

Improving Social Skills Using Pop-Up Media for Elementary School Students

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ABSTRACT

Students' social skills can be honed with various teaching techniques, including using learning media. The use of pop-up media is an option to help students develop social skills that are responsive to environmental issues. Thus, this study aims to analyze social skills using pop-up media in elementary schools. This study used a nonequivalent control group design and a quasi-experimental approach, treating the experimental and control groups differently. All 48 participants in this study were fourth graders, constituting the study population. The sample of this research is 48 people and based on the saturated sample technique. The data collection technique for this study used a closed questionnaire and observation. Descriptive and inferential data analysis methods include homogeneity, normality, and hypothesis analysis. Analysis of descriptive data on the influence of pop-up media on children's social skills development in social studies learning determined that the value of $P = 0.005$ is more diminutive than $= 0.05$. So, using pop-up media impacts how students build their social skills. Therefore, pop-up media can improve students' social skills in elementary schools, especially in responding to environmental issues and can be used as an alternative teaching technique for developing students' social skills.

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1. INTRODUCTION

Education is the foundation every individual must have to achieve a bright future. Through education, every individual can develop their potential to play an active role in nation-building. Thus, the vital role of education in improving the quality of human resources is seen. Education is important in producing quality Indonesian people (Reichert, Lange, & Chow, 2021 ; Su & Yang, 2023). Analysis of the formation of social skills needed in society in elementary schools as part of the first educational institutions for students to train children's critical thinking skills and social skills to solve problems in their social environment (Ellis et al., 2023). Learning in elementary schools is about knowledge and skills to improve students' abilities and skills. The skills in question are social skills following the demands of the material being studied, such as skills in sorting, processing information, solving problems, communicating, appreciating, and working together, as well as the ability to transfer knowledge in

meeting daily needs (Marmoah & Poerwanti, Suharno, 2022; Heppt et al., 2022). These skills are needed to lay down basic knowledge so that students can understand, assess and interpret and apply it to be used in their daily lives (Oppermann, Vinni-Laakso, Juuti, Loukomies, & Salmela-Aro, 2021).

Based on initial observations made on elementary school students, it was found that teachers still need to be more optimal in sorting and using media as a learning tool to shape children's social skills in their lives. This was because the learning method used emphasized the lecture method and did not use learning media that facilitated the development of students' reasoning to have the ability to think and form social skills. Teachers still used blackboard media, which could be more varied and communicative. As a result, the learning atmosphere in the classroom became monotonous, so students only knew, while the ability to develop social skills for students needed to be improved. From these observations, researchers felt the need for media that could arouse students' enthusiasm to develop their social skills.

Improving students' social skills can be done using several teaching techniques, where one way is to use learning media during the learning process. Learning media is a tool used to convey information from trusted sources where the teacher provides this information to students to facilitate the learning process. When teachers use learning media in the learning process, students will be motivated to learn, and students can be encouraged to carry out activities (Vidergor, 2021). Teachers can use pop-up learning media for students' narrative writing skills in thematic learning (Sholeh, 2019). Pop-up media has 3-dimensional elements that can move and create authentic and exciting images to help students understand the material being taught (Masturah & Mahadewi, 2018). Selection of pop-up media so that students develop social skills that are sensitive and responsive to environmental problems (Sentrik & Kusmaryatni, 2020). The advantages of pop-up media have an attractive appearance, allowing students to develop creativity and imagination, and helping them develop social skills from what they see and learn (Khamidah & Sholichah, 2022; Dewi, Sofyan, & Priyono, 2021; Loliyana, Anggraini, & Efendi, 2022).

Referring to several previous studies in elementary schools, namely; First, the development of pop-up book learning media in elementary schools on social studies with the theme of my hero is very valid and very practical to use as learning media (Ariyanti, Junaidi, & Dedy, 2022); Second, the use of pop-up book media affects the speaking ability of third grade elementary school students (Yunika, Imansyah, & Riyanti, 2022); Third, the development of pop-up book media on theme 8, sub-theme three is declared valid and practically used in learning (Hiranmayena, Margunayasa, & Wibawa, 2022).

So based on several previous studies using pop-up book media as a learning medium in elementary schools focused on the validity and practicality of its use and its effect on students' speaking abilities. Meanwhile, this study focuses on using pop-up book media to improve elementary school students' social skills. So the research question is whether pop-up media can increase social skills in elementary school students. Therefore, the use of pop-up media adapted to the characteristics of elementary school students, such as age, level of understanding, and learning style, can influence how pop-up media is received and understood by students. Thus this research can provide alternative effective, and attractive teaching techniques for elementary school teachers to develop students' social skills with innovative and creative learning media. So that the results of this study can help improve student learning outcomes and social skills and enrich the repertoire of educational literature in Indonesia.

