

Pop-Up Book in Reading Comprehension Ability Context in Thematic Learning

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Abstract: Starting from a PISA exposure (2015) about low reading ability of Indonesian students', this research aims to know the reading comprehension ability after using pop-up book. A pop-up book is a type of book that can be driven and interacted from paper movements. The type of pop-up book used in this study is lift the flap book. Lift the flap book is the easiest type of pop-up book and has advantages that is different from other types. This research uses quasi experiment method with quantitative approach. The instrument used is comprehension test that given before and after treatment. Test the difference in reading comprehension increase of the two classes using SPSS program version 16. Subjects in this study amounted to 37 students of fourth grade in primary school. The experimental class is 20 students and the control class is 17 students. The results show that pop-up book type of lift the flap book gives a better influence on reading ability.

Keywords: Pop-up book; reading comprehension ability, thematic learning.

1. Introduction

One of the problems that has not been fully resolved is reading. Wolters, et al [26] stated that reading skill, moreover reading comprehension, is a skill that becomes one of student's academic success factors. A saying goes, "Reading is the window of the world and its science". The importance of reading is also written in Al-Qur'an of Surah Al-Alaq which reads, "*Iqra!*" Which means "Read!". Unfortunately, the result of PISA [20] show that the average score of reading ability of Indonesians is still low, which is only 397, far from the average of 493 other participants. To address the problem, some researchers in Indonesia use DRTA [15, 38, 11, 25, 34]. However, reading learning activities certainly need to be supported by learning media to make it more interesting.

Learning media play an important role in improving the effectiveness of the learning process [29] The media can enrich the learners' learning experience, can increase students' attention, make students better prepared to receive the material to be taught, enable the use of the five senses, minimize the difference of perception between teacher and student, add positive contribution of students in gaining learning experience, help solve personal differences between students, and more economically. Learning media can help students to develop students' reading ability, such as image media [6]. Other researchers used electronic storybooks [16] and bamboo applications app [13] as a very interesting solution, especially in dealing with students in today's digital age. However, this solution can only be given to certain schools. In the end, it takes another solution.

One of the learning media that can be used by all students in various conditions is the book. Some previous researchers have also tested reading comprehension ability using book learning media, such as the big book [17] and comics [12]. In general, a textbook specifically used for reading at school contains only writing and some pictures. However, some researchers have recently developed a book that is very interesting and has its own features, namely pop-up books [26,5]. Pop-up books have been shown to improve students' writing ability [39]and speak [30].

Unfortunately, no researcher has studied pop-up book as a learning media in reading learning activity in grade IV of primary school. Especially on the theme of the eight subthemes of three, two, three, four, and five lessons on the subject of fiction. In accordance with the 2013 curriculum that uses a thematic approach, the content or content of this book is a story that combines several subjects that are packaged in a single theme. Based on the background that has been presented, this study aims to see the effect of pop-up book on the reading comprehension ability in thematic learning in fourth grade of primary school students.

2. Literature Review

Reading is a very important activity. Reading a lot of makes a person's skill to understand the text better. According to Gough & Tunmer [7], reading comprehension is a product or result that readers gain from word recognition and language comprehension. Rahman [27] describes five steps of reading comprehension ability which one of them is to familiarize students to read and provide interesting and varied readings. Pop-up book is one of interesting reading and very suitable to be used as reading media.

Bluemel & Taylor [1] states that pop-up books are the kind of book that can be driven and interactions aroused from paper movements. The movement is obtained from paper folds, paper rolls, paper shifts, tabs, or paper that can be rotated like a wheel. Dzuanda [22] and Ariana [1] state that a pop-up book is a book that has moving parts or has a 3-dimensional element and provides an interesting visualization of the story from a moving image view when the page is loaded.

Pop-up books present information more clearly because it is supported by a moveable illustration. As Piaget [28] says, at the age of 7 - 11 years a child enters a concrete operational stage. In addition, Bluemel [37] states that pop-up books have several benefits, namely (1) stimulating children's interest in the topic being discussed, thus motivating students to read; (2) developing student's love/ pleasure in the book; (3) reducing the difference between actual events through the symbols/ images presented; and (4) attracting students to develop their writing ability.

