

## The Influence of the Problem-Based Learning Model on the Science Learning Motivation of Class IV Students at SDN Inpres 1 Birobuli

Ni Made Riawati <sup>a</sup>, Azizah <sup>b</sup>, Sri Wahyuni <sup>c</sup>, Yusdin Bin M. Gagaramusu <sup>d</sup>

<sup>a,b,c,d</sup>Undergraduate of Primary School Teacher Education, Faculty of Teacher Training and Education  
Tadulako University, Indonesia

Corresponding Author\*: [nimaderiawati@gmail.com](mailto:nimaderiawati@gmail.com)

### Abstract

*This research aims to determine the effect of the problem-based learning model on the science learning motivation of class IV students at SDN Inpres 1 Birobuli. The type of research used is quantitative research using an experimental method approach. The design of this research is quasi-experimental. The form of design used in this research is a non-equivalent control group design which consists of an experimental group and a control group. The sample in this study was class IV students at SDN Inpres 1 Birobuli, totaling 52 people, class IV A as the control class, totaling 26 students, and class IV B as the experimental class, totaling 26 students. The instrument used is a questionnaire used to measure motivation to learn science which has been tested for validity and reliability. Data analysis uses prerequisite tests, namely the normality test and homogeneity test as well as hypothesis testing using the Independent Sample t-test which is analyzed with the help of the IBM SPSS Statistics 25 program. Based on the research results, it shows a significance value (2-tailed) of  $0.000 < \alpha$  value 0.05. Because of the sign value.  $0.000 < 0.05$  then accepts the  $H_a$  hypothesis and rejects  $H_o$ . So it can be concluded that there is an influence of the problem-based learning model on the science learning motivation of class IV students at SDN Inpres 1 Birobuli.*

**Keywords: Problem-Based Learning Model; Learning Motivation; Science Learning**

### 1. INTRODUCTION

Education is an important thing for a country because education can determine the progress and decline of a country. Education is also an important thing for every living creature to create human beings who are qualified, intellectual, and intelligent and avoid ignorance (Indrianingtyas, 2020). For this reason, education is needed in order to advance the nation and state. One of the important components that support education to achieve educational goals is educators or teachers (Koerniantono, 2019). Teachers are not only imparters of knowledge but also shape the characteristics of students and instill values (Choir, 2018).

Educational objectives are a set of educational outcomes achieved by students after educational activities are held (Suardi in Hidayat & Abdillah, 2019). All educational activities, namely teaching guidance or training, are directed at achieving educational goals.

These educational goals can be achieved if everything is carried out well, one of which is student learning motivation. Motivation is very necessary for every student in the learning process. Without student motivation, it will be difficult to produce an optimal learning process. Low motivation to learn results in students not being enthusiastic, participating less in the learning process, and having difficulty receiving material from the teacher. Students who have low learning motivation tend to be slow in understanding explanations related to the tasks to be completed (Sakdiah Pelawi & Sinulingga, 2016). Low motivation will result in students spending study time sleeping during class hours. Students who have difficulty understanding the material explained by the teacher will have an impact on their quality in the future. Low motivation also has an impact on students who play on cell phones more often than reading books and doing assignments (Nurchahya, 2018). Motivation can come from many things, such

as encouragement from parents, ourselves, other people's lives, or stories from someone we admire (Perdana, 2018).

All forms of effort within an individual to create a desire to learn are said to be motivated. There are two motivational factors for learning, namely internal, namely determination, need, and the desire to learn. External factors are a conducive learning environment and interesting learning activities (Rahmi Anugraheni, 2019). Students lose motivation to learn due to 70% boredom, too many assignments, less enjoyable learning models, and no interaction (Vania Rossa & Efendi, 2020).

There are indicators of learning motivation including (1) the desire and desire to succeed, (2) the encouragement and need for learning, (3) the existence of hopes and aspirations for the future, (4) the existence of appreciation for learning, (5) the existence of activities. what is interesting in learning, (6) the existence of a conducive learning situation, thus enabling students to learn well (Uno, 2014).

In the learning process, students' learning success is influenced by internal and external factors. Where one of these internal factors is the student's own motivation. Motivation is very necessary in the learning process because someone who does not have the motivation to learn will not be able to carry out learning activities. According to Dewi (2019), learning motivation is a factor that influences students to generate enthusiasm for learning. By being motivated by students in learning activities, it will influence the students' own learning achievements. Motivation has a huge influence on the student learning process. Without motivation, the student learning process will not run smoothly. A person will learn if he has the desire to learn. Therefore, learning motivation means a force that can encourage students to learn so that satisfactory results and achievements will be achieved.

