Improving Concentration and Learning Outcomes through Problem-Based Learning in Grade 1 Elementary School Students

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1. ABSTRACT

The problem faced in one of the elementary schools in Yogyakarta is the lack of concentration in student learning which results in low learning outcomes. The lack of student learning concentration is caused by internal and external distractions. The number of students in grade 1 of SD X is 19 students. This study aims to improve the concentration and learning outcomes of students through the Problem Based Learning model. This study used collaborative classroom action research (PTKK) methods which were carried out in 2 cycles with each cycle consisting of 2 actions. Each cycle is carried out with the stages of planning, implementing, observing and reflecting. Data collection techniques in the form of observation, tests and documentation. In this study, qualitative data is expressed in the form of words or symbols obtained from research results, quantitative data is expressed in the form of numbers based on the results of observations and tests. The results of this study showed an increase in learning concentration from the pre-cycle stage of 32.75%, cycle 1 64.33% and cycle 2 of 92.98%. Improved learning outcomes can be seen from the pre-cycle learning outcomes of 5%, cycle 1 53% and cycle 2 79%. Based on this data, it shows that the application of problem based learning is able to increase the concentration and learning outcomes of class students.

Keywords: *Problem Based Learning, Learning Concentration, Learning Outcomes*

2. INTRODUCTION

Education is one of the efforts in preparing high-quality and professional human resources in their fields. Ki Hadjar Dewantara revealed that education means the power of

efforts to promote the growth of ethics (inner strength and character), mind (intellect) and body of children; in the sense that Tamansiswa should not be separated into these parts so that we can advance the perfection of life, namely the lives and livelihoods of the children we educate in harmony with their world (Taman Siswa in Mudana 2019). The harmony of the growth of ethics, mind and body of children will create a generation of high-quality humans so that they can compete in the era of the 21st century. The independent curriculum that adopts the thinking of KI Hadjar Dewantara expects learning activities to be carried out in accordance with the nature of children, namely the nature of the times and the nature of nature. The nature of the times is learning that is carried out according to the times. In this 21st century era, every student is expected to be able to have 4C competencies, namely critical thinking, creative, collaborative and communication. In accordance with the nature of nature, it means that the learning carried out is adjusted to the development of each child.

Grade 1 elementary school students who are in phase A have the age of 7-8 years. According to J. Piaget, grade 1 elementary school students are in a concrete operational period. The concrete operational stage is the stage where children are between 7-11 years old. At this stage the operating system will appear when the child sees something concrete. The operating system in question is that children can solve a problem based on something concrete (Nabila:2021).

According to Olivia (2020), learning concentration is the ability to direct all thoughts and actions so that they are able to learn things well. During learning activities, students should have good learning concentration skills so that learning achievements and objectives can be achieved optimally. Putri Yulia (2017) revealed that learning concentration is a psychological aspect that is sometimes not easy for others to know besides oneself who is

learning. However, based on the observations of grade 1 elementary school students, it is very easy to lose learning concentration. The presence of interference from within and from outside students can interfere with the concentration of student learning. Outside disturbances such as dirty classrooms, noise from outside the room, hot weather, and the lack of teacher ability to create learning that matches the characteristics of students can make students experience impaired learning concentration. Mutia Rahma (2018) stated that indicators of learning concentration include: There is acceptance or attention to the subject matter; Respond to the material taught; The presence of proper limb movements in accordance with the teacher's instructions; Able to apply the knowledge gained; Able to analyze the knowledge gained; Able to express ideas/opinions; The readiness of the knowledge gained immediately appears when needed.; Interested in the subjects studied; Not bored with the learning process that is passed.

In the Regulation of the Minister of Education and Culture Number 21 of 2016 concerning Content Standards for Primary and Secondary Education states that the Curriculum Structure of Elementary Schools (SD) / Madrasah Ibtidaiyah (MI), Special Elementary Schools or Package A consists of eight lesson contents, namely (1) religious education; (2) civic education; (3) Bahasa Indonesia; (4) mathematics; (5) natural sciences; (6) social sciences; (7) cultural arts and crafts; (8) physical education, sports, and health. Mathematics is defined as the process of student and teacher interaction to develop thinking patterns and logic in a learning environment so that mathematics learning programs grow and develop optimally so that they are able to learn effectively and efficiently (Anggraeni: 2022). Mathematics is the science or knowledge of logical thinking skills that are needed by humans in solving problems of everyday life. Based on the results of interviews with grade 1 elementary school students, most students do not like

mathematics lessons. According to Ikawati in Olivia (2020), the difficulty of maintaining learning concentration also increases if students are forced to learn subject matter that they don't like.

