The Effect of Snowball Throwing Cooperative Learning Model on Thematic Learning Outcomes in Elementary School Students

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ABSTRACT

This study aims to determine the effect of using snowball throwing cooperative model on the activeness and learning outcomes of elementary school students. The method used was pre-experiment with One Group Pretest-Posttest design with a sample of 34 students. The research instrument used was an essay with 10 questions. The average pretest score was 35.88 while the average posttest score was 71.91. Based on statistical analysis using SPSS.29 data is classified as normally distributed with Sig. more than pretest and posttest than 0.05 (pretest sig. $0.127 > 0.05$, posttest sig. $0.065 > 0.05$).. The hypothesis test results show that the sig. value is $0.000 < 0.05$, while the decision-making value refers to the t-table of $9.398 > 1.69236$; therefore, H0 is rejected and Ha is accepted. Based on the calculation of the effect size value, it is categorized as a strong effect at a value of $1.764 > 1.00$. Thus, the results of the study concluded that there was an effect of the application of the snowball throwing model on students' Thematic learning outcomes.

Keywords: learning outcomes, snowball throwing, elementary school

INTRODUCTION

In the modern era, learning activities in the classroom, especially at the elementary school level, require learning methods that are not only teacher-centered, but require methods that involve students in learning activities, because student activeness affects the knowledge and final grades they will receive (Prijanto & De Kock, 2021). Learning method is a plan used to realize teaching and learning objectives and thus create the ultimate goal in a better learning and produce student outputs that are smart, active, skilled and have good character (Anjani et al., 2020). Fathurrohman & Sutikno (2010) argue that the more appropriate the learning method used by the teacher in learning activities, the more effective the achievement of learning objectives becomes.

The learning method used by the teachers is one of the success factors in the learning process because the teacher has a very important role in determining the quality and quantity of the teaching he does (Na'imah et al., 2022). The ability and skills of the teacher in choosing and using various methods, models, and learning strategies are very important for achieving a goal in learning (Aulia & Usman, 2012). Therefore, it can be concluded that learning methods are very important in determining the quality of learning, especially in students' understanding of

the material delivered. One of the subjects that must be considered during learning activities in elementary school is thematic lessons.

Generally at the elementary school level (*Sekolah Dasar*) currently uses thematic learning where various competencies from several different subjects are packaged into an integrated theme. Thematic learning is learning that integrates several concepts of subjects such as Natural Sciences (*Ilmu Pengetahuan Alam*), Social Sciences (*Ilmu Pengetahuan Sosial*), and Citizenship and Pancasila Education (*Pendidikan Kewarganegaraan dan Pancasila*) into certain themes, so that students will more easily understand a concept. And because it is only based on one theme for several lessons taught (Wahyuni et al., 2016). The alternation between subjects in thematic is invisible and changes subtly so that it becomes one cohesive, whole and comprehensive learning (Magdalena et al., 2020).

Based on interviews from several permanent teachers at State Elementary School (*Sekolah Dasar Negeri/ SDN*) of *Cikeruh 1* Sumedang Regency, learning at the school still uses conventional methods in the form of lecture methods. The use of conventional methods, especially the lecture method, can cause boredom in students because students become passive and only centered on the teacher. Students tend to be passive and do not have the courage to ask questions about material that is not understood. Hence, if allowed to continue for a long period of time, it will have an impact on student learning outcomes (Hujaemah et al., 2019).

Then, the researcher made observations of students in fifth grade at the State Elementary School (*SDN*) *Cikeruh 1*, by giving 10 questions about the theme that had been delivered using the lecture method, the results were that students' difficulties in understanding the material were still found. Severely, as many as 94% of students made mistakes in answering questions. The scores they got did not reach the Minimum Completeness Criteria (*Kriteria Ketuntasan Minimum / KKM*) set, which is 70. Only 6% of students were able to answer the questions. In a study (Murtono et al., 2012) conducted in a school that mostly used conventional methods also showed the same results where the average score of the fifth grade daily test was far below the average targeted by the Minimum Completion Criteria (*KKM*), which is a score of 65. Thus, the teacher must hold remedials for students who score below the minimum standard of completeness.

