

THE APPLICATION OF PROBLEM BASED LEARNING (PBL) LEARNING MODEL ASSISTED BY VIDEO MEDIA TO INCREASE STUDENTS LEARNING OUTCOMES IN THEMATIC LEARNING IN 4TH-GRADE ELEMENTARY SCHOOL

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Abstract: Education is an integral part of development. Learning can also be interpreted as the result of an experience in the form of interaction with learning resources such as environment, books, or people. Learning outcomes are not a mastery of training results, but the creation of aspects of knowledge, skills, and attitudes of students. During the learning process, it appears that the teacher is less maximal in implementing the 2013 curriculum with innovative creative learning models and the teacher does not integrate various lesson content into predetermined themes. This has an impact on student learning outcomes when learning has been carried out face to face. The research conducted aims to improve student learning outcomes when using the *Problem Based Learning model* on thematic learning for grades IV Elementary School. This research is a classroom action research with two cycles. The population in this study was 21 and the samples used were saturated samples. The instruments in this study were observations and tests of student learning outcomes. Data collection techniques in this research for observations were taken by supervisors, they are elementary school teachers and learning outcomes tests for students in thematic learning. The data analysis technique in this research is descriptive analysis and N-gain test. The results showed that there was an increase in average learning outcomes and the proportion of mastery. In the N-gain test, the increase was in medium category. This is because the use of PBL in thematic learning raises daily life material so that it is easier for students to carry out the projects they are working on to improve their learning outcomes.

Keywords: *Problem Based Learning*, Video Media, Learning Outcomes

PRELIMINARY

Education is an integral part of development. Each education has a basic level according to the Government Regulation of the Republic of Indonesia Number. 19 of 2005 concerning National Education Standards, Article 26 Paragraph 1, basic education aims to lay the foundation for intelligence, knowledge, personality, noble character,

skills to live independently, and participate in further education. Meanwhile, quality human beings are seen in terms of education, which is contained in the goals of education that we all know (Hartanto, 2011, p. 82).

According to Kosasih (2016) learning is a change in behavior that is characterized by the presence of something new in a person, which can be in the form of skills, attitudes, habits, knowledge, or proficiency. Learning can also be interpreted as the result of an experience in the form of interaction with learning resources such as the environment, books, or people. Learning outcomes are not a mastery of training results, but the creation of aspects of knowledge, skills, and attitudes of students. This is where a learning curriculum such as the K-13 curriculum is needed which assesses students not only from the aspect of knowledge but also from the affective and psychomotor aspects, the emphasis on the 2013 curriculum is improvement and balance of soft skills and hard skills covering aspects of attitude, skills and knowledge competencies. Learning in the 2013 curriculum is more thematic integrative in all subjects. Thus it can be understood that the 2013 curriculum is a curriculum developed to improve and balance the soft skills and hard skills in the form of attitudes, skills, and knowledge (Fadlillah, 2014).

The learning model in the 2013 Curriculum must include the values of attitudes, knowledge, and skills (Kurniaman, 2017). In addition to this, improving the quality of education in Indonesia is marked by the implementation of the 2013 curriculum (K13) which aims to prepare Indonesian people to have the ability to live as individuals and citizens who are faithful, productive, creative, innovative, and effective and able to contribute to social life, nation, state, and world civilization (Kemendikbud, 2018). In fact, learning activities in the classroom carried out by teachers are still limited to the delivery of information using the lecture method, which ultimately makes students tend to be passive and lack exploration so that the development of student learning outcomes is less than optimal (Abdulmajid, 2017).

In practice, based on the results of observations made by researchers at SDN 03 Seloromo in Karanganyar Regency, during the learning process, it appears that teachers are less than optimal in implementing the 2013 curriculum with innovative creative learning models and teachers are less able to integrate various lesson content into predefined themes. Furthermore, the results of interviews with classroom teachers,

resulted that teachers still use the lecture method in learning, so the teacher has not used the right learning model.

The purpose of the 2013 curriculum has to live, so a solution is needed for the process of teaching and learning activities to achieve its goals. Therefore, this study offers an online-based learning model that is integrated with *problem-based learning* (PBL). *With* problem-based learning, students' knowledge is better in terms of remembering, applying knowledge, and understanding concepts better than teachers using the lecture method in class (Sari, et al. 2017). The conditions felt when learning using project-based learning stimulate students to be active and creative which will gradually accumulate students' positive attitudes in developing creativity (Zhou, 2012). Project-based learning is not only about making products but also learning to emphasize the learning process, how students understand each concept by making something, so that students' understanding will stick to memory (Bahriah, 2017). Therefore, PBL is considered to be able to improve learning outcomes in Thematic learning.

Thematic learning that is applied also uses interesting media, one of which is following the developments of 21st century (Garcia-Alberti, 2021; Mishra, 2020 & Dong, 2020). The use of *Information and Communications Technology* (ICT) in the learning process in this study uses online-based media. This is done to foster student interest in learning.