Apart from internal factors, external factors also have a big influence. External factors that influence are teachers, learning models, learning media, and learning environment. One very important external factor is the teacher, where the teacher must create learning that can motivate students to actively participate in the learning process (Syah Muhibbin, 2013). Teachers as people who teach students are very interested in increasing student motivation to learn. Several efforts that teachers can make to increase student learning motivation include: (1) clarifying the goals to be achieved; (2) arouse student motivation; (3) create a pleasant atmosphere in learning; (4) using a variety of interesting presentation methods; (5) provide reasonable praise for each student's success; (6) provide an assessment; (7) provide comments on the results of student work; and (8) create competition and cooperation (Suprihatin, 2015).

The reality in the field is that at SDN Inpres 1 Birobuli, specifically in class IV in science learning, in teaching teachers have not used innovative learning models and varied methods. The learning model used by teachers is a direct learning model. The direct learning model is a learning model that is still dominated by teachers where teachers deliver material directly to students. Students are still passive and play little role in learning so students tend to accept whatever the teacher says. Students sit on benches listening to the teacher's explanation which is based on the material book. After the teacher has finished giving the explanation, students work on the practice questions in the book. The characteristics of elementary school-age students who like to move around, to form groups with peers are less utilized by teachers in the learning process, resulting in students not being interested in learning, where students tend to chat with their friends, play, and respond less to the teacher's explanations.

Based on the results of observations made in classes IV A and IV B, the teacher taught using lecture and assignment methods. The beginning of the lesson begins with a lecture and taking notes, then students are asked to do practice questions in the student handbook. Students are still passive and play little role in learning so students tend to accept whatever the teacher says. Students seem less enthusiastic about learning. There are some children who don't pay attention to the teacher's explanations, students tend to enjoy playing with ballpoint pens or pencils, sometimes also chatting with their classmates during the learning process. Some students looked bored and sleepy during the learning process. It can be said that some students are less motivated during the learning process because in this learning the teacher does not apply innovative learning models. A surrounding environment that is not conducive and learning activities that are less interesting have a big impact on students who are carrying out the learning process. The learning process is seen from the learning model taught by Teacher. So the impact of a learning model that is less interesting and fun makes students less motivated.

Furthermore, based on the results of interviews with class IV A and IV B teachers at SDN Inpres 1 Birobuli regarding motivation to learn science, it was said that some students had the motivation to learn science, but some students were less motivated to learn science. Students who are motivated to

learn science always pay attention to the teacher's explanations, if they are given an assignment they always do it and are enthusiastic about learning. On the other hand, students who are less motivated to learn look less enthusiastic, and often do things that are not related to learning in class, often postpone work, and are lazy about doing assignments given by the teacher.

Looking at the results of the observations and interviews above, teachers should arouse or increase students' learning motivation so that students participate actively in science learning in the classroom. Increasing motivation to learn science can be done by implementing innovative learning models, one of the innovative learning models is the problem-based learning (PBL) model. Hosnan (2014) stated that Problem-Based Learning (PBL) is a learning model that uses a learning approach to a problem so that students can assemble their own knowledge, develop higher skills, make students more independent, and make students confident. Furthermore, Ridwan Abdullah (2014) also stated that PBL can improve critical thinking skills, a foster initiative in studying or working, foster motivation to learn, and develop interpersonal relationships in group work.

The PBL learning model is very important to be implemented by teachers at the elementary school level because PBL can also increase student creativity, and cooperation between students, as said by (Cahyono in Fitriyani, 2019) PBL not only improves academic abilities but also development. other abilities, such as creativity, communication, cooperation, and adaptation.

The PBL model is used as a solution because it can develop the ability to analyze, evaluate, and create (Maqbullah, 2018) so that learning carried out at school will produce truly meaningful knowledge. PBL is an instructional method that challenges students to learn to work together in groups to find solutions to real problems. Problems are used to relate students' curiosity, analytical skills, and initiative to the subject matter. PBL prepares students to think critically and analytically and use appropriate learning resources. Gunantara in Wijayanti (2018) stated that the PBL model trains students to solve problems using the knowledge he has. This process will create new knowledge that is more meaningful for students.