To overcome this problem, alternative learning needs to be done, and in some research results, the snowball throwing type of cooperative learning model is one of the joyful learning methods, and can improve students' understanding of thematic lessons. The snowball throwing type of cooperative learning model is a joyful learning by using paper made like a snowball as a media material for students to build knowledge and convey student opinions and then throw it to their friends (Huda, 2014; Nofandri & Arwin, 2021). The Snowball Throwing model can create joyful learning activities and can motivate students in understanding the material so that it can increase students' comprehension (Nofandri & Arwin, 2021). Therefore, this study aims to determine the effect of using snowball throwing type of cooperative learning model on thematic learning outcomes in elementary schools.

Furthermore, this paper is important for teachers in improving student learning outcomes in thematic learning by trying to use the snowball throwing type cooperative learning model. This paper is also intended to provide significant knowledge to teachers that the snowball throwing method is a learning method that can be used in teaching activities to make students more active and improve student learning outcomes.

LITERATURE REVIEW

The definition of learning from a psychological perspective is a process of behavior change as a result of interaction with the environment in fulfilling their lives (Kusumawati, 2017; Slameto, 2010). learning is a conscious activity carried out by a person through practice and experience that results in changes in behavior that cover cognitive, affective and psychomotor aspects, the nature of learning has components consisting of learning characteristics, factors that affect learning, and learning principles (Faizah, 2017; Sopandi & Sopandi, 2021). Learning can be considered as a change that is permanent because changes are brought to students by a teacher through techniques such as developing specific skills, changing some attitudes, or understanding certain scientific laws that operate behind the learning environment (Munna & Kalam, 2021).

Meanwhile, learning is a process of interaction between educators with students, and learning resources in an educational / madrasah environment unit. Learning is assistance provided by educators so that the acquisition of knowledge, knowledge, and mastery can occur (Ubabuddin, 2019). As an activity that has a purpose, learning and learning activities have certain characteristics, namely: (1) Learning is characterized by a change in behavior, (2) Changes in behavior are relatively permanent, (3) Changes in behavior do not have to be immediately observable when the learning process is underway, (4) Changes in behavior are the result of practice or experience, and (5) Experience or practice can provide reinforcement.

Cooperative learning model is a learning model that emphasizes students to be able to interact between students to share information and knowledge they have, so that in the teaching and learning process there is no distance between one student and another Abdullah, (2017; Afrah et al., 2021). One of the cooperative learning model that can be used in learning was snowball throwing. Snowball etymologically means snowball, while throwing means throwing. Snowball throwing as a whole can be interpreted as throwing snowballs. In snowball throwing learning, snowballs are papers containing questions made by students and then thrown to their friends to be answered (Rosidah, 2017). In snowball throwing learning, students are given the freedom to build their knowledge by asking questions and getting answers from their friends. Students explore information, confirm what is known and direct attention to aspects that are not yet known by other students (Huda, 2015).

Snowball throwing is a learning method where students are formed into several groups and then students make a question according to the material that has been taught before in a paper which is then shaped like a ball which is then thrown to other students and students who get the ball answer the questions contained in it. The advantage of this learning model is that it can make students more active in learning, students are ready with various possibilities because students have no idea what kind of questions their friends have made, learning becomes more effective, and cognitive, affective, and psychomotor aspects can be achieved. Even so, the snowball throwing learning model also has disadvantages such as requiring a long time in the learning process (Kusumawati, 2017).

Learning with the snowball throwing model, using three learning applications, among others: knowledge is built little by little whose results are expanded through a limited context through real experience (constructivime), the knowledge and skills acquired by students are not expected to be the result of remembering a set of facts, but the result of finding themselves (inquiry), the knowledge that a person has, always starts from "asking" (questioning); from asking students can explore information, confirm what is already known and direct attention to aspects that are not yet known (Yulita, 2019). The principles of learning with snowball

throwing are contained in the principles of the cooperative approach which is based on five principles, namely the principles of student active learning, cooperative learning, participatory learning, reactive teaching, and joyful learning (Yulita, 2019).

The learning steps of the snowball throwing type cooperative model are as follows: *First*, the teacher presents the material to be presented. *Second*, the teacher forms groups and calls each group leader to provide an explanation of the material. *Third*, each group leader returns to their respective groups and explains the material presented by the teacher to their friends. *Fourth*, each student is given one sheet of paper to write down any questions regarding the material that has been explained by the group leader. *Fifth*, the paper containing the question is made like a ball and thrown from one student to another for ± 15 minutes, then after the students get one ball or one question, the students are given the opportunity to answer the questions written on the ball-shaped paper in turn, then evaluate and finally close (Suprijono, 2011; Rosidah, 2017).