Good learning concentration will have a positive impact on students, namely students will be able to understand and apply the knowledge they gain. With a good understanding of the material, the learning outcomes of students will achieve optimal results. This is inversely proportional to students who lack concentration on learning. These students will experience difficulties in learning activities so that they have an impact on not achieving the expected learning outcomes.

Based on observations in mathematics learning activities in the classroom, it was found that the condition of grade 1 elementary school students was said to not have good learning concentration skills. This can be seen from the behavior of students who do not pay attention to the teacher, are cool playing and chatting with other students, and the lack of results from the application of knowledge that students get. In learning activities, interaction between students is lacking. Teachers dominate more in learning activities (teacher centered). The conventional learning model implemented in learning activities for mathematics subjects makes students less fond of learning activities. This has an impact on suboptimal learning outcomes. Based on data from the results of the assessment, mathematics subjects in elementary school students show the least results compared to other subjects.

Efforts to improve the concentration of student learning can be done with a problem-based learning model or problem-based learning. The Problem-Based Learning Model is an educational method in which students use scientific methods to solve a problem in order to gain knowledge and problem-solving skills (Farida in Teguh, 2021). The learning process

in PBL is carried out by students with discussions so that they can hone students' communication and collaboration skills. According to Tan (in Ernawati, 2023), problem-based learning is an innovation in the learning process because it provides students with the ability to empower, hone, test, and develop their thinking skills on an ongoing basis. The Problem Based Learning learning model can be a solution in improving the concentration and learning outcomes of grade 1 elementary school students in mathematics subjects. The application of PBL in learning can help students in solving problems, learning from experience (experiential learning), collaborating in teams and communicating the results of discussions.

3. METHODS

This type of research is Collaborative Classroom Action Research (PTKK) which is carried out to improve concentration and learning outcomes with the Problem Based Learning learning model. This study used the Kemmis model developed by Stephen Kemmis and Robin Mc Taggart. Action research is carried out in 2 cycles, each cycle consisting of 2 actions. The stages carried out in each cycle include the stages of planning, action and observation and reflection in an interrelated spiral. According to Kemmis in Imam Machali (2022), the classroom action research model uses a cycle system consisting of three stages, namely planning; acting and observation; and reflecting. This research was conducted from April to June 2023 in the even semester of the 2022/2023 academic year. The subjects of this study were grade 1 students of SDN X totaling 19 students consisting of 9 male students and 10 female students. The object of this study is the use of the Problem Based Learning learning model to improve the concentration and learning outcomes of students in Phase A elementary school mathematics subjects. Data collection techniques carried out

in this study include observation, tests, and documentation. This study used qualitative and quantitative descriptive data analysis. Qualitative descriptive analysis is carried out on the variables of the research process, namely learning concentration. While quantitative descriptive analysis is carried out to test the test results of students and compare with the average of each cycles.

Success indicators in this study can be seen from the increase in the average concentration of students in cycle I and cycle II, and 75% of grade 1 elementary school students achieve scores above KKM (75).

4. **RESULTS AND DISCUSSION**

This Collaborative Classroom Action Research has the aim of improving the concentration and learning outcomes of grade I students in SD X which is carried out as many as 2 cycles. Cycle 1 will be held on May 17, 2023 and May 25, 2023, cycle 2 will be held on May 29, 2023 and May 31, 2023. The stages carried out in each cycle include planning, implementation, observation and reflection. At the planning stage, teachers prepare learning tools which include teaching modules, Student Worksheets, teaching materials, learning media, evaluation questions, observation sheets for student learning concentration, student and teacher observation sheets.

At the stage of implementing actions, teachers carry out the learning process in accordance with teaching modules that have been prepared with the Problem Based Learning model to improve concentration and learning outcomes of students and find out the level of completeness of student learning outcomes individually and classically. Teachers carry out learning in accordance with the learning plan prepared using the Problem Based Learning model. Learning with PBL begins with a problem orientation stage.

At this stage students are presented with readings to lead students to the problem to be solved. The second stage is organizing students to learn. In this stage students will be formed into heterogeneous learning groups. Teachers distribute student worksheets to be done together to train students' mutual assistance and responsibility. Stage three is to guide the group's investigation. Students conduct discussions with groups with guidance from the teacher. Learners' critical reasoning skills can be built in this stage. Stage four is to present the work. Students with groups present the results of work which will then be appreciated by other groups and teachers. The final stage is to analyze and evaluate the problem-solving process. At this stage, students will get reinforcement and feedback from Gruuru regarding the results of the discussion. At the end of the meeting, students are given an evaluation test to measure the learning outcomes that have been achieved.

