

## The Effect of Snowball Throwing Learning Model on the Learning Outcome

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### **ABSTRACT**

*This research examines the Aqidah Akhlak learning process in the fifth grade of Islamic Elementary School Madinatul Ulum Tembelang Jombang, which is still having difficulty in improving student learning outcomes. The main problem identified is the low enthusiasm of students and the use of conventional learning methods. To overcome this, a learning model is needed that can increase the enthusiasm for learning and understanding of students, one of which is the snowball-throwing learning model. This study aims to determine the effect of snowball snowball-throwing learning model on Aqidah Akhlak learning outcomes on the material of infaq and sadaqah in the fifth grade of Islamic Elementary School Madinatul Ulum Tembelang Jombang. This study used an experimental method with a "One-Group Pretest-Posttest" design. In this design, one group of subjects is given a pretest. The experimental group consisted of twenty-four students of class Five B, and the research was conducted for two meetings. The results of descriptive analysis showed an increase in Aqidah Akhlak learning outcomes after the application of the snowball-throwing learning model. Inferential statistical analysis using the t-test with the help of SPSS 21 software shows that the significance value obtained is 0.000. Because this value is smaller than the significant level of 5% or 0.05 or 0.000, the null hypothesis (H<sub>0</sub>) is rejected. This shows that the application of the snowball throwing learning model has a positive influence on the learning outcomes of Aqidah Akhlak on the material of infaq and sadaqah in class V Islamic Elementary School Madinatul Ulum Tembelang Jombang.*

**Keywords:** Learning Model; Aqidah Akhlak; Snowball Throwing; Learning Outcomes

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### **INTRODUCTION**

Education has a very important role in ensuring the progress and sustainability of a nation. A good education will produce individuals who have high thinking and creative abilities. Education is the key to quality progress and development because through education humans can actualize their potential as individuals and productive members of society (Sudarmono et al., 2021). Education is focused on developing the capacity of learners in developing attitudes, knowledge, and skills. These three are ways to implement the functions and objectives of national education. As stipulated in the Law of the Republic of Indonesia Number twenty years two thousand three concerning the national education system which states that national education aims to develop abilities and shape the character and civilization of a civilized nation to improve the intelligence of the nation's life (Wartoyo, 2022).

Based on the description of the Law of the Republic of Indonesia Number twenty years two thousand three, it can be interpreted that education is very important for humans. The main purpose of education is to form individuals who have faith and devotion to God, have noble character, and are responsible. So that everyone has the opportunity to get a quality education (Juliansyah, 2023). Many efforts have been made to improve the quality of education. Several things are often considered in improving the effectiveness and learning outcomes of students including curriculum improvement, development of learning models, utilization of creative and innovative learning media, and other aspects. One element that is often evaluated in relation to student learning achievement is the learning model applied by educators in the classroom. Traditional classroom learning is dominated by the role of educators and students tend to be less active. Meanwhile, the application of educator learning models to support understanding of learning concepts is still relatively rare. Many issues arise in the field of education, both from educators and students. Some issues related to educators include lack of educators'

efforts to encourage students to ask questions, educators' attention only to some students, and a lack of educators' efforts to arouse students' interest in learning. Meanwhile, from the perspective of learners, issues that often arise include: low participation of learners in expressing opinions, many learners are not focused when the educator gives an explanation, and learners are less active in the learning process. This also happened at Islamic Elementary School Madinatul Ulum Tembelang Jombang.

The problems that have been described must be resolved immediately, if not resolved immediately will have a negative impact on the progress of learning and the ability to think of students and can hinder the improvement of student learning outcomes. Solutions are needed to be able to solve and deal with these problems, one of which is by applying a learning model that suits the needs of students. This is important because the learning model chosen will have a big impact on student achievement and learning outcomes. One solution that can be done to solve problems in learning outcomes is to apply the snowball-throwing learning model.