The cooperative learning model with snowball throwing type requires students to be able to make questions. This is in accordance with one of the objectives of constructivism theory. The objectives of constructivism theory are as follows: a) Building students' ability to ask questions and find their own questions; b) Helping students to develop a complete understanding and understanding of concepts; c) Developing students' ability to become independent thinkers (Masruroh et al., 2019).

The snowball throwing learning method is able to hone the ability to have a sense of responsibility because in the final stage students are required to write one question related to the subject matter at that time. Questions must be answered by students if they get a question paper ball, for students who make questions must help if their friends' answers are deemed incorrect (Haryono, 2019; Adelina & Rosy, 2020). The snowball throwing type of cooperative learning model can increase student activity and creativity, train students to learn independently in knowledge based on discussion, develop students' thinking skills in discussing and completing learning tasks, develop the ability to express opinions, improve the ability to re-explain the material obtained based on discussion, and improve student learning outcomes (Rosidah, 2017).

MATERIALS AND METHODS

In this research, the method used is the experimental method. The experimental research method is the only research method that is more accurate or thorough than other research methods, in determining the relationship of causal relationships. This is possible because in the experimental method, researchers are empowered and can supervise (control) the independent variables both before and during the study (Yusuf, 2014). In the world of education, experimental research is a research activity that aims to assess the effect of an educational treatment/action/treatment on student behavior or test hypotheses about the presence or absence of the effect of that action when compared to other actions (Payadnya & Jayantika, 2018). The use of experimental methods in this study is to test the effect of applying the Snowball Throwing model in Thematic learning on the learning outcomes of fifth grade elementary school students.

The experimental method can be divided into three forms, namely (1) Pre-Experiment, (2) Quasi Experiment, and (3) True Experiment. Based on the three forms of experimental methods that have been mentioned, the form of research used in this study is Pre-

Experimental Design. The reason for its use is that not all object conditions can be controlled so it is possible that there are other variables from outside that affect this research.

The experimental method can be divided into three forms, namely (1) Pre-Experiment, (2) Quasi Experiment, and (3) True Experiment. Based on the three forms of experimental methods that have been mentioned, the form of research used in this study is Pre-Experimental Design. The reason for its use is not all object conditions can be controlled and therefore it is possible that there are other variables from outside that affect this research.

Pre-Experimental is experimental research which in principle only uses one group. This means that in this type of research there is no control group (Yusuf, 2014). Pre-Experimental Design is divided into three forms, namely One-Shot Case Study, Onegroup Pretest-Posttest Design, and Static group comparison design (Yusuf, 2014). The research design used in this study was OneGroup Pretest-Posttest Design. Rukminingsih et al., (2020) explain that this one group pre experimental research begins with a pretest (initial assessment) and posttest (final assessment), this research is carried out with only one group without using a comparison group. The pretest (initial assessment) is carried out before treatment, while the posttest (final assessment) is carried out after treatment.

One-Group Pretest-Posttest Design with the following pattern:

Table 1. Research Design One-Group Pretest-Posttest Design Pattern

Class	Pretest	Treatments	Posttest
E	O_1	X	O_2

Source: Rukminingsih et al., (2020)

1) Data Analysis

The data analysis technique in this study used the normality test and t-test using SPSS software version 29. In addition, the effect size test was also carried out. According to Dunst et al., (2004) in Umam & Jiddiyyah, (2020) effect size is used to measure how effective the relationship between the independent variable and the dependent variable is. In this study, the effect size was used for non-independent group of study participants because it only used one sample group as an experimental class (Dunst et al., 2004; Umam & Jiddiyyah, 2020). The following is the formula for Cohen's d effect size used in this study:

$$d = \frac{M_2 - M_1}{S_{pooled}}$$

Where:

d = Cohen's d effect size

M_1 = average pretest score

M_2 = average posttest score

S_{pooled} = pooled standard deviation

The combined standard deviation can be obtained from the following equation:

$$S_{pooled} = \frac{\sqrt{SD_2{}^2 + SD_1{}^2}}{2}$$

Where:

$SD_1{}^2$ = pretest standard deviation

$SD_2{}^2$ = posttest standard deviation

The result of the calculation of Cohen's effect size value is interpreted with Cohen's criteria in Table 2.