2. METHODS

Experimental research is a method used to determine the effect of pop-up media on the development of social skills in class IV Elementary School students using a quasi-experimental research method. The research design used is nonequivalent control group design. To learn how to compare the two groups, this research was used. A *study group* is an experimental group receiving treatment, and a control group is not. They started their research by giving the control and experimental groups a pretest. In addition, the experimental group received treatment, while the control group did not receive any treatment. The latter conducted a post-test in the experimental and control groups to conclude this study.

Table 1 . Unequal Control Group Study Design

Class	Pretest	Treatment	Posttest
Test	O ₁	X	O ₂
Control	O ₃	-	O ₄

Information:

- O₁ : *Pretest* experimental class before being given treatment.
- O₃ : *Pretest* for the control class before being given treatment.
- X : *Treatment* using *Kahoot Games learning media*.
- O₂ : *Posttest* experimental class after being given treatment.
- O₄ : *Posttest* for the control class after being given treatment.

Data collection techniques used to collect data in this study are:

2.1 Observational Techniques

Observation aims to collect data about the use of pop-up media in thematic learning and classroom activities through the observation methodology used to carry out the learning process using pop-up media. Using pop-up media both during and after learning is a practical aspect. Thus the observation was carried out two times in each student activity during the learning process by preparing an observation sheet.

2.2 Questionnaire Technique

A questionnaire is a tool for collecting pretest and posttest data regarding the use of pop-up media. This instrument aims to survey students about their social opinions. The questionnaire used in this study was in the form of a closed questionnaire. In this questionnaire, respondents could only answer with the answer choices provided by the researcher. Respondents cannot provide answers or other responses except those provided as alternative answers.

2.3 Data analysis

In the experimental and control classes, descriptive analysis tries to analyze the use of pop-up media and the development of students' social views. Pretest and posttest data from those involved in learning are used to obtain information about building social skills. The maximum, lowest, median, standard deviation, and frequency of social skill scores for students are shown.

Sample data were checked using inferential statistical analysis, and the findings were then applied to the population. Due to the ratio-based nature of the research data, parametric statistics were applied. The independent sample t-test is the parametric statistic used in this investigation. If there is a relationship between two variables or groups, an independent sample t-test is performed to determine it. However, homogeneity and normality tests were first carried out. The research data was checked with the help of IBM SPSS Statistics Version 20. Meanwhile, the observed data on the implementation using pop-up media was calculated using the following formula:

$$\% = \frac{(\text{Total Observation Score})}{(\text{Maximum amount})} \times 100\%$$

3. FINDINGS AND DISCUSSION

3.1 Description of Implementation of Learning Using Pop-Up Media

The findings of the level of implementation of learning through pop-up learning media and students' interest in participating in learning through pop-up media are very effective. The learning

implementation data has been processed; the failure rate is 94%. Information obtained by observing the use of pop-up learning media is shown in the following table:

Table 2. Learning Observation Results Using Pop-Up Media

	Score	
	Study 1	Study 2
Maximum score/score	15/18	17/18
Overall presentation	83.33%	94.44%
Category	Good	Very good

Source: IBM SPSS Statistics Version 20.0.

3.2 Formation of Social Skills of Grade IV Students

The results of the descriptive analysis are used to create a pretest that will ask students how they feel about how pop-up media is used to shape their social skills before being given treatment. The following describes who formed the social views of students before the experimental and control classes received therapy.

Table 3. Pretest Descriptive Statistical Analysis of Formation of Social Skills Data of Experiment Class and Control Class Students

Descriptive statistics	Statistical Value	
	Experimental Class (using pop-up media)	Control Class (without using pop-up media)
Number of samples	24	24
Lowest value	43	43
The highest score	75	75
average	57,67	57,67
Standard deviation	9,955	9,955

Source: IBM SPSS Statistics Version 20.0

Pretest data processing showed that the average score of the two groups was 57.67, or the total score remained. This shows that there was no change in scores in both group. The following table shows the frequency distribution of post-test results for the experimental class and the control class:

Table 4. Data on the Frequency Distribution of Pretest Values for the Formation of Students' Social Skills

No	Value Intervals	Category	Experimental Class (using pop-up media)		Control Class (without using pop-up media)	
			Frequency	Percentage	Frequency	Percentage
1	90 – 100	Very good	0	0%	3	12%
2	80 – 89	Good	9	38%	12	50%
3	65 - 79	Quiet good	11	46%	9	35%
4	55 - 64	Not good	3	12%	0	0%
5	x < 55	Very Not good	1	4%	0	0%
	Amount		24	100%	24	100%

3.3 Formation of Students' Social Skills Against the Use of Pop-Up Media

A Posttest for the experimental class, which received treatment in the form of pop-up media, was carried out both in the experimental class and the control class to get to know more and provide a final picture of the formation of students' social skills. The table below displays the control classes:

Table 5 . Posttest Descriptive Statistical Analysis Formation of Social Skills Data of Experiment Class and Control Class Students

Descriptive statistics	Statistical Value	
	Experiment Class (using pop-up media)	Control Class (without using pop-up media)
Number of samples	24	24
Lowest value	56	43
The highest score	94	75
average	69,92	62,33
Standard deviation	10,814	8,805

Source: IBM SPSS Statistics Version 20.0

The following table shows the processing of frequency percentage data from the posttest results of the experimental and control classes.