According to Huda (Rahma et al., 2023) the snowball-throwing learning model is: Snowball Throwing is a learning model where we start with the formation of groups led by a group leader. Each group receives a task from the educator. Then, each learner makes a question like a ball of paper and throws it to other learners. Each learner answers the question from the ball they receive. With Snowball Throwing, learners learn to be more open to other people's opinions and convey the message to their friends in the group. This snowball-throwing model can be the right choice for teaching *aqidah akhlak* lessons in Islamic religious education. In this way, learning becomes more fun and interactive, because students are involved in the learning process. This can make students more influenced and better understand the subject matter delivered by the educator.

Based on the results of research (Gunawan, 2020), it shows that there is an effect of the snowball throwing learning model on learning outcomes in the experimental class of seventy-eight higher than the control class of sixty-one on the material of the fourth grade animal body parts of Hang Buah 10 Juanda Elementary School, from the results of research (Sofiyah, 2021) showing the effect of the snowball throwing cooperative learning model on learning outcomes of zero point zero zero zero with a significance level of zero point zero five in *fiqh* subjects at Islamic Elementary School Darul Huda corner Ngantru Tulungagung, the results of research (Manalu et al., 2022) show the effect of the snowball throwing learning model on student activeness with an average posttest value of eight point zero greater than seventy in the pretest value and an increase in learning outcomes with an average posttest value of ninety-five greater than seventy in the pretest value, (2022) showed the effect of the snowball throwing learning model on student activeness with an average posttest value of eight buluh greater than seventy in the pretest value and an increase in learning outcomes with an average posttest value of ninety-five greater than eighty in the pretest value in the eighth grade of Junior High School one Helvetia Deli Serdang, from the results of research (Safna & Asriati, 2023) The results of the study (Khotimah & Nurhasanah, 2024) show that the use of the Snowball Throwing learning model can help students in improving critical thinking in *Aqidah akhlak* subjects at Islamic Elementary School PSM Gedoro.

## **METHOD**

This study used a quantitative experimental approach of the type "One-Group Pretest-posttest Designs" The research design is as follows: O1 X O2

Description:

- O : Before treatment (Pre-test)
- O2 : After the treatment (Post-test)
- X : Treatment provided

The population in this study was fifty including all fifth-grade students of Islamic Elementary School Madinatul Ulum Tembelang Jombang. In this study, the sample included all fifth-grade B Islamic Elementary School Madinatul Ulum Tembelang Jombang which amounted to fourteen boys and eleven girls. The technique used is purposive sampling.

**Table 1.** Number of students in the fifth grade of Islamic Elementary School Madinatul Ulum Tembelang Jombang

No.	Class	Gender		Total
		Male	Female	
1.	Class V-A	18	7	25
2.	Class V-B	14	11	25

The data collection method used in this study is a test at the beginning and the end. The following are the data collection steps that will be carried out: 1) Test To obtain data on the *Aqidah Akhlak* learning outcomes of students before and after learning, researchers will use pretest and posttest tests, 2) observation to obtain data in the field related to all things that occur during the *Aqidah akhlak* learning process using the Snowball Throwing learning model, 3) Documentation to support the research process in collecting data on the *Aqidah akhlak* learning outcomes of students before and after applying the Snowball Throwing learning model. In this study, researchers used a research instrument in the form of a test to obtain data on the effect of the snowball-throwing learning model on the learning outcomes of Aqidah morals on the material of *infaq* and *sadaqah* in the fifth grade Islamic Elementary School Madinatul Ulum Tembelang Jombang.

The analysis in this study was carried out with the aim of testing the truth of the hypothesis proposed. Descriptive analysis is used to determine the mean and standard deviation of the two sample classes, while inferential analysis is used to see if there is a difference between the two sample classes to perform the t-test, there are two conditions that must be met: first, the sample must come from a normally distributed population, and second, the two sample classes must have homogeneous variances. Before conducting a series of tests, there are several stages as follows: 1) Pre-research stage: a. Test the validity of the instrument, to measure the validity of the items used product-moment correlation with the following formula (Sugiono, Noerdjanah, 2020):

$$r_{xy} = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{\{N \sum x^2 - (\sum x)^2\} \{N \sum y^2 - (\sum y)^2\}}}$$

Description:

$r_{xy}$  = correlation coefficient between variables x and y

$N$  = number of test participants

$\sum x$  = item score

$\sum y$  = total score

$\sum xy$  = the sum of the multiplication results between the frequencies of the X and y scores

