begins with initial activities such as orientation, apperception, and motivation.

The focus shifts to the core activities. The student observation statements are evaluated according to the syntax of the problem-based learning model supported by pop-up books. This evaluation specifically targets various aspects of the students' involvement in the learning process. It includes the stages of orienting students to the problem, which pertains to their readiness for learning; organizing students to learn, which involves their ability to manage their learning; guiding individual and group experiences, which relates to their awareness during observation and investigation; developing and presenting work, which concerns the development of students' thinking; and analyzing and evaluating the problem-solving process, which is related to their individual understanding of the material.

Furthermore, closing activities with reflection, conclusions and prayer. The observation process in this study is in accordance with the syntax sequence according to Hamdayana (2014) in the approach involves directing students toward the problem, arranging their learning activities, guiding both individual and group research, creating and presenting their work, and assessing and evaluating the problem-solving process. The syntax sequence of the problem-based learning model can lead students to understanding and critical thinking of students, according to the results of Anugraheni's research (2018) which states that the results of the analysis of the problem-based learning model can improve students' thinking skills ranging

from the lowest 2.87% to the highest 33.56% with an average of 12.73%. This is supported by research from Maylani Kartiwi, Wikanengsih, and Rostikawati (2023) which states that one of the advantages of the problem-based learning model can improve critical thinking skills as a whole because students understand the problems in real life aspects by carrying out mental processes. In line with research (Nurhayati & Mustika, 2024) states that the purpose of the problem-based learning model can improve students' scientific and higher-level thinking skills. In addition to the learning model in the observation results, pop up book learning media also plays a role in reading comprehension of students. According to Loliyana, Dinda and Efendi (2020) the results of their research that pop up book media has a positive influence on the reading ability of students in elementary schools.

The completeness of learning, as well as students' reading comprehension and critical thinking skills, are enhanced by the problem-based learning model, as it aids students in independently developing their thoughts during the learning process. This is according to Shoimin (2014) that the problem-based learning model has advantages in building student knowledge through learning activities, being encouraged to solve problems and the ability to assess learning progress independently. This is supported by (Nurhayati, 2022) which states that the problem-based learning model identifies problems, analyzes, organizes students and evaluates problem solving. Then assisted by pop up book media that can provide student interest in reading and understanding reading more effectively according to Taylor (2012: 23) that pop up books can develop children's love of books and reading, can bridge students in developing critical thinking and have the ability to understand reading.

## CONCLUSION

1. The application of problem-based learning model assisted by pop-up book has been proven effective in the process of reading comprehension ability of fiction stories and critical thinking of grade VI students in elementary schools. This is supported by the observation results, where both teachers and students achieved an 80% rating in the good category, further validated by precise data from documentation studies.
2. There is evidence of learning effectiveness in using the problem-based learning model with pop-up books for grade VI elementary students, as indicated by the data showing that the null hypothesis (H0) is rejected. This suggests that students who engage with this model achieve reading comprehension and critical thinking skills above a score of 70, indicating a high level of learning completion.

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