

Improving Learning Outcomes in Mathematics Classes via Rewards and Punishments: an Action Research

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Abstract

Mathematics is one of the compulsory subjects given to students. However, several studies show that elementary school students still have difficulty in learning mathematics, causing very low learning outcomes. One effort that can be done is to use a variety of other learning methods that can increase students' interest in learning mathematics. This study aims to improve the learning outcomes of mathematics in elementary school students by applying the Rewards and Punishments method. This study uses a quantitative approach with the correlational method. The sample in this study was the third-grade students of HKBP No.1 Sibolga Private Elementary School, which amounted to 32 students who were determined by using a random sampling technique. Data collection techniques in this study are questionnaires and documentation studies. The results of this study indicate that the results of the correlation test prove that there is a relationship between reward and punishment on student learning outcomes. This shows that there is an effect of reward and punishment on student learning outcomes in grade III SD HKBP No.1 Sibolga. The conclusion of this research is that the Rewards and Punishments method is proven to be effective in improving student learning outcomes in mathematics subjects.

INTRODUCTION

Education and humans cannot be separated, both in the family, community and nation and state (Astuti, 2014). This is because education has an important role in improving the quality of human resources (Suharto, 2009; Cintamulya, 2015). In the world of education, students' interest in learning is influenced by the success of an educator in delivering material. Teachers are required to be able to convey learning actively and creatively, where a teacher must be able to create and grow the interest of students in following each lesson delivered. In the learning process, the teacher must be able to choose the method that will be used to deliver the material being taught (Ulfa & Saifuddin, 2018). By using the right method is expected to improve student learning outcomes. Because learning outcomes are something that is often used as a benchmark for teacher success in the learning process. The higher the learning outcomes of students, the higher the level of teacher success in carrying out the learning process (Prasetyo et al, 2019).

Mathematics is one of the compulsory subjects given to students. This subject is often used as a benchmark for a student to graduate from a certain level of education, including elementary school. However, several studies show that elementary school students still have difficulty in learning mathematics. This can be seen from the learning outcomes obtained by students are still low. This condition was revealed from several studies conducted by Alfian et al. (2020), Ananda (2018), Febriandi (2020), Harefa et al. (2020), Longa (2021), and Marta (2018). The problem of low student learning outcomes, of course, should not be ignored, teacher action is needed as a solution to this problem. One of the efforts to improve student learning outcomes is that teachers must try various teaching methods. Teachers must be able to generate student learning motivation with various skills, both skills in applying learning models, learning methods,

learning media and so on (Gaol & Simarmata, 2019). One way is in learning the teacher gives appreciation to students in the form of rewards in any form, both in the form of praise and gifts so that they feel that the good deeds they do are appreciated, and if they do bad deeds, the teacher must give punishments that educate students. that way they can attract students' interest in learning, they can also learn to distinguish between good and bad things that they deserve to do. What is meant in this case is to provide rewards and punishments to students.

Reward is a form, method, or strategy used by teachers to generate, grow, maintain, and increase students' learning motivation in schools so that students are encouraged to make sustainable efforts in order to achieve teaching goals (Syahrani, 2018; Widiyono et al. , 2019). Reward is a positive assessment of student learning (Kompri, 2018). The role of rewards in the teaching process is quite important, especially as an external factor in influencing and directing student behavior (Faidy & Arsana, 2014; Dewi, 2016; Ernata, 2017). This is based on various logical considerations, including rewards, this can lead to student learning motivation and can influence positive behavior in students' lives. While punishment is an educational tool that causes suffering for students who are punished, which contains motivation so that the students concerned try to always fulfill their learning tasks in order to avoid punishment (Rosyid, 2018). Punishment in the field of education is a form of motivational tool used by educators to correct behavior that is not in accordance with the norms believed to be by weakening behavior, carried out in accordance with the principles of giving punishment appropriately and wisely (Sadulloh: 2014).

Several studies related to the use of reward and punishment methods in improving learning outcomes have been carried out, including the research of Anggraeni et al. (2019), Fitri & Ain (2022), Lestari (2019), Melinda (2018), and Suratmi (2018). This study seeks to improve student learning outcomes in mathematics using the reward and punishment method with a sample of third grade elementary school students.