The following are the results of observations of the level of learning concentration in the pre-cycle, cycle I and cycle II.
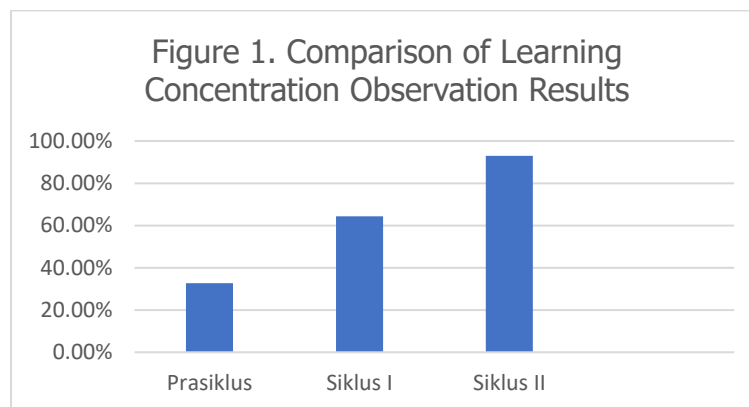

Figure 1. Comparison of Learning Concentration Observation Result

From the results of research on learning concentration, it is known that in the pre-cycle stage the percentage of observation results of learning concentration was 33%, then

in cycle one it increased to 64% and cycle two which was 93%. Based on these results, it is said that the concentration of student learning has increased significantly.

Increasing the concentration of student learning is inseparable from a fun and meaningful learning process. Through the PBL learning model, students will feel happy, pay attention to the subject matter, give a good response to the material taught, want to do what is instructed by the teacher, students are able to analyze and apply the knowledge gained, dare to express opinions, actively answer questions from the teacher, have an interest in the material being studied and are not bored with the learning process they go through.

Learning outcomes are an evaluation action that can reveal aspects of thought processes, psychological aspects and aspects of skills (Sudjiono in Hidayatul Khikmah: 2020). In this study, learning results were obtained from evaluation questions given by teachers at each meeting to determine the level of achievement of students on the material that had been learned. The following are presented learning results in pre-cycle, cycle I and cycle II.

Table 1. Learning outcomes

No	Completeness of learning outcomes	Pre Cycle		Cycle I		Cycle II	
1	Complete	1	5%	10	53%	15	79%
2	unfinished	18	95%	9	47%	4	21%
	amount	19	100%	19	100%	19	100%
	range	**47**		**68,8**		**90,95**	

Based on learning outcomes, in the pre-cycle there are 5% or 1 student who reaches the complete limit (≥75), as many as 95% of students have not reached KKM. This shows that most students have not reached KKM. The average value in the pre-cycle was 47. In

cycle 1, it showed quite good development with the achievement of 10 students or 63% had reached KKM and there were still 9 students (47%) incomplete. The average value in cycle 1 is 68.8. A significant increase can be seen from the learning outcomes of cycle 2, which is as many as 15 students or 79% have reached KKM. And unfinished students as many as 4 people (21%). The average value in cycle 2 is 90.95. From these data, it can be seen that the learning outcomes of students from the pre-cycle stage, cycle 1 to cycle 2 have increased significantly.
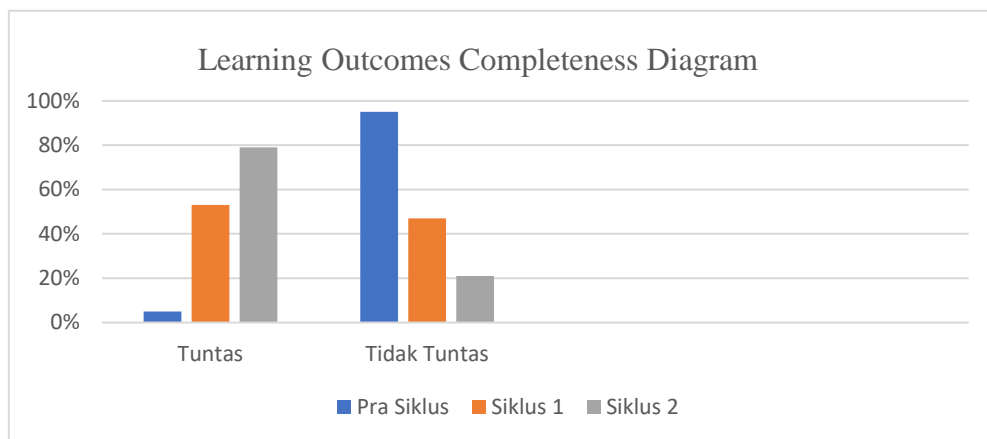