Table 2. Interpretation of Cohen's Effect size Value

No	D Value	Categories
1	0 - 0,20	Very Low
2	0,21 - 0,50	Low
3	0,50 – 1,00	Medium
4	>1,00	High

Source: Cohen et al. (2011)

2) Population and Sample

The sample used in this study were fifth grade students of Cikeruh I State Elementary School (SDN) Sumedang Regency in the 2022/2023 school year, with a total of 34 students consisting of 18 male students and 16 female students. The sampling technique used in this study is non probability sampling with saturated sampling technique. non probability is a sampling technique that does not provide equal opportunities for each member of the population to become a sample member (Rangkuti, 2017). Saturated sampling is a sampling technique when all members of the population are used as samples. Usually if the population is relatively small, for example less than 50 people.

The research procedure in this study consists of three stages as follows:

1. Preparatory stage

a) Conducting initial observations on April 27, 2023 in fifth grade at State Elementary School (SDN) Cikeruh I.

b) Prepare of learning tools, such as learning media and lesson plans (*Rencana Pelaksanaan Pembelajaran* /RPP).

c) prepare research instruments that will be used to measure student learning outcomes.

2. Implementation stage

a) Giving a pre-test to students to find out the learning outcomes of students before being given the treatment using the snowball throwing model.

b) Carry out learning activities by applying the snowball throwing model to thematic subjects in the fifth grade for four sessions.

c) Giving posttests to students to find out the learning outcomes of students after being given the treatment of using the snowball throwing model.

3. Final stage

a) Scoring the results of the pre-test and post-test that have been carried out in the fifth grade

b) Calculating the average pre-test and post-test results that have been carried out in the fifth grade

c) Calculating the standard deviation of students' test results.

d) Testing the normality of the students' test data.

e) Learning analysis

3) Data Collection Technique

The data collection technique used in this study is the measurement technique. Measurement technique is a process that involves activities to find quantitative information by comparing with criteria that have been determined in advance (Darmadi 2011; Fatmawati et al., 2018). The measurement technique used in this research was a data collection process to determine student learning outcomes. Therefore, the reason researchers use measurement techniques in data collection in this research was due to the quantitative nature of the data collected in this research, in the form of student learning outcomes obtained from the results of written tests. Furthermore, it was processed statistically to determine the effect of the application of the snowball throwing model.

4) Research Instruments

Research instruments are important tools or elements used to collect, measure, and analyze data related to research (Rahmiaty et al., 2022). The research instrument used is in the form of a written test of 10 questions. The results of this research instrument are developed or analyzed in accordance with the research method taken.

RESULTS

In the initial measurement, students are given a pretest and for the final measurement students are given a posttest. This test is carried out with the aim of knowing whether there are differences before and after treatment in the form of snowball throwing learning methods on fifth grade learning outcomes (Norfai, 2021). Data on pretest and posttest scores were obtained from essay or description questions totaling 10 questions. The average pretest result is 35.88 with a standard deviation of 21.619. After being given treatment with the snowball throwing learning method, the average posttest result is 71.91 with the standard deviation obtained is 19.149. From the average value of the pretest and the average posttest, the difference in value is 36.03. Which means that there is an increase in the average learning outcomes of students by 36.03 and it can be seen that after being given the treatment the Thematic learning outcomes are higher than before being given the treatment.

1) Normality Test

The normality test is carried out with the aim of testing whether in the regression method, the dependent variable and the independent variable both have a normal distribution or not (Ghozali, 2013). The calculation of this normality test uses SPSS.29 with the one sample Shapiro-Wilk test, because the Shapiro-Wilk test is generally used for small samples, which are less than 50. The criteria for the provisions are that the data is normally distributed if it meets the criteria for a sig value> 0.05, otherwise if the sig value <0.05 then the data is said to be not normally distributed.