Based on the description above, the researcher intends to conduct research with the title The Influence of the Problem-based Learning Model on the Science Learning Motivation of Grade Students at SDN.

Presidential Instruction 1 Birobuli. This research aims to determine whether there is an influence of the problem-based learning model on motivation to learn science at SDN Inpres 1 Birobuli.

## **2. RESEARCH METHODS**

This type of research is a type of quantitative research using an experimental method approach. According to Sugiyono (2019), quantitative research is defined as a research method based on the philosophy of positivism, used to research certain populations or samples, data collection using research instruments, and quantitative/statistical data analysis, with the aim of testing predetermined hypotheses. The research design used in this research is quasi-experimental. According to Sugiyono (2015), quasi-experimental is research that approaches real experiments. This research aims to directly test the influence of a variable on other variables and test the hypothesis of a cause-and-effect relationship. A quasi-experimental design has an experimental class and a control class, but the control class cannot function fully to control external variables that influence the implementation of the experiment.

The form of quasi-experimental design used in this research is a non-equivalent control group design which consists of an experimental group and a control group. This research was conducted in class IV which was divided into two groups, namely class IV A as the control class and class IV B as the experimental class. Before starting treatment, both groups were given an initial test (pretest) to measure initial conditions. Furthermore, the experimental group was given learning treatment using the Problem Based Learning learning model and the control group was given learning treatment using the lecture method. After being given treatment, the two experimental and control groups were given another test as a final test (post-test).

The population in this study was class IV students at SDN Inpres 1 Birobuli, South Palu subdistrict, totaling 52 students, namely 26 students from class IV A (control class) and 26 students from class IV B (experimental class). The independent variable in this research is the use of the Problem-Based

Learning (PBL) learning model, while the dependent variable in this research is students' learning motivation in science learning. The data collection technique in this research is a questionnaire. Questionnaires or questionnaires are used to measure students' learning motivation during learning using the Problem-Based Learning (PBL) learning model in class IV of SDN Inpres 1 Birobuli. Data analysis was carried out using the Independent Sample T Test statistical test. Before carrying out the t-test, prerequisite tests are also carried out, namely the normality test and homogeneity test.

### 3. RESULT D DISCUSSION

This part of the research aims to determine whether there is an influence of the Problem-Based Learning learning model on the science learning motivation of grade IV students at SDN Inpres 1 Birobuli. The data collected during this research were pretest and posttest scores for science learning motivation in both the experimental class and the control class through student questionnaires. The questionnaire/questionnaire sheet used has undergone validation and reliability tests. After carrying out validation and reliability tests using the IBM SPSS Statistics 25 program, all questionnaire statements were valid, namely 25 questionnaire statements. This questionnaire/questionnaire statement is then used to measure students' learning motivation during the pretest and posttest in both the experimental class and control class, which can be seen in the table below.

Table 1. Results of Analysis of Student Learning Motivation on *Pretest* and *Posttest*

<b>Descriptive Statistics</b>					
	<u>N</u>	<u>Minimur</u>	<u>Maximur</u>	<u>Sum</u>	<u>Mean</u>
	Statistic	Statistic	Statistic	Statistic	Statistic
Pre-Test Kontrol	26	58	62	1550	59.63
Post-Test Kontrol	26	68	80	1988	76.46
Pre-Test Eksperimen	26	58	71	1812	69.69
Post-Test Experiment	26	79	85	2112	81.23
Valid N (listwise)			26		

Based on the data in Table 1 above, the *pretest results* show that the average ( *mean* ) for experimental class students is 69.69, while for students in the control class, it is 59.63. The experimental class and the control class have quite different initial abilities. The *pretest* results for the experimental class obtained a minimum score of 58 and a maximum score of 71, while the control class obtained a minimum score of 58 and a maximum score of 62. Meanwhile, the *posttest results* in the experimental class using the *Problem-Based Learning learning model* were higher compared to the control class which used the lecture method. In the experimental class the average score was 81.23 with a minimum score of 79 and a maximum score of 85, while in the control class, the average score was 76.46 with a minimum score of 68 and a maximum score of 80. The results of the analysis showed that there were differences average value of student learning motivation between the experimental class and the control class. The average score of students' learning motivation in the experimental class was higher than the average score of students in the control class. Before testing the hypothesis, the researcher first tested the prerequisites on *the pretest* and *posttest results* of student learning motivation. The prerequisite tests used are the normality test and the homogeneity test. If after carrying out the test the data is normally distributed and homogeneous, then the data can be continued to carry out hypothesis testing.