Table 6 . Posttest Frequency Distribution of Social Skills Scores of Experimental and Control Class Students

No	Value Intervals	Category	Experiment Class (using pop-up media)		Control Class (without using pop-up media)	
			Frequency	Percentage	Frequency	Percentage
1	90 - 100	Very good	10	42%	9	38%
2	80 - 89	Good	8	33%	7	30%
3	65 - 79	Quiet good	6	25%	5	20%
4	55 - 64	Not good	0	0%	3	12.5%
5	x < 55	Very Not Good	0	0%	1	4.2%
	Amount		24	100%	24	100%

Source: IBM SPSS Statistics Version 20.0

The experimental group occupies the highest percentage, namely 42%, meaning that the formation of children's social skills is in a perfect category because the number of frequencies with excellent attitudes is 10 of the average pretest and posttest scores between the experimental class and the control class. , which can compare the increase in Students' Social Skill Formation Skills between the experimental and control classes.

Table 7. Comparison of the average pretest and posttest learning outcomes of the experimental class and the control class

Class	Pretest	Posttest
Test	57,67	69,92
	Not good	Quiet good
Control	57,83	62,33
	Not good	Not good

Source: IBM SPSS Statistics Version 20.0

3.4 The Effect of Using Pop-Up Media on the Formation of Students' Social Skills

3.4.1 Test Data Analysis Assumptions

The results of inferential statistical analysis are intended to answer the research hypotheses that have been formulated. Normality and homogeneity tests which are assumption tests, are carried out before inferential analysis.

3.4.2 Normality test

Researchers who want to see that the pretest and posttest data are typically distributed are tested for normality. Researchers used the IBM SPSS Statistics Version 20 software for the normality test. The Shapiro-Wilk test with the criteria for testing the normality of the data is used. The data is declared generally distributed if the significant value is > 0.05 and is said to be not normally distributed if it has a value of 0.05 . The table below shows the results of the pretest and posttest data normality checks for the experimental and control classes.

Table 8. Results of the pretest-posttest normality test for the experimental and control classes

Data	Sig (Probability Value)	Information
Experimental class pretest	0.064	$0.064 > 0.05 = \text{normal}$
test the experimental class	0.089	$0.089 > 0.05 = \text{normal}$
control class pretest	0.079	$0.079 > 0.05 = \text{normal}$
Posttest control class	0.120	$0.120 > 0.05 = \text{normal}$

Source: IBM SPSS Statistics Version 20

3.4.3 Homogeneity Test

The homogeneity test is used to ascertain whether the two data groups have the same variance. Data is declared to have the same variation (homogeneous) if the significant value exceeds 0.05 and vice versa. If the significant value is less than 0.05 , then there is no change in data. Significantly the same (not homogeneous). The homogeneity test is calculated using IBM SPSS Statistics Version 20, and the results are as follows:

Table 9. Pretest and Posttest Homogeneity Test Results for Experimental Class and Control Class

Data	Probability Value	Information
Pretest experimental class and control class	0.993	$0.993 > 0.05 = \text{homogeneous}$
Posttest experimental class and control class	0.290	$0.290 > 0.05 = \text{homogeneous}$

Source: IBM SPSS Statistics Version 20

3.4.4 Hypothesis testing

Independent sample T-Test Experimental pretest and control pretest

This analysis aims to verify the accuracy of the experimental and control class pretest findings. Researchers used the SPSS Statistics Version 20 tool to carry out this analysis. Data differences are considered non-existent if sig. (probability value) is more significant than 0.05 . The table below shows the results of the pretest independent sample t-test of the experimental class from the control class:

Table 10. Independent Sample T-Test Pretest Value for Experimental Class and Control Class

Data	Q	Df	Sig (2- tailed)	Information
pretest <i>and</i> control class pretest	-0.048	46	0.954	0.956 > 0.05 = no difference

Source: IBM SPSS Statistics Version 20

Independent sample T-Test experimental posttest and control posttest

This analysis aims to determine whether there are differences in the social skills of experimental class students compared to the control class after being treated with pop-up media. Statistical Package for Social Science (SPSS) version 20 was used to test the research hypothesis. Data requirements differ if the probability value is less than 0.05 or the t count is more than the t table. The results of the Independent Sample T-Test are as follows for the post-test scores of the experimental and control classes.