The following are the results of the pretest-posttest normality test of the Thematic learning outcomes of fifth grade students:

Table 3. Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest Hasil Belajar Tematik	.151	34	.047	.950	34	.127
Posttest Hasil Belajar Tematik	.151	34	.047	.941	34	.065

a. Lilliefors Significance Correction

Tests of Normality (in the form of a table)

	Shapiro-Wilk		
	Statistic	df	Sig.
Pretest Thematic Learning Outcomes	.950	34	.127
Posttest Thematic Learning Outcomes	.941	34	.065

a. Lilliefors Significance Correction

Table 3 shows that the Shapiro-Wilk Normality test on the pretest results sig value. 0.127 that can be seen that sig. 0.127> 0.05, then Ho is accepted and Ha is rejected to conclude that the pretest results of the normality test are normally distributed. Whereas in the posttest learning outcomes the sig value. 0.065, so it can be seen that the posttest learning outcomes sig value. 0.065> 0.05, then Ho is accepted and Ha is rejected. From the results of this analysis it can be concluded that the posttest Thematic learning outcomes are normally distributed.

2) Hypothesis Testing (t-Test)

The paired test sample of t-test is used to determine whether there is a difference or not in the pretest and posttest Thematic learning outcomes. The paired test sample of T-test aims to determine whether there is a difference in the average of two samples that are paired with each other (Prameswari & Rahayu, 2020) that can be drawn a conclusion. This test determines the t-count and t-table values and their significance. The test criteria for this test is if t-count <

t-table means there is no significant difference, and if t-count > t-table means there is a significant difference (Prameswari & Rahayu, 2020).

Table 4. Hypothesis Testing

Paired Samples Test

			Paired Differences						Significance	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	One-Sided p	Two-Sided p
Pair 1	Pretest Hasil Belajar Tematik - Posttest Hasil Belajar Tematik	-36.029	22.353	3.834	-43.829	-28.230	-9.398	33	<.001	<.001

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair1	Pretest Thematic Learning Outcomes - Posttest Thematic Learning Outcomes	-36.029	22.353	3.834	-43.829	-28.230	-9.398	33	000

The t-test results obtained t count of 9.398 with db = 34 -1 = 33 with a significant level (α)= 5% obtained t table of 1.69236. Because t count of 9.398 > t table of 1.69236, it can be concluded that Ha is accepted. In addition, the sig. (2-tailed) obtained is 0.000 <0.05, it can be concluded that there is a significant difference between student learning outcomes in Pretest and Posttest data, which means that there is an effect of using the snowball throwing learning model on student learning outcomes in thematic learning in fifth grade of the State Elementary School (*SDN*) *Cikeruh 1*.

3) Effect Size Test

To test the effect of using the snowball throwing model on fifth grade of the State Elementary School (*SDN*) *Cikeruh 1*, it was calculated using the effect size formula. Effect size is a measure of the practical significance of research results in the form of a measure of the magnitude of correlation or difference, or the effect of a variable on another variable. This measure complements the analysis result information provided by the significance test. Information on effect size can also be used to compare the effect of a variable from studies that use different measurement scales (Santoso, 2010). Based on the calculation of Effect Size data, it is known that the effect size value of 1.764> 1.00 is in the high category. So it can be concluded that the use of the snowball throwing learning model on student learning outcomes in thematic learning in fifth grade at the State Elementary School (*SDN*) *Cikeruh 1* has a high effect (Strong Effect).

DISCUSSION

Based on the results of data processing, it can be explained that there is an influence in the use of the snowball throwing model on student learning outcomes in thematic learning in fifth grade at the State Elementary School (*SDN*) *Cikeruh 1*. This is due to learning with the snowball throwing model, can create a pleasant classroom atmosphere and make students more interested in the learning process. therefore they can more easily understand the subject matter and get satisfactory learning outcomes. This is in accordance with the theory of cognitivism which emphasizes that students actively gain understanding through experiences and interactions with others (Masruroh et al., 2019).

Before using the snowball throwing cooperative learning model, student learning outcomes in thematic learning in fifth grade at the State Elementary School (*SDN*) *Cikeruh 1* were relatively low. This can be seen from the students' pre-test scores which were still low, for example, there were 2 students who scored above the Minimum Completeness Criteria (*KKM*) and the overall average of students was 35.88 while the Minimum Completeness Criteria (*KKM*) was 70. Through the snowball throwing cooperative learning model, student learning outcomes increased from an overall average of 35.88 to 71.91 or as many as 22 students were complete in thematic subjects. According to Putra et al., (2020) the use of the snowball throwing learning model provides the concept of understanding the material and trains students to be more responsive in conveying information to their friends in one group so that it can increase student activeness and learning outcomes.