The normality test is carried out to determine whether the data obtained is normally distributed or not. The normality test was carried out on *the pretest* and *posttest* scores for student learning motivation

in the experimental class and in the control class. The normality test in this research uses the help of the IBM SPSS Statistics 25 program. The test criteria used to measure normality in this research are if the sig value is  $> 0.05$  then the data is normally distributed. Meanwhile, if the sig value  $< 0.05$  then the data is not normally distributed. The following is a description of the results of the normality test in the control class and experimental class which can be seen in the following table.

Table 2. *Pretest Data Normality Test Results And Posttest*

Tests of Normality

Class		Statistics	df	Sig.
Motivati onStudy	Pre-Test Control	0.180	26	0.069
	Post-Test Control	0.222	26	0.090
	Pre-Test Experiment	0.408	26	0.053
	Post-Test Experiment	0.191	26	0.058

Based on the data in Table 2 above, the results of the data normality test using Liliefors (Kolmogorov-Smirnova) with the help of the IBM SPSS Statistics 25 program show that all research data has a Sig value  $> 0.05$ . The experimental pretest Sig value is  $(0.053 > 0.05)$  and the control class pretest Sig value is  $(0.069 > 0.05)$ . Meanwhile, the posttest Sig value for the experimental class is  $(0.058 > 0.05)$  and the posttest Sig value for the control class is  $(0.090 > 0.05)$ . Thus, it can be concluded that all data is normally distributed, so the analysis can continue.

The homogeneity test is a statistical test procedure to show that two or more groups of sample data come from populations that have the same variation. The homogeneity test was carried out using the Levene Test with the help of the IBM SPSS Statistics 25 program. The test criteria carried out to determine the homogeneity of the population in this study are if the sig value obtained is  $\geq$  the specified  $\alpha$  level, namely 5% (0.05), then it can be said to be a data group. comes from a population that has the same variance (homogeneous). The results of the homogeneity test in the experimental class and control class can be seen in the following table.

Table 3. *Test Homogeneity Class Experiment and Class Control*  
**Test of Homogeneity of Variance**

		Levene Statistic	df1	df2	Sig.
Motivatio nStudy	Based on Mean	6,089	3	100	0.076

Based on Table 3 above, the significant value in the experimental class and control class is 0.076, which is greater than the  $\alpha$  level set  $(0.076 > 0.05)$ , so it can be concluded that the data for the experimental class and control class are both homogeneous. After all the prerequisites are fulfilled, the next process is to carry out hypothesis testing to determine whether there is an influence of the use of the *problem-based learning model* on the science learning motivation of class IV students at SDN Inpres 1 Birobuli. Hypothesis testing was carried out using the *Independent Samples T Test analysis test* carried out with the help of the IBM SPSS *Statistics 25* program. Hypothesis testing was carried out at a significance level of 5% (0.05). The decision-making criteria in this test are if the significant value is  $> 0.05$  then  $H_a$  is rejected and  $H_o$  is accepted, conversely, if the significant value is  $< 0.05$  then  $H_a$  is

accepted and  $H_0$  is rejected. The results of the *Independent Samples T Test* analysis can be seen in the following table.

Table 4. Hasil Uji *Independent Samples T Test*

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
		Motivasi Belajar	Equal variances assumed	12.531	0.001	-24.113	50	0.000	-16.831	0.698
	Equal variances not assumed			-24.113	34.099	0.000	-16.831	0.698	18.249	15.412

Based on Table 4 above, the significant *Independent Samples T Test value* is 0.000. Because the significant *T-test value* is  $<0.05$  ( $0.000 < 0.05$ ),  $H_a$  is accepted and  $H_0$  is rejected. So it can be concluded that there is an influence of the *problem-based learning model* on the science learning motivation of grade IV students at SDN Inpres 1 Birobuli. This part of the research is quantitative research with a quasi-experimental type of research. This research was carried out at SDN Inpres 1 Birobuli, this research used two classes as samples, namely class IV A as the control class and class IV B as the experimental class. In the experimental class, researchers used a problem-based learning model, while in the control class, they used the lecture method. Questionnaires were given to both samples, both the experimental class and the control class, to measure motivation to learn science.