The research conducted aims to improve student learning outcomes when using the *Problem Based Learning model* on thematic learning for grades IV Elementary School. This research is a classroom action research with two cycles. By using video media which is now widely available from digital technology-based learning sources or online. According to Handayanto (2018), online-based learning can increase students' interest, participation, and learning outcomes. Besides that, the use of ICT in learning is needed to provide a new atmosphere in teaching and learning process. The use of ICT to support learning has been carried out in various schools, both at the secondary and high school levels. Various studies have been conducted related to the implementation of ICT in several schools (Zyainuri, 2012; Pratiwi, 2014 & Hardayanto, 2016). With results of using the internet can also deliver a series of solutions that can increase knowledge and skills (Vaughan & Jim, 2016).

METHOD

This study used classroom action research using 2 cycles. The population of this research is 4th grade students of SDN 03 Seloromo semester II in the academic year 2021/2022 with 21 students. Sampling in this study was using a saturated sample or the entire population was sampled so that 21 students were taken as samples.

This study used the instrument of the learning outcomes of students with 20 questions. Previously, the instrument was validated using content and construct validation with results of the question instrument being used for minor revisions. The instrument test was carried out by 5th grade students and it was found that the *Conbarch Alpha* or reliability test got a result of 0.71, meaning that the thematic learning outcome test instrument was reliable.

This study used observation data collection techniques and thematic assessment of learning outcomes. The data analysis technique used is descriptive analysis and N-Gain Test.

RESULTS

The research results that have been done, begin with the observation of student learning outcomes in thematic subjects. With a total of 20 questions. The results of these observations are the results before using PBL with online settings.

Table 1. Observation Results

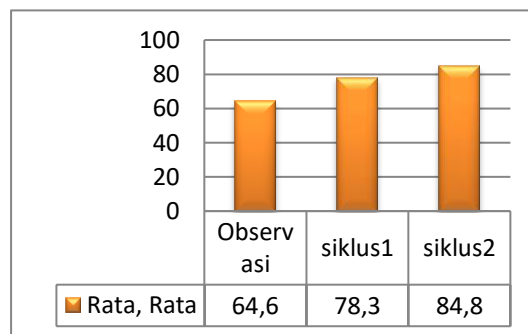
Type	Acquisition
Number of students	21
Average learning outcomes	64.6
Standard Deviation	8.5
Number of students completed	4
The number of students is not complete	17

Based on Table 1, it can be seen that more than 50% of students have not completed the thematic subject because the average obtained is 64.6 while the minimum completeness applied in schools is 70. Based on low results in observation, in increasing

thematic learning outcomes in this study using PBL. The steps used in this study are student orientation to problems, organizing students to learn, guiding individual and group investigations, developing and presenting work, analyzing and evaluating the problem solving process.

Student learning outcomes in thematic learning after learning using PBL with online settings entered in cycle I and cycle II. The learning outcomes after being given the treatment are presented in Figure 1 below.

Figure 1 Results of thematic learning



It can be seen in Figure 1 that at the time of observation or before PBL learning with online settings was carried out the average did not complete the minimum criteria of 70. In cycle I and cycle II the average student learning outcomes using PBL had exceeded the minimum criteria.

P B L not only increases the average student learning outcomes, but the number of completeness students also increases. Table 2 below is the result of the student's mastery obtained.

Table 2 Completeness of Students in PBL

Phase	Number of students completed	The number of students is not complete	The percentage of shoots
Observation	4	17	19%
Cycle I	12	9	57%
Cycle II	17	4	81%

It can be seen in Table 2 that the number of students who completed after using PBL with online settings all exceeded 50%. So that the use of PBL not only increases the score of learning outcomes but also the number of students' completeness.

The increase in student learning outcomes in thematic learning occurs partly because of the active involvement of students and teachers can teach well. In the assessment carried out on PBL by the supervisor, which is the classroom teacher with a Likert scale questionnaire 1-5 with a total of 20 statements with a distribution of 10 statements for each assessment, the results obtained in Table 3 are as follows.

Table 3 Activity Gain on PBL

Phase	Teaching Assessment Score	Student Activity Assessment Score
Cycle I	42	39
Cycle II	45	40

It can be seen in Table 3 that after carrying out cycle I and cycle II, there was an increase in teaching assessment scores by 3 out of 4 scores or 6%. The percentage obtained in the teaching assessment has reached 75% because in the first cycle it is 84% and in the second cycle it is 90%. Besides that, the percentage of student activity has also increased, in cycle I to cycle II the score of student activity increased by 4% and the result of the percentage of student activity was at least getting a score of 78%, which means that the percentage of student activity in participating in PBL exceeds 75 %. In the notes given by the supervisor in cycle I, the student activities that have not been carried out well are making project assignment reports and presenting the report results. After improvements were made by the teacher in cycle II, there was an increase where students became active in making project reports and presenting their reports and responding to presentations presented by their friends.