In the t test results (Sample Paired T-Test) shows that the sig value. (2-tailed) of 0.000 <0.05, which means Ho is rejected and Ha is accepted, which means that there is an effect of using the snowball throwing method on student learning outcomes, this is reinforced by the opinion (Shoimin, 2017) which states that applying the snowball throwing model can improve the achievement of cognitive aspects. The effect size test results obtained a value of 1.764 with a high category. The effectiveness level of 1.764 with a high category is also influenced by several factors. Factors that affect student learning outcomes are divided into two, namely internal factors (interest, talent, motivation, and learning methods) and external factors (school environment and family environment) (Wahyuningsih, 2020). The learning method is one of the external factors that can affect student learning outcomes because it relates to how the teacher delivers material to students, the right learning method will make it easier for students to receive and understand the material to be delivered (Nasution, 2017).

The use of the snowball throwing method can improve student learning outcomes because this method creates a pleasant atmosphere in the learning process and generates motivation. Students will easily understand basic concepts and ideas more and better with the mutual information of knowledge (Astutik et al., 2021). In line with the opinion (Kusumawati, 2017) which explains that the snowball throwing learning model has a significant effect compared to using conventional learning methods usually applied by schools with the posttest results obtained by the experimental class having the lowest value of 75 and the highest value of 90 with an average value of 83.23.

CONCLUSION

Based on the t-test analysis, it can be concluded that there is an effect of the snowball throwing model on students' thematic learning outcomes. The calculation of the t-test analysis obtained t-count 9.398, while the t-table with db = 34-1 = 33 and a significant level (α) = 0.05

is 1.69236. Because t-count $\geq$ t-table or 9.398 > 1.69236 means significant, thus Ha is accepted and Ho is rejected. Furthermore, based on the calculation results using the effect size test formula, it was obtained 1.764. The criteria for the size of the effect size are in the high category, namely in the range d> 1.00. Finally, it can be concluded that the application of the snowball throwing model has an influence (impact) on student learning outcomes.

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REFERENCES

Abdullah, R. (2017). Pengaruh Penerapan Model Pembelajaran Kooperatif Tipe Jigsaw Pada Mata Pelajaran Kimia Di Madrasah Aliyah. *Lantanida Journal*, 5(1), 16.

Adelina, S., & Rosy, B. (2020). Pengaruh Model Pembelajaran Kooperatif Tipe Snowball Throwing Terhadap Hasil Belajar Siswa Pada Mata Pelajaran Administrasi Umum Kelas X OTKP Di SMK Ketintang Surabaya. *Jurnal Pendidikan Administrasi Perkantoran (JPAP)*, 8(2), 205–214. https://doi.org/10.26740/jpap.v8n2.p205-214

Afrah, N., Yulia, & Muslimin. (2021). Evaluasi Penerapan Model Pembelajaran Snowball Throwing Untuk Siswa Sekolah Dasar Kelas Empat Di Kabupaten Soppeng. *Pinisi Jurnal of Education*, 1(1), 104–117.

Anjani, A., Syapitri, G. H., & Lutfia, R. I. (2020). Analisis Metode Pembelajaran di Sekolah Dasar. *Jurnal Pendidikan Dasar*, 4(1), 67–85. https://doi.org/https://doi.org/10.36088/fondatia.v4i1.442

Astutik, Y., Hariani, L. H., & Muzammil, L. (2021). Hasil Belajar: Snowball Throwing dan Motivasi Belajar. *Jurnal Penelitian Dan Pendidikan IPS*, 15(2), 128–134. Retrieved from https://ejournal.unikama.ac.id/index.php/JPPI/article/view/5672

Aulia, P., & Usman, N. (2012). Model Pembelajaran Snowball Throwing pada Pembelajaran Tematik di Sekolah Dasar. *Jurnal Inovasi Sekolah Dasar,* 1(2), 135–144. https://doi.org/https://doi.org/10.36706/jisd.v1i2.8630

Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in Education*. London: Routledge.

Darmadi, H. (2011). *Metode Penelitian Pendidikan*. Bandung: Alphabeta.

Dunst, C. J., Hamby, D. W., & Trivette, C. M. (2004). Guidelines for Calculating Effect Sizes for *Practice-Based Research Syntheses. Centerscope*, 3(1).