When implementing teaching in the experimental class, researchers used a problem-based learning model which can help improve students' critical thinking skills. It can be seen that during learning, students think more actively in solving problems in learning, namely, students are more active in asking and answering questions given by the teacher. Apart from that, when viewing pictures and videos it is easier for students to understand the material they are studying. Students also hold discussions with groups to discuss the questions on the LKPD sheet. Then students make presentations with their group friends. Meanwhile, when providing treatment in the control class, researchers used the lecture method. In learning in the control class, some students seemed lazy about studying and talked too much with their classmates because the teacher only used the lecture method in class which made students bored and boring during the learning process.

Based on the data analysis that was carried out in the experimental class, it showed that the student's scores during the pretest obtained an average (mean) of 69.69 and during the posttest, the average score increased to 81.23. Meanwhile, data analysis in the control class showed that the student's scores at the pretest were obtained on average (mean) 59.63, while at the posttest the average score was 76.46. So it can be concluded that providing treatment in the experimental class has a significant influence on students' learning motivation compared to the control class. The use of the problem-based learning model is influential when used in experimental classes because students can improve their critical thinking skills and train students to think at a higher level to solve problems in learning and

students become more active than before. This is in accordance with the statement (Handayani & Muhammadiyah, 2020) The problem-based learning model is implemented systematically so that it can train students to think at a higher level to solve a problem so that they become challenged and motivated in learning and looking for information related to the problem.

This is also in accordance with the advantages of the problem-based learning model according to (Kemendikbud 2013 in Abidin, 2014), namely a) The PBL model can improve critical thinking skills, foster students' initiative in working, internal motivation in learning, and can develop interpersonal relationships in working in groups, b) the PBL model is related to real-life situations so that learning becomes meaningful, c) the PBL model encourages students to learn actively, d) the PBL model encourages others as an interdisciplinary learning approach, e) the PBL model provides opportunities for students to choose what will be learned and how to learn it, f) The PBL model encourages the creation of collaborative learning, g) The PBL model is believed to be able to improve the quality of education. This is also in accordance with research by Kokom (2013) which states that using the Problem-Based Learning (PBL) learning model can help students to think at a higher level in situations that are oriented towards real-world problems or are included in learning.

Learning in the control class using the lecture method did not have a significant influence on students' learning motivation. This is because students only listen/remember the explanation given by the teacher in front of the class so students' understanding is limited to the material being studied, students are also lazy about studying and prioritize playing rather than studying because the teacher only applies the lecture method in the learning process in class. Based on the results of calculations using the Independent Samples T Test, a significant value of  $0.000 < 0.05$  was obtained, thus accepting the alternative hypothesis ( $H_a$ ), namely that there is an influence of the problem-based learning model on the science learning motivation of grade IV students at SDN Inpres 1 Birobuli.

This research was also conducted by Rini Istanti (2015), with the title "The Influence of the Problem-Based Learning Model on the Science Learning Motivation of Class IV Students at SDN Gadingan". The results of the research show that the experimental group mean, namely 81.82, is in the very high learning motivation category and the control group mean, namely 71.42, is in the high learning motivation category. Apart from that, the evaluation scores for the experimental group were higher than those for the control group. This shows that the *problem-based* learning (PBL) learning model has an influence on the science learning motivation of fourth-grade students at SD Negeri Gadingan, Wates District.

#### 4. CONCLUSION

Based on the results of research conducted precisely at SDN Inpres 1 Birobuli, the researchers concluded that there was an influence of the problem-based learning model on the science learning motivation of class IV students at SDN Inpres 1 Birobuli. This is proven by the results of hypothesis testing using the Independent Samples T Test at a significance level of 5% (0.05), obtaining a significant value of 0.000. Because the significant value of the T-test is  $< 0.05$  ( $0.000 < 0.05$ ),  $H_a$  is accepted and  $H_o$  is rejected, so it can be concluded that there is an influence of the Problem-Based Learning learning model on the science learning motivation of class IV students at SDN Inpres 1 Birobuli, in the results data analysis shows that the use of problem-based learning models can influence motivation to learn science. The difference in the average post-test scores in the two classes shows that the use of the

problem-based learning model is more effective in increasing the science learning motivation of class IV students at SDN Inpres 1 Birobuli.