**Table 2.** Criteria for Question Item Validity

The value of r product moment (r <sub>xy</sub> )	Interpretation statement
0,00 - 0,20	Very low
0,20 - 0,40	low
0,40 - 0,60	Simply
0,60 - 0,80	Good
0,80 - 1,00	Very good

For a more thorough evaluation calculation of each instrument, many tests with various levels of difficulty must be carried out: The level of difficulty to test the level of difficulty of test questions can be used the following formula (Asrul et al., 2015):

$$P = \frac{B}{JS}$$

Description:

P = index of difficulty

B = number of students who answered correctly

JS = number of all test takers

**Table 1.** Criteria for Question Item Difficulty Level

Difficulty Index	Problem Category Description
0,00 - 0,30	Difficult
0,30 - 0,70	Medium
0,70 - 1,00	Easy

To determine the differentiating power of the items, the following formula can be used (Asrul et al., 2015):

$$D = \frac{BA}{JA} - \frac{BB}{JB} = PA - PB$$

Description:

- J = Number of test takers
- JA = the number of upper-group participants
- JB = number of lower group participants
- BA = the number of upper groups who answered correctly
- BB = the number of lower group participants who answered correctly
- PA = proportion of upper group participants who answered correctly
- PB = proportion of lower group participants who answered correctly

**Table 2.** Distinguishing Power Criteria

Differentiating power interval	Description
0,00 - 0,20	Ugly
0,21 - 0,40	Simply
0,41 - 0,70	Good
0,71 - 1,00	Very good

The instrument reliability test, the aim is to assess how consistent the results of the meter are when measuring the same symptoms several times with the same measuring instrument. To ensure that the instrument is reliable, researchers calculate reliability using the alpha formula (Asrul et al., 2015):

$$r_{11} = \left( \frac{n}{n-1} \right) \left( 1 - \frac{\sum \sigma_t^2}{\sigma_t^2} \right)$$

Description:

- $r_{11}$  = the reliability value sought
- n = number of question items tested
- $\sum \sigma_t^2$  = number of variant scores for each item
- $\sigma_t^2$  = total variance

**Table 3.** Reliability Criteria

Coefficient interval	Description
$0,00 \leq r_{11} < 0,20$	Very low
$0,20 \leq r_{11} < 0,40$	Low
$0,40 \leq r_{11} < 0,60$	Medium
$0,60 \leq r_{11} < 0,80$	Strong
$0,80 \leq r_{11} < 1$	Very strong

- Data Analysis Stage:
- Descriptive data analysis analyzes data by describing data or objects that are studied through sample or population data (Sugiono, 2014). The steps for preparing this analysis are as follows:
- Average (*Mean*)

$$Me = \frac{\sum xi}{n}$$

Description:

Me = Average  
 $\Sigma$  = Epsilon (read sum)  
Xi = X values i through n  
N = number of samples

- Percentage (%) average value

$$P = \frac{f}{n} \times 100\%$$

Description:

P = Percentage number  
f = the frequency for which the percentage is being sought  
N = number of samples

The inferential statistical data analysis, in this case, researchers use parametric statistics to analyze sample data. This calculation will be assisted by SPSS software. The steps taken in preparing this analysis are as follows: 1) Shapiro Wilk Normality Test, with the following formula (Nasrum, 2018):

$$W = \frac{b^2}{s^2} = \frac{\sum_{i=1}^n a_i (x_{n+1-i} - x_i)^2}{\sum_{i=1}^n (x_i - \bar{x})^2}$$

Description:

W = Shapiro Wilk test  
 $b^2$  = sum of product and sorted sample data  
 $s^2$  = variance of the sample

- The homogeneity test used is the Levene test with a significant level of 5% (0.05) with the following formula (Usmadi, 2020):

$$W = \frac{(n-k) \sum n (\bar{z}_i - \bar{z})^2}{(k-1) \sum (z - \bar{z}_i)^2}$$

Description:

n = Number of observations  
k = Number of groups  
z = The z value of each data  
 $\bar{z}$  = Average z value of each group  
 $\bar{z}_i$  = Overall average z value