Figure 2. Student Learning Completeness

The results of the analysis carried out in each cycle show an increase in student learning outcomes through the Problem Based Learning model. Classically, the completeness of learning in cycle I increases compared to pre-cycle. From the results of reflection in cycle 1, improvements were made in cycle 2 so that student learning outcomes increased by 79%.

This research is reinforced by previous studies, namely in Ernawati's research (2023) which explains that the Problem Based Learning learning model has a positive and significant effect on increasing the learning concentration of elementary school students. It is also strengthened by research conducted by Purna Lusiana (2021) which explains that the Problem Based Learning method can increase student learning concentration.

5. CONCLUSION

Based on the results of the study, the implementation of learning in class I with Problem Based Learning is proven to improve the concentration and learning outcomes of students. A positive and significant increase occurred starting from the pre-cycle stage, cycle 1 to cycle 2.

a) The concentration of student learning has increased from pre-cycle 32.75%, cycle 1 by 64.33% and cycle 2 with a percentage of 92.98%.

b) Student learning outcomes classically increased from the pre-cycle stage by 5%, cycle 1 by 53% and cycle 2 by 79%.

c) Increased concentration and learning outcomes of students can be improved again with improvements in subsequent research.

6. REFERENCES

Anggreini, D., & Priyojadmiko, E. (2022, May). Peran guru dalam menghadapi tantangan implementasi merdeka belajar untuk meningkatkan pembelajaran matematika pada era omicron dan era society 5.0. In *Prosiding Seminar Nasional PGSD UST* (Vol. 1, No. 1, pp. 75-87).

Ernawati, E. (2023). Pengaruh Model Pembelajaran Problem Based Learning (Pbl) Dalam Meningkatkan Konsentrasi Belajar Siswa Sekolah Dasar Pada Mata Pelajaran

Tematik Terpadu Ditinjau Dari Hasil Belajar. *Jurnal Elementary: Kajian Teori dan Hasil Penelitian Pendidikan Sekolah Dasar*, *6*(1), 90-98.

Fridaram, O., Istharini, E., Cicilia, P. G. C., Nuryani, A., & Wibowo, D. H. (2020). Meningkatkan Konsentrasi Belajar Peserta Didik dengan Bimbingan Klasikal Metode Cooperative Learning Tipe Jigsaw. *Magistrorum Et Scholarium: Jurnal Pengabdian Masyarakat*, *1*(2), 161-170.

Isma, T. W., Putra, R., Wicaksana, T. I., Tasrif, E., & Huda, A. (2022). Peningkatan Hasil Belajar Siswa melalui Problem Based Learning (PBL). *Jurnal Ilmiah Pendidikan dan Pembelajaran*, *6*(1), 155-164.

Khikmah, H. (2020). *Analisis Tingkat Konsentrasi Belajar Dalam Pembelajaran Matematika Ditinjau Dari Hasil Belajar Siswa Kelas V Umar Bin Khattab SDIT Qurrota A'yun Ponorogo* (Doctoral dissertation, IAIN PONOROGO).

Machali, I. (2022). Bagaimana Melakukan Penelitian Tindakan Kelas Bagi Guru. *IJAR*, *1*(2).

Mudana, I Gusti Agung Made Gede, Membangun Karakter dalam Perspektif Filsafat Pendidikan Ki Hadjar Dewantara. Jurnal Filsafat IndonesiaVol. 2 No. 2 2019 h.75-81

NABILA, Nasrin. Konsep Pembelajaran Matematika SD Berdasarkan Teori Kognitif Jean Piaget. *JKPD (Jurnal Kajian Pendidikan Dasar)*, 2021, 6.1: 69-79.

Navia, Y., & Yulia, P. (2017). Hubungan disiplin belajar dan konsentrasi belajar terhadap hasil belajar matematika siswa. *Pythagoras: Jurnal Program Studi Pendidikan Matematika*, *6*(2).

Setyani, M. R., & Ismah, I. (2018). Analisis Tingkat Konsentrasi Belajar Siswa dalam Proses Pembelajaran Matematika ditinjau dari Hasil Belajar. *Prosiding Senamku*, *1*, 73-84.