## **5. REFERENCES**

- Ahmad, Susanto. (2013). *Learning and Learning Theory in Elementary Schools*. Jakarta: Kencana Prenada Media Group.
- Anshori, Muslich. (2017). *Quantitative Research Methodology*. Surabaya: Airlangga University Press.
- Arikunto, S. (2017). *Development of Research Instruments and Program Assessment*. Yogyakarta: Student Library. *Evaluation of Educational Programs*. Jakarta: PT. Literary Earth.
- Asrifa Rosa Khaerunisa, et al., (2022). The Influence of the Problem-Based Learning Model on Student Learning Motivation. *Makasar: Indonesian Journal of Learning and Counseling Education*. Vol 5, No 1, pp 53-58.
- Azizah, et al. (2020) The Influence of the Group Investigation (GI) Learning Model Assisted by Concrete Media on the Science Learning Outcomes of Grade IV Elementary School Students. *Glasser's Journal of Education*. Vol 6, No 2.
- Choir, J. A. (2018). The Influence of the Index Card Match Strategy on the Motivation and Learning Outcomes of Natural Science Class IV Students at Sdit Al-Asror Ringinpitu Kedungwaru Tulungagung. 2–3, 1–14.
- Dede Kusnandar. (2019). The Influence of the Problem-Based Learning Model on Cognitive Learning Outcomes and Science Learning Motivation. *West Java: Journal of Islamic Education, Science, Social and Culture*. Volume 1, Number 1, pp. 17-30.
- Goddess. (2019). The Influence of Parental Education Level on Students' Learning Motivation.
- Fitriyani, D., Jalmo, T., & Yolida, B. (2019). Using problem-based learning to improve collaboration and higher-order thinking skills. *Journal of bioeducation*, 7(3), 77-87.
- Gani, I., & Amalia, S. (2015). *Data Analysis Tools: Statistical Applications for Economic and Social Research*. Andi Publisher.
- Ghozali, priest. (2018). *Analysis Applications Using the IBM SPSS 25 Program*. Semarang: Diponegoro University
- Hamdayana. (2017). Process of Improving Science Learning Outcomes through Learning Media and Experimental Methods at SD IT Miftahul Jannah Bandar Selamat, Kec. Tembung Field. *Journal on Education*, 5(4), 11294-11300.
- Handayani, HR, & Muhammadi. (2020). Application of the Problem-Based Learning Model to Train Higher Order Thinking Skills for Elementary School Students. *Tambusai Educational Journal*, 4, 1494–1499.
- Hidayat, Rahmat. (2019). *Educational Science concepts, theories, and applications*. Medan: Indonesian Educational Development Concern Institute (LPPPI).
- Hosnan. (2014). Problem-Based Learning Model in Integrated Thematic Learning for Students' Critical Thinking in Class IV Elementary School. *Tambusai Education Journal*, 4(2), 1619-1633.
- Hosnan. (2014). Problem-based learning (problem-based learning). *Journal of Innovative Education*, 5(3).
- Indrianingtyas, A. (2020). The Influence of the Active Learning Strategy Index Card Match and Learning Motivation on Class II Students' Memory in Al-Quran Hadith Subjects at Mi Ma'arif Czechok Ponorogo. 1–73.