- The hypothesis testing (paired t-test), with the t-test formula as follows:

$$t_{\text{hitung}} = \frac{\bar{D}}{\frac{SD}{\sqrt{n}}}$$
$$t_{\text{tabel}} = t(n - 1)$$

Description:

$\bar{D}$  = average class value of the difference between measurements 1 and 2  
SD = standard deviation of the difference between measurements 1 and 2  
N = number of samples

## RESULT AND DISCUSSION

This research was conducted at Islamic Elementary School Madinatul Ulum Tembelang Jombang by involving all students of class Five B in the even semester of the 2023/2024 school year, totaling twenty-five people. The research was conducted on the eighth of May two thousand twenty-four by giving a pre-test in the experimental class using conventional learning methods on the material of *infaq* and *sadaqah*. Then, on May 15, two thousand and twenty-four, a post-test was conducted in the experimental class by applying the snowball-throwing learning method on the same material.

## Result

- Instrument validity test

The significant level in the validity test is 0.05 (5%), it is said that the item is valid if obtained *rhitungrtabel*. If *rhitungrtabel* then it is said that the item is not significant or invalid. The results of this validation process show that the research instrument has good validity, with each item considered relevant and clear in measuring the intended concept. Thus this instrument has met the validity standards needed for further research use.

**Table 4.** Question Item Validity Results

Question type	Criteria	Question Number	Total
Multiple choice	Valid	1,2,3,4,5,6,7,8,9,10	10
Description	Valid	1,2,3,4,5	5

Based on the results of the analysis that has been carried out, the question item instrument is declared valid. The validity of these items is determined through various criteria, such as the level of conformity of the items with the measurement objectives and the validity test results which show that each item has a significant validity coefficient that refers to the table of item validity criteria. Thus this instrument is suitable for use. For a more thorough evaluation calculation of each instrument, many tests with various levels of difficulty must be carried out: 1) the level of difficulty, this is done using the difficulty index with a value range of 0.00 to 1.0.

**Table 5.** Results of the Pre-Test Question Difficulty Level Test

Question type	Criteria	Question Number	Total
Multiple choice	Easy	1,2,3,4,5,6,7,8,9,10	10
Description	Medium	1,2	2
	Easy	3,4,5	3

Based on the analysis of the level of difficulty of the pre-test items, it was found that multiple-choice items number one to ten were included in the easy category. For description questions, numbers one and two are in the medium category, while numbers three, four, and five are in the easy category. These results are obtained through the criteria set out in the table of difficulty levels, which indicates that most of the pre-test items have a level of difficulty that varies according to the specified category.

**Table 6.** Results of Test Level of Difficulty of Post-Test Questions

Question type	Criteria	Question Number	Total
Multiple choice	Easy	1,2,3,4,5,6,7,8,9,10	10
Description	Medium	2,3	2
	Easy	1,4,5	3

Based on the analysis of the level of difficulty of the post-test items, it was found that multiple-choice items number one to ten were included in the easy category. For description questions, numbers two and three are in the medium category, while numbers one, four, and five are in the easy category. This is determined based on the criteria listed in the difficulty level table that has been used.

- Differentiating power, with good differentiating power will be able to distinguish clearly between students who have high and low abilities.

**Table 7.** Results of Differentiating Power of Pre-Test Items

Question type	Criteria	Question Number	Total
Multiple choice	Good	1,2,3,4,6,8,9,10	8
	Very good	5,7	2
Description	Medium	1,2,3,4,5	5

Based on the results of the analysis of the distinguishing power of the pre-test items, it was found that eight multiple-choice questions were classified as good and two questions in multiple-choice were classified as very good. Meanwhile, for description, questions number one to five are all classified as easy. This analysis shows that the items have a good ability to distinguish between students who understand the material and those who do not understand the material, this refers to the criteria in the distinguishing power table.