Faizah, S. N. (2017). Hakikat Belajar dan Pembelajaran. *At-Thullab: Jurnal Pendidikan Guru Madrasah Ibtidaiyah* Volume, 1(2), 176–185.

Fathurrohman, P., & Sutikno, S. M. (2010). *Strategi Belajar Mengajar melalui Penanaman Konsep Umum dan Konsep Islami*. Bandung: Refika Aditama.

Fatmawati, E., Karmin, & Sulistiyawati, R. S. (2018). Pengaruh Media Pembelajaran Berbasis Video Terhadap Hasil Belajar Siswa. Cakrawala: *Jurnal Pendidikan*, 12(1), 24–31. https://doi.org/10.24905/cakrawala.v12i1.959

Ghozali, I. (2013). *Aplikasi Analisis Multivariate dengan Program SPSS*. Semarang: Badan Penerbit Universitas Diponegoro.

Haryono. (2019). *Pembelajaran IPA ABAD 21*. Yogyakarta: Penerbit Kepel Press.

Huda, M. (2014). *Model-Model Pengajaran dan Pembelajaran.* Yogyakarta: Pustaka Pelajar.

Huda, M. (2015). *Model-Model Pengajaran dan Pembelajaran Isu-Isu Metodis dan Paradigmati.* Yogyakarta: Pustaka Pelajar.

Hujaemah, E., Saefurrohman, A., & Juhji. (2019). Pengaruh Penerapan Model Snowball Throwing terhadap Hasil Belajar IPA di Sekolah Dasar. *Jurnal Madrasah Ibtidaiyah*, 5(1), 23–32. Retrieved from http://ojs.uniska-bjm.ac.id/index.php/jurnalmuallimuna

Kusumawati, N. (2017). Pengaruh Model Pembelajaran Kooperatif dengan Snowball Throwing Terhadap Hasil Belajar IPA Pada Siswa Kelas IV SDN Bondrang Kecamatan Sawoo Kabupaten Ponorogo. *Jurnal Kependidikan Dasar Islam Berbasis Sains*, 2(1), 1–12. https://doi.org/10.21154/ibriez.v2i1.19

Magdalena, I., Vitaloka, D., Elismawati, & Aji, K. S. (2020). Implementasi Evaluasi Pembelajaran Tematik di Sekolah Dasar Negeri Cipondoh 3 Tangerang. *Jurnal Halaqah*, 2(3), 315–322. https://doi.org/10.5281/zenodo.3912015

Masruroh, I., Tauriq, M., Hidayat, M. thamrin, & Ghufron, S. (2019). Pengaruh Model Snowball Throwing Terhadap Hasil Belajar Siswa Pada Mata Pelajaran IPA. *Bioedusiana,* 4(2), 106–113. https://doi.org/10.34289/292828

Munna, A. S., & Kalam, M. A. (2021). Teaching and learning process to enhance teaching effectiveness: literature review. *International Journal of Humanities and Innovation (IJHI),* 4(1), 1–4. https://doi.org/10.33750/ijhi.v4i1.102

Murtono, Ratnasari, Y., & Oktavianti, I. (2012). Peningkatan Hasil Belajar Siswa SD Kelas 5 di Kudus Dengan Menerapkan Model Pembelajaran Kooperatif Tipe Snowball Throwing. *Jurnal Sosial Dan Budaya*, 5(2), 36–43.

Na'imah, S., Supangat, & Dewi, T. R. (2022). Pengaruh Model Pembelajaran Snowball Throwing Terhadap Hasil Belajar Siswa Kelas V di SDN Ciptamuda. *Awwaliyah: Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, 5(2), 145–151. https://doi.org/10.58518/awwaliyah.v5i2.1120

Nasution, M. K. (2017). Penggunaan metode pembelajaran dalam peningkatan hasil belajar siswa. *Jurnal Ilmiah Bidang Pendidikan*, 11(1), 9–16.

Nofandri, & Arwin. (2021). Peningkatan Proses Pembelajaran Tematik Terpadu Menggunakan Model Kooperatif Tipe Snowball Throwing di Kelas V Sekolah Dasar. *Journal of Basic Education Studies,* 4(1), 1814–1822. Retrieved from http://ejournal.unp.ac.id/students/index.php/pgsd/article/view/10082

Norfai. (2021). *Kesulitan dalam Menulis Karya Tulis Ilmiah Kenapa Bingung*. Klaten: lakeisha.