METHODS

This research approach is using a quantitative approach. Quantitative research can be defined as a research method based on the philosophy of positivism, used to examine certain populations or samples, collect data using research instruments, and analyze quantitative/statistical data with the aim of testing established hypotheses. The data processing techniques are as follows questionnaires and documentation.

According to Sugiyono (2018), the questionnaire is a data collection technique that is carried out by giving a set or written statement to the respondent to answer. This method is used to obtain data on the effect of reward and punishment. The measurement method in this questionnaire uses a Likert scale. Sugiyono (2018) states the Likert scale is used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena. With a Likert scale, the variables to be measured are translated into variable indicators. In the Likert scale, each instrument has a scale. The measurement value scale is from 1 to 4 with alternative answers: Always, Often, Sometimes, Never. Where each answer is given a score respectively. The documentation is a data collection technique by collecting and analyzing written and unwritten documents. For example photos and data in the form of archives about the results of student scores.

RESULTS AND DISCUSSION

To find out the data on student rewards and punishments, questionnaires were distributed directly to third grade students at the HKBP Private Elementary School No.1 Sibolga in order to produce relevant data. From the number of questionnaires distributed to 32 respondents, a description of the percentage of answers for each item was obtained which was then scored and added up in total. As for knowing student learning outcomes, tests were conducted using math problems. Reward and punishment has an average value of 85.15, it can be concluded that the reward and punishment in the HKBP Private Elementary School No.1 Sibolga with the most respondents' answers, namely the less category reaches 56%.

The learning outcomes used in this study were seen from the mathematics learning outcomes of third grade students, namely the odd semester report cards in the 2019/2020 academic year. The learning outcomes of third-grade students in HKBP No.1 Sibolga Private Elementary School have an average score of

74.28. It can be concluded that the learning outcomes of students in HKBP No.1 Sibolga Private Elementary School of 41% fall into the low category.

The data collected were analyzed correlationally. To find out whether there is a relationship between reward and punishment with learning outcomes, and the requirements for the correlation coefficient test, the correlation coefficient test is carried out. In this case the correlation analysis using the rxy formula aims to prove the relationship between reward and punishment with student learning outcomes.

Table 1. Calculation of the Correlation Coefficient

		Reward and Punishment	learning outcomes
Reward and Punishment	Pearson Correlation	1	.660**
	Sig. (2-tailed)		.000
	N	32	32
learning outcomes	Pearson Correlation	.660**	1
	Sig. (2-tailed)	.000	
	N	32	32

** . Correlation is significant at the 0.01 level (2-tailed).

Hypothesis testing in this study was carried out using the t-test. The t-test is used to determine whether there is an influence of the independent variable on the dependent variable, namely the reward and punishment variable on student learning outcomes. Hypothesis testing using t-test is done by comparing t_{count} with t_{table} .

Table 2. Hypothesis testing

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.947	8.423		4.030	.000
	Reward and Punishment	.474	.098	.660	4.812	.000

a. Dependent Variable: learning outcomes

The calculation results obtained show that t_{count} is more than t_{table} , then the null hypothesis is accepted, namely reward and punishment have a positive and significant influence on student learning outcomes (Y). Based on the decision criteria, it can be concluded that there is an influence between reward and punishment on student learning outcomes in mathematics.

Children who are given rewards will feel motivated in learning so that students become more enthusiastic in undergoing learning, while punishment given to students will have a deterrent effect so that students do not repeat it. This is in accordance with the opinion of Murfiah (2008: 41) which says that rewards are various forms of appreciation/appreciation for a success that has been achieved by students in certain activities. Meanwhile, punishment is a psychological or physical sanction against a violation or mistake committed by a child/student intentionally. Our research strengthens the research of Anggraeni et al. (2019), Fitri & Ain (2022), Lestari (2019), Melinda (2018), and Suratmi (2018) which state that reward and punishment affect student learning outcomes. This proves that our research strengthens the research which states that reward and punishment affect student learning outcomes.

CONCLUSION

Reward and punishment have a significant effect on student learning outcomes. The hypothesis test shows that the tcount value of 4.812 is better than the ttable value, meaning that there is a significant influence between reward and punishment on student learning outcomes.

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