**Table 8.** Results of Distinguishing Power of Post-Test Items

Question type	Criteria	Question Number	Total
Multiple choice	Good	1,2,3,5,6,7,8,9,10	9
	Very good	4	1
Description	Medium	1,2,5	3
	Good	3,4	2

Based on the results of the analysis of the differentiating power of post-test items, it was found that nine multiple-choice questions were classified as good and one question in multiple-choice was classified as very good. Meanwhile, description questions number one, two, and five are classified as sufficient and classified as good, and description questions number three and four are all classified as easy. This assessment is based on an evaluation of the criteria for distinguishing power that has been determined.

- Instrument reliability test

The function of this reliability test is that researchers can find out the extent to which the measurement remains consistent. To find out whether the instrument is reliable or not can be seen in the criteria table below:

**Table 9.** Reliability Test Results

Question Type	Reliability Test Results	Results	Interpretation
Pre-test Multiple choice	0,807	Very strong	Reliable
Pre-test description	0,582	Medium	Reliable
Post-test Multiple-choice	0,829	Very strong	Reliable
Pre-test description	0,601	Strong	Reliable

Based on the results of the reliability test of this study, the results of the reliability of the multiple choice pre-test questions showed a very strong level with a result of 0.807. Conversely, the reliability of the pre-test questions in the form of descriptions is in the medium category with a result of 0.582. For post-test questions, multiple choice reliability shows a very strong level with a result of 0.829. While the reliability of the post-test description question is classified as strong with the result of 0.601. This study refers to the criteria listed in the predetermined reliability test.

- Normality test

The data used for this test came from the pre-test and post-test scores in the experimental class. Decisions were made based on the results of the normality test: if the sig significant value  $> 0.05$ , then the data is considered normally distributed, while if the sig value  $< 0.05$ , then the data is considered not normally distributed. Data analysis using this normality test was carried out with SPSS 21 software, and the results can be seen from the following Shapiro Wilk value:

**Table 10.** Normality Test Results

Tests of Normality	Kolmogorov-Smirnov <sup>a</sup>	Shapiro-Wilk				
	Statistic	df	Sig.	Statistic	df	Sig.
pretest hasil belajar	.184	24	.035	.925	24	.077
posttest hasil belajar	.107	24	.200*	.924	24	.071

Based on the data normality test table on Shapiro Wilk which has been taken by researchers, because the sample used is less than 100 people. So it can be seen that the sig value in the experimental class pre-test is 0.077, meaning that the data is spread normally, as well as the experimental class post-test of 0.071, where the data is spread normally because it has a sig value greater than 0.05.

- Homogeneity test

This statistic uses a significant level of 5% (0.05). Data can be said to be homogeneous if the sig value is 0.05, otherwise if sig > 0.05 then the data is said to be homogeneous. The data analysis in this test can be seen in the following test through SPSS software:

**Table 11.** Homogeneity Test Results  
 Test of Homogeneity of Variances  
 Test Results

Levene Statistic	df1	df2	Sig.
4.026	1	46	.05

Based on the table above, the results of the homogeneity test on the test are sig 0.05, and the sig value obtained is 0.051. This shows that 0.05 > 0.051. This indicates that the test data is homogeneous.

- Hypothesis testing paired T-test.

The decision-making provisions in the t-test if the sig value is 0.05 then Ho is accepted, otherwise, if the sig value is < 0.05 then Ho is rejected. The data analysis in this test can be seen in the following tests through SPSS software:

**Table 12.** Results of paired sample T-test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pretest - post-test	-16.167	13.918	2.841	-22.044	-10.290	-5.690	23	.000

Based on the table above, it can be seen that the summary results of the paired samples t-test show sig (2-tailed) 0.000 less than 0.05. This decision shows that Ho is rejected, and this shows the influence of the snowball-throwing learning model on the learning outcomes of *aqidah akhlak* class V material on *infaq* and alms Islamic Elementary School Madinatul Ulum Tembelang Jombang.

## Discussion

Based on the pre-test results, the average pre-test score of students is 68.83 with a very low category of 29%, low 13%, enough 29%, high 29%, and very high 0%. From these results, it can be said that the learning outcomes of fifth-grade *aqidah akhlak* material *infaq* and *sedekah* Islamic Elementary School Madinatul Ulum Tembelang Jombang before applying the snowball throwing learning model are still relatively low. Thus, researchers provide treatment, namely by using the snowball-throwing cooperative learning model in accordance with the stages of the snowball-throwing learning model, namely (1) conveying goals and motivation, (2) providing information, (3) grouping students, (4) guiding groups in the learning and work process, (5) conducting evaluations, and (6) giving awards.