This book does not always have to be a pop up book, the most important thing is that the paper can be moved. The type of pop-up book used in this study is lift the flap book. Related to lift the flap book, previous research has developed it as an social study learning media [2]. Daryanto [9] says that lift the flap book has advantages, which are simple, economical, easily accessible, able to convey a summary, able to overcome the limitations of space and time, do not require special equipment and easy placement, require little additional information, change, can be varied between media one with other media.

3. Material & Methodology

This research uses experimental approach with quasi experiment method. The design of the nonequivalent control group design study [35] was used on the grounds that there were two groups given the pretest and posttest. Pretest is given in both classes to determine the students' initial ability before any treatment. After the treatment is given to the experimental class, posttest is given in both classes to determine the difference between the end of the two classes. Subjects in this study are as many as 37 students of fourth grade of SDIT Ar Rahman, Jakarta. The experimental class is 20 students and the control class is 17 students. The research was conducted in the second half of 2018.

To know students' reading comprehension ability, this study uses comprehension tests that have been validated by expert judgment and have been validated also in grade V primary school. The results are then processed using Anates V4 to know whether the problems are valid and reliable. This test consists of six essay questions that are used to determine students' comprehension of the content of the story. This test is given to the experimental class and control classes before and after the treatment using a pop-up book is given four times. SPSS 16.0 program used to test the difference in both classes increase the data obtained. The results of the data are used to analyze and known wether there is a pop-up book effect on students' ability to comprehend the contents of pop-up book stories in thematic learning.

4. Results and Discussion

4.1 Results

The results of pretest and posttest data show that all data in this study is normal with pretest significance value of 0.200* and pretest significance value of experimental class is 0.103, control class is 0.200*. The homogeneity test of the pretest and posttest score data variables showed that the samples were homogeneous with pretest significance value of 0.590 and posttest significance value of 0.540. The result of t test of pretest data shows that the initial reading comprehension ability of experimental group and control group students does not differ from pretest value equal to 0.833 greater than $\alpha = 0.05$. While the result of t test of posttest data shows that the final reading comprehension of students of experimental group and control group students has different with different significance value from pretest data t test, that is 0.001. Here is a recapitulation of the results of pretest, posttest, and N-Gain of fourth grade of primary school students.

Table 1. Recapitulation of Pretest, Posttest, and N-Gain Results

Kelas	Score								
	Min.			Max.			Mean		
	<i>Pre</i>	<i>Post</i>	<i>N-Gain</i>	<i>Pre</i>	<i>Post</i>	<i>N-Gain</i>	<i>Pre</i>	<i>Post</i>	<i>N-Gain</i>
Experiment	36.67	66.67	.25	70.00	93.33	.82	54.16	82.33	.6155
Control	30.00	60.00	.30	73.33	83.33	.60	54.90	73.33	.4029

Table 1 shows that the average score of pretest control class students is 54.16 and control class is 54.90. While the average score of the experimental class posttest is 82.33 and the control class is 73.33. The minimum pretest grade of the experiment class is 36.67 and the control class is 30.00. While the minimum score of the experimental class is 66.67 and the control class is 60.00. The maximum grade of the experimental class is 70.00 and the control class maximum score is 73.33. While the maximum score of experiment class students is 93.33 and control class is 83.33. That is, the average score of the pretest of the two classes is no different, but the posttest average score indicates that the average of the two classes has a difference. The minimum score of N-Gain experimental class is 0.25 while the control class is 0.20. While the maximum score of N-Gain experimental class is 0.82 and control class is 0.60. This means that the experiment class has a larger improvement compared to the control class. The following is the result of normality test of N-Gain experiment class and control class.

Table 2. Tests of Normality

Groups	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
Experiment	.152	20	.200*
Control	.138	17	.200*

a. Lilliefors significance correction

The above table shows that the data is normally distributed with the significance value of the experimental class and control class of 0.200* more than 0.05. The results of the N-Gain homogeneity test are presented in the following table.

Table 3. Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.108	1	35	.744

The table above shows that the homogeneous data with significance value of 0.744 is more than 0.05. Hypothesis test is used to find out whether there are differences in the improvement of both classes. The t test results are presented in the following table.