Table 11 . Independent Sample T-Test Posttest Value of Experiment Class and Control Class Posttest Value

Data	Q	Df	Sig(2- tail)	Information
pretest <i>and</i> control class pretest	2,947	46	0.005	0.005 < 0.05 = there is a difference

Source: IBM SPSS Statistics Version 26

Implementation of Learning Using Pop-Up Media

This study shows that using pop-up media in the learning process can improve the quality of learning and obtain excellent results. In each meeting, the percentage of excellent assessment categories increased, indicating that consistent use of pop-up media helps students better understand the material and increases participation in learning. Pop-up media can change how students learn and understand the material more visually and interactively. This can help students be more involved in the learning process and build a deeper understanding of the studied topic. In addition, pop-up media can help students solve problems and make decisions better because they are used to a visual approach to learning. Based on the observations in this study show that the use of pop-up media in the learning process is very effective and can provide excellent results. Therefore, pop-up media can be a helpful tool to improve the quality of learning and help students achieve their learning goals better.

Formation of Class IV social skills

Based on the description of how students' social skills are formed based on research findings, there are differences between the experimental and control classes regarding how students form their social skills. By using pop-up media, students develop more social skills. Statistical analysis of the description shows the results of forming students' social skills through the pretest and posttest. Placing students' social skills into five categories – very good, good, moderately good, not good, and not good – will help you see the differences (Viranthi & Wulandari, 2022; Nurbaiti, Istiyati, & Hadiyah, 2021). The average value of the experimental group's pretest was below the average, while the posttest score was quite good, indicating an increase. While the control class got poor pretest and posttest results, meaning it had developed but was still smaller than the experimental class. This shows how the class treated with pop-up learning media and the class treated without pop-up learning media differed in how students formed their social skills.

The Effect of Using Pop-Up Media on the Formation of Social Skills of Grade IV Students

The experimental class uses pop-up media in the learning process, while the control class does not. Testing the hypothesis with inferential statistics reveals that there are differences in the results of social skills between the experimental class and the control class. By comparing t table with t value and sig (probability), the hypothesis tested. Independent Sample T-Test was used in statistical analysis to identify variations between the development of social skills before and after the treatment of students. Besides that, it also displays the average variance of the results of the formation of social skills of students in the experimental class and control class.

According to this justification, using pop-up media in learning dramatically influences how students build their social skills. Therefore, one of the abilities that students use to form their social skills (the use of Pop-Up media) is influenced by various conditions inside and outside the student's media (Annisa, Musi, & Amal, 2022; Puspita & Setyaningtyas, 2022). So that social skills such as accuracy in completing work, cooperation, honesty and tolerance, and discipline can be formed in the efficient use of Pop-Up media.

Thus, students can improve their social skills by using pop-up media in learning. Apart from helping students understand the subject matter, pop-up media also allows students to interact with fellow students and teachers. In learning situations that rely on technology, students can learn how to communicate effectively, work in groups, solve problems collectively, and adapt to individual and cultural differences (Pérez-Villalobos et al., 2023; Rai, Fleer, & Fragkiadaki, 2022). These social skills are important for improving the quality of students' interpersonal relationships and helping them to face challenges in everyday life. Therefore, using pop-up media in learning can help improve students' social skills.

4. CONCLUSION

The effectiveness of using pop-up media in the learning process is to improve the quality of learning and achieve excellent results. Pop-up media can change how students learn and understand the material more visually and interactively, leading to a more exciting learning process and a deeper understanding of the studied topic. This study also revealed that using pop-up media in learning can significantly improve students' social skills, leading to better collaboration, problem-solving, and decision-making abilities. The difference in the formation of social skills between the experimental and control groups shows the effectiveness of using pop-up media in developing social skills. Overall, the use of pop-up media in learning can be a valuable tool to improve the quality of learning and help students achieve their learning goals more effectively. In addition, this study implies that using pop-up media in the learning process can improve the quality of learning and facilitate students' understanding of the topic being studied. In addition, using pop-up media can also improve students' social skills, such as collaboration, problem-solving, and decision-making abilities.

The recommendation that can be given is to consider the use of pop-up media in the learning process, especially if the purpose of learning is to increase students' understanding and social skills. In addition, teachers and instructors can also integrate pop-up media with existing teaching methods to achieve better learning outcomes. In addition, the drawback of this study is that it only evaluates the effectiveness of pop-up media in improving social skills and achieving learning objectives without evaluating the long-term impact of its use on learning and students. Therefore, further research must be conducted to confirm these results and evaluate the long-term impact of pop-up media on learning.

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