The snowball throwing learning model is a learning model in which the presentation of the material is made to resemble a game that develops knowledge and skills that have use value for students in learning, the use value includes: Improving the efficiency of classroom management by educators in a creative and fun way, develop learners' leadership skills in a group context, strengthen learners' confidence in expressing opinions, encourage active and creative involvement of learners in learning,

The average value of students' post-test results is 85.00. So it can be seen that after applying the snowball throwing learning model, the learning outcomes of *aqidah akhlak* are more improved than before applying the model. The percentage category of students' *aqidah akhlak* learning outcomes also



increased, namely 38% very high, 41% high 21% sufficient, 0% low, and 0% very low. The learning outcomes with the snowball throwing model above are directly proportional to Rizal Indra Gunawan's research in 2020 which shows an increase in the learning outcomes of the average value of the experimental class compared to the average value of the control class, with an average value of 78 higher than 61, and Siti Ummaayatus Sofiyah in 2021 with a sig value of 0.000 less than 0.05, which shows that this learning model has a significant effect on learning outcomes in both general and Islamic religious subjects. When linked to the results of the two studies above, it has been explained that students who are actively involved in the learning process tend to have a better understanding and are better able to remember long-term material. Therefore, the findings of this study support the conclusion that the snowball-throwing learning model has a significant positive effect on student learning outcomes.

Based on the results of inferential statistical analysis using the t-test formula which is assisted by SPSS 21 software, it can be seen that at a significant level of 0.05 (5%), the sig value (2-tailed) = 0.000 is obtained. Therefore, the sig value is less than 0.05. So  $H_0$  is rejected, which means that there is an influence in the application of the snowball-throwing learning model on the learning outcomes of grade V morals on the material of *infaq* and *sadaqah*. This is in accordance with research conducted by Rizal Indra Gunawan which shows the average result of the experimental class of 78 is higher than the control class of 61 with a value of 0.000 less than 0.05, in research conducted by Siti Ummayatus Shofiyah also obtained a sig value of 0.000 less than 0.05 which indicates an influence on the learning model that has been applied from Kartika Manalu's findings on the Snowball Throwing Learning Model: Increase Student Activity And Learning Outcomes shows that this learning model not only affects learning outcomes but also the activeness of students as evidenced by the t count value greater than the t table with a value of 7.4246 greater than 2.0012, which indicates the influence of the snowball throwing learning model on activeness and learning outcomes. In the description above, it is proven that the application of the snowball-throwing learning model significantly influences the learning outcomes of students in the subject of *aqidah akhlak* class V material on *infaq* and alms at Islamic Elementary School Madinatul Ulum Tembelang Jombang.

## CONCLUSIONS

Based on the data that has been presented in the previous chapter, then in this chapter will be presented the conclusions related to the implementation of learning using the snowball throwing model in the fifth-grade *aqidah akhlak* lesson on the material of *infaq* and *sadaqah* Madinatul Ulum Tembelang Jombang, among others: 1) Based on the data obtained, it can be concluded that the use of snowball throwing learning model in fifth-grade students of Islamic Elementary School Madinatul Ulum Tembelang Jombang has a significant effect on the learning outcomes of moral *aqidah* on the material of *infaq* and *sadaqah*. This is evidenced by the activeness of students in learning *aqidah akhlak* in the experimental class post-test, 2) Based on the hypothesis test that has been carried out, it can be concluded that the snowball throwing learning model in fifth-grade students of Islamic Elementary School Madinatul Ulum Tembelang Jombang has an influence on the learning outcomes of *aqidah akhlak* on the material of *infaq* and *sadaqah*. This is evidenced by the acquisition of sig value = 0.000 then obtained sig 0.05 or 0.000 less than 0.05. So it is hoped that from this research reader can utilize and develop snowball-throwing learning models in other subjects.

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