- Koerniantono. (2019). Education as a System. *Catechetical and Pastoral Journal*, 4(1), 59– 70.
- Komalasari, Kokom. (2013). *Contextual Learning: Concepts and Applications*. Bandung: PT RefikaAdiatama
- Maqbullah, S, et al. (2018). Application of the Problem-Based Learning Model to Improve Critical Thinking Ability in Science Learning in Elementary Schools.
- Mitta. (2016). The Influence of the Group Investigation (GI) Learning Model Assisted by Concrete Media on the Science Learning Outcomes of Grade IV Elementary School Students. *Glasser's Journal of Education*. Vol 6, No 2.
- Muhammad Nurtanto, et al. (2015). Implementation of Problem-Based Learning to Improve Student Cognitive, Psychomotor, and Affective Learning Outcomes. *Journal of Vocational Education*. Vol 5, Number 3.
- Ngalimun. (2014). *Learning Strategies and Models*. Yogyakarta: Aswaja Pressibdo.
- Ni Luh Heppy Yesiana Devi, et al. (2014). The Influence of the Problem-Based Learning Model on the Science Learning Motivation of Class V Elementary School Students in Gugug I, Buleleng District. Vol. 2 No. 1.
- Nurchahya, A. (2018). Weak Motivation to Learn in Students at School. *Kumparan.com*
- Nurdin, I., & Hartati, S. (2019). *Social research methodology*. Scholar's Friends Media.
- Pelawi, S, H. & Sinulingga, K. (2016). The Influence of the Problem-Based Learning Model and Learning Motivation on Student Learning Outcomes. *Journal of Education*, No. 1.
- Prime. (2018). Motivation to learn. *Journal Of Chemical Information And Modeling*, 53(9), 1–33.
- Rahmi Anugraheni. (2019). Application of Learning Models (PBL) to Improve Creativity and Learning Outcomes of Grade 2 Elementary School Students. *Scientific Journal of Educational Development*, VI(2). 93-99.
- Ridwan Abdullah. (2014). *Scientific learning for implementing the 2013 curriculum*.
- Rini Istanti. (2015). The Influence of the Problem-Based Learning Model on the Science Learning Motivation of Class V Students at SDN Gadingan. Yogyakarta.
- Safri Lubis. (2022). The Effect of Implementing the Problem-Based Learning Model on Student Learning Motivation at SD Negeri 58 Bengkulu City.
- Sardiman A, M. (2018). *Teaching and Learning Interaction and Motivation*. Jakarta: Grafindo Persada.
- Sofyan, H. (2015). Implementation of PBL to increase motivation, creativity, and understanding of concepts. *Journal of Educational Technology Innovation*, 2(1), 32-48.
- Sugiyono. (2018). *Quantitative and Qualitative Research Methodologies, and R&D*. Bandung: Alfabeta.
- Concerned, Siti. (2015). "Teacher Efforts to Increase Student Learning Motivation". *Journal of Economic Education*, Vol. 2, no. 1, Page: 74.
- Surjaweni, V., Wiratna. (2018). *Introduction of accounting*. Yogyakarta: New Library
- Susanto, A. (2013). *Learning and Learning Theory in Elementary Schools*. Jakarta: Kencana Prenadamedia group.
- Syafi'i, TM (2018). Study of Student Learning Achievement in Various Aspects and Influencing Factors. *Journal of Educational Communication*.

- Shah, M. (2013). *Educational Psychology Revised Edition*. Bandung: PT. Rosdakarya Teenager.
- Syamsu Yusuf. (2021). The Influence of Character Education on Student Learning Motivation. *Asatiza: Journal of Education*, 2(2), 138-150.
- Tambunan, H. (2015). Analysis of learning interest and motivation, understanding of concepts, and student creativity on learning outcomes during online learning. *Journal of Mathematics Education: Judika Education*, 4(1), 41-55.
- Triana. (2014). The Effect of Implementing Discovery Learning and Problem-Based Learning Models on Students' Metacognitive Abilities and Mathematical Connections. *IJEMS: Indonesian Journal of Mathematics Education and Science*, 2(1), 34-43.
- Ulfah, U. (2019). The Influence of Visual Media on Learning Materials on Students' Learning Motivation. *Tahsinia Journal*, 2(2), 173-179.
- Umni Kalsum. (2019). Efforts to increase student learning motivation through resource-based learning (RBL) learning strategies in class V science learning in 52 state elementary schools in Bengkulu City.
- Uno. HB (2017). *Motivation Theory and Its Measurement: Analysis in the Field of Education*. Literary Earth.
- Uno. (2014). The Influence of E-Learning Media and Learning Motivation on the Academic GPA of Stkip Panca Sakti Students. *Research and Development Journal of Education*, 7(1), 126-135.
- Vania Rossa & Dini Afrianti Efendi. (2020). Due to the Pandemic, 40 Percent of Indonesian Students Have Lost Motivation to Study.
- Wow. (2015). *Elementary School Students' Learning Motivation*.
- Warsono & Hariyanto. (2013). The influence of the problem-based learning (PBL) model on students' problem-solving abilities and cognitive learning outcomes. *Journal of Science Education*, 4(2), 60-64.
- Wijayanti, S, et al. (2018). Increasing Problem-Solving Abilities Through the Problem-Based Learning (PBL) Model in Class III Elementary School Students. Semarang: *Educational Research Media: Journal of Research in the Field of Education and Teaching*, 12(2), 128-137.
- Wulandari, EE, & Hartati, S. (2016). Improving the Quality of Science Learning through the Problem-Based Learning (PBL) Model using Audiovisual. *Phenomenon: Journal of Mathematics and Natural Sciences Education*, 6(2), 32-41.