Payadnya, I. P. A. A., & Jayantika, I. G. A. N. T. (2018*). Panduan Penelitian Eksperimen beserta Analisis statistik dengan SPSS*. Sleman: Deepublish.

Prameswari, D. P., & Rahayu, T. S. (2020). Efektivitas Model Pembelajaran Cooperative Learning Tipe Make a Match dan Numbered Head Together: Kajian Meta – Analisis. *Jurnal Ilmiah Pendidikan Profesi Guru,* 3(1), 202–210. https://doi.org/10.23887/jippg.v3i1.28244

Prijanto, H. J., & De Kock, F. (2021). Peran Guru Dalam Upaya Meningkatkan Keaktifan Siswa Dengan Menerapkan Metode Tanya Jawab Pada Pembelajaran Online. *Jurnal Pendidikan Dan Kebudayaan,* 11(3), 238–251.

Putra, R. A., Hadiyanto, & Zikri, A. (2020). Pengaruh Model Snowball Throwing terhadap Hasil Belajar Siswa Sekolah Dasar. *Jurnal Basicedu,* 4(2), 426–433. https://doi.org/10.31004/basicedu.v4i2.377

Rahmiaty, Meylina, & Rahman, F. (2022). *Instrumen Penelitian: Panduan Penelitian di Bidang Pendidikan.* Yogyakarta: Jejak Pustaka.

Rangkuti, A. A. (2017). *Statistika Inferensial Untuk Psikologi dan Pendidikan.* Jakarta: Kencana.

Rosidah, A. (2017). Penerapan Model Pembelajaran Kooperatif Snowball Throwing untuk Meningkatkan Hasil Belajar Siswa pada Pembelajaran IPS. *Jurnal Cakrawala Pendas*, 3(2), 29–36.

Rukminingsih, Adnan, G., & Latirf, M. A. (2020). *Metode Penelitian Pendidikan: Penelitian Kuantitatif, Penelitian Kualitatif, Penelitian Tindakan Kelas.* Yogyakarta: Erhaka Utama.

Santoso, A. (2010). Studi Deskriptif Effect Size Penelitian-Penelitian Di Fakultas Psikologi Universitas Sanata Dharma. *Jurnal Penelitia,* Vol. 14, 1–17. Retrieved from http://repository.usd.ac.id/id/eprint/9419

Shoimin, A. (2017). *68 Model Pembelajaran Inovatif Dalam Kurikulum 2013.* Yogyakarta: Ar-Ruzz Media.

Slameto. (2010). *Belajar Dan Faktor-Faktor Yang Mempengaruh.* Jakarta: Rineka Cipta.

Sopandi, D., & Sopandi, A. (2021). *Perkembangan Peserta Didik.* Sleman: Deepublish.

Suprijono, A. (2011). *Cooperatif Learning Teort dan Aplikasi PAIKEM.* Yogyakarta: Pustaka Pelajar.

Ubabuddin. (2019). Hakikat Belajar Dan Pembelajaran Di *Sekolah Dasar. Journal Edukatif,* 5(1), 18–27. Retrieved from https://doi.org/10.37567/jie.v5i1.53

Umam, H. I., & Jiddiyyah, S. H. (2020). Pengaruh Pembelajaran Berbasis Proyek Terhadap Keterampilan Berpikir Kreatif Ilmiah Sebagai Salah Satu Keterampilan Abad 21. *Jurnal Basicedu,* 5(1), 350–356. https://doi.org/10.31004/basicedu.v5i1.645

Wahyuni, H. T., Setyosari, P., & Kuswandi, D. (2016). Implementasi Pembelajaran Tematik kelas 1 SD. *Edcomtech,* 1(2), 129–139.

Wahyuningsih, E. S. (2020). *Metode Pembelajaran Mastery Learning Upaya Peningkatan Keaktifan dan Hasil Belajar Siswa.* Sleman: Deepublish.

Yulita. (2019). Penggunaan Strategi Snowball Throwing Untuk Meningkatkan Hasil Belajar Tema 1 Siswa Kelas V. *Jurnal Pendidikan Tambusai,* 3(5), 1085–1094.

Yusuf, A. M. (2014). *Metode Penelitian: Kuantitatif, Kualitatif, dan Penelitian Gabungan.* Jakarta: Kencana.