Table 4. t-test (Hypothesis Testing Research)

	Levene's Test for Equality of Variances				t-test for Equality of Means			95% Confidence Interval of the Difference		
	F	Sig.	T	Df	Sig.(2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
Score	Equal variances assumed	.108	.744	4.822	35	.000	.21256	.04408	.12308	.30204
	Equal variances not assumed			4.860	34.814	.000	.21256	.04373	.12376	.30136

Since the significance level used is 5% or $\alpha = 0.05$ with the test criteria ie, if the significance value is less than 0.05 then H_0 is rejected and if the value of significance is more than or equal to 0.05 then H_0 is accepted. Based on the image above, the significance value of 0.000 is smaller than $\alpha = 0.05$ which means H_0 is rejected. Because H_0 is rejected then H_1 is accepted. Thus, the hypothesis received in this study is, "there is a difference in the improvement of reading comprehension ability of students using pop-up books with students who do not use pop-up books in learning activities."

4.2 Discussion

Although pop-up books are still very little tested in reading comprehension, Mustikarini and Rahman [18] develop pop-up books as a reading medium for reading comprehension. In contrast, this study used a pop-up book as a medium for reading learning. Pop-up books are used as learning media to read with the purpose of making students more easily understand the contents of reading. The test is given to know the students' comprehension of the content of the story. According to Arikunto [19], the test is collecting data by asking a number of questions to a data source or person being asked with the intent to test, whether interest, talent, attitude, or ability. In this research students are given six questions which contain questions about students' comprehension of the content of the reading.

Dalman [8] says that one can be said to understand the passage if that person can fulfill four levels of reading comprehension. Djiwandono [14] states that the ability to read is reflected in the level of comprehension of the content of the reading, either expressed or implied or simply the implications of the content of the reading. According to Tollefson [24] the level of reading comprehension can be distinguished by the cognitive complexity necessary to understand the choice of literature, reorganization, comprehension of evaluation, and appreciation. With the reading comprehension in this study, students can be said to have understood the content of the story if the student is able to answer six questions that illustrate the literacy ability of interpretive comprehension, critical comprehension, and creative comprehension.

Although in the early reading comprehension ability, the students of the experimental class and the control class students had similar scores on average. The final score of reading comprehension ability of experimental class students after being treated with pop-up books is greater than control class. Based on the Minimum Score Criteria at Ar Rahman Primary School which is 70, before any treatment, students in both classes have not reached the minimum score yet. There is only one student from the experimental class and one student from the control class who has a score of 70 and less than 75. After being treated four times using the pop-up book the state becomes turned in the experimental class, there is only one student from the class experiments that have scores below the minimum score. While in the control class there are as many as six students.

The difference improvement between the two groups can be seen in the minimum score of N-Gain of the experimental class students is 0.25 while the minimum score of N-Gain of control class students is 0.30. The maximum N-Gain score of the experimental class students is 0.82 and the maximum score of N-Gain students in the control group is 0.60. Neither the minimum score nor the maximum score, the experiment class students experience a greater improvement than the control class student. The results of the N-Gain score reading scores of the students in the experimental class

and control class students in this study showed the average score of the control class of 0.6155 and the control class average score of 0.4029. Hypothesis test results in this study showed a significance value of 0.000 smaller than $\alpha = 0.05$.

In line with this research, a study shows that pop-up books can provide something different than the general book [3]. Pop-up books are one of the most interesting books and have some of the benefits that have been described in part two. Pop-up books have made some earlier researchers develop pop-up books at different levels and subjects [21,10,22]. Not only the development alone, the results of previous research indicate that the pop-up book makes it easier for students to understand the Social Science materials in class V by looking at the movable illustrations that exist in the material [23].

The results showed significant differences in understanding. Even so, the score obtained is still considered not maximal. Sopandi & Iswara [32] use pre-learning questions as a way to improve understanding, ie questions whose answers are essential cognitive aspects that learners should be able to learn after a subject. The research evidence suggests that pre-learning questions can improve students' understanding [33, 31].

Based on the findings and discussion above, it can be concluded that the average score of the experimental class is higher than the control class. The experiment class shows a larger improvement of the control class. That is, the pop-up book affects the reading comprehension ability of fourth grade of primary school students in thematic learning of the theme eight of the subthemes three, lessons two, three, four, and five.

5. Conclusion

Based on the results of previous research, it can be concluded that although the average pretest of the experimental and control classes slightly differed, the mean score of the experimental class posttest was greater than the mean score of the control class posttest. So is the improvement in both classes. The experiment class has a higher improvement than the control class. Thus, it can be concluded that the pop-up book has an effect on the students' reading comprehension ability of fourth grade of primary school in thematic learning.

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