The results are obtained as follows.

$$N - gain = \frac{\text{mean of cycle 2} - \text{mean of Observation}}{100 - \text{mean of Observation}}$$
$$N - gain = \frac{84,8 - 64,6}{100 - 64,6} = 0,57$$

From the N-gain score above, which is 0.57, means that the criteria for student learning outcomes in thematic learning have increased scores in the medium category. Based on the analysis from observations to the second cycle, there was an increase in the average score of student learning outcomes.

DISCUSSION

An increase in learning outcomes occurs because the teacher provides questions that foster residual concentration to enter learning. In addition, giving questions is a daily question that makes it easy to construct the knowledge of students. This stage is the first step for students to observe more deeply the questions that arise from the surrounding environment, so that they can come up with ideas for problem-solving. Solving these problems is carried out jointly between teachers and students who discuss, and also tools and materials that will be used in solving a problem in the learning.

Apart from that, the increase occurred because the activities were carried out regularly. Furthermore, activities in problem solving teachers and students together make the best use of time and regarding the target time for implementation. The right time in carrying out the learning process makes the discipline and cognitive knowledge of students also increase on time. In learning process, the teacher monitors the students' activities while solving problems in learning. Monitoring is done by facilitating students in each process. These things make learning outcomes in thematic learning of students increase.

The increase was due to PBL suitable for thematic learning because thematic learning should emphasize direct experience to develop their scientific skills. Thematic learning directs students to find out independently so that students can gain their own understanding. In addition, the learning process leads to problem-based activities so it can improve the cognitive abilities and skills of students.

In addition to this, project learning is capable to involve students actively in learning and the process of obtaining information based on the new experiences they get. Good learning is learning that involves students directly in learning process (Sumarni, 2019). In addition, according to M. Fathurrohman (2015) learning used real (authentic) problems that are unstructured and open as a context for students to develop

problem-solving skills and critical thinking while building new knowledge. In thematic learning using PBL at SDN 03 Seloromo emphasizes providing direct experience to develop competence to understand the natural surroundings scientifically. This is because, thematic learning is needed in daily life to complete human needs through solving problems that can be identified (Wellyanti, 2020). The implementation of thematic learning is done by combining thematic learning with problem-based learning directly related to students' daily life, making students' abilities to identify daily life more critical in thinking (Anggareni, 2013).

Apart from this, the PBL integration that has been carried out keeps students' activities monitored while doing projects. In other words, technological advances can make it easier for teachers to monitor students in distance learning (Putra, 2017 & Ngafifi, 2014). Technology can help teachers to prepare students for real-world situations. The rapid development of ICT can make students explore information more broadly and practically. In learning, the use of technology can motivate students in solving routine problems or even in memorizing (Yang, 2012; Licorish, 2018).

Research that shows that PBL can improve student learning outcomes is in line with research from Setiyaningrum (2018); Handoko (2018) & Sjam (2019) which stated that PBL constructs students' knowledge by practicing discussions and solving simple problems on daily life. In addition, the increase in learning outcomes in medium category because learning is only four times so student learning outcomes have not shown results in the high category. This is in line with research from Ulinuha (2019); Rochmad (2020); Mulyanto (2020) who stated that it took a long time to improve the ability of students in the high category.

CONCLUSION

The use of PBL with online settings can improve learning outcomes in thematic subjects. Not only the average of students in learning outcomes but also the proportion of completeness of students also increases. This is because the activeness of students in problem-based learning is high and the improvement test has increased in the medium category.

REFERENCE SOURCES

- Abdulmajid, N. W., Pramuntadi, A., Riyanto, A. B., & Rochmah, E. (2017). Penerapan E-Learning Sebagai Pendukung Adaptive Learning dan Peningkatan Kompetensi Siswa SMK di Kabupaten Bantul. *Taman Vokasi*, 5(2), 170-182.
- Anggareni, N. W., Ristiati, N. P., & Widiyanti, N. L. P. M. (2013). Implementasi strategi pembelajaran inkuiri terhadap kemampuan berpikir kritis dan pemahaman konsep IPA siswa SMP. *Jurnal Pendidikan dan Pembelajaran IPA Indonesia*, 3(1).
- Bahriah, E. S., Suryaningsih, S., & Yuniati, D. (2017). Pembelajaran berbasis proyek pada konsep koloid untuk pengembangan keterampilan proses sains siswa. *Jurnal Tadris Kimia*, 2(2), 145-152.
- Fadillah, M. 2014. Implementasi Kurikulum 2013 Dalam Pembelajaran SD/MI, SD/MTS, dan SMA/MA. Yogyakarta : Ar-Ruzz.
- García-Alberti, M., Suárez, F., Chiyón, I., & Mosquera Feijoo, J. C. (2021). Challenges and Experiences of Online Evaluation in Courses of Civil Engineering during the Lockdown Learning Due to the COVID-19 Pandemic. *Education Sciences*, 11(2), 59.
- Handayanto, A., Supandi, S., & Ariyanto, L. 2018. "Teaching using moodle in mathematics education". *Journal of Physics: Conference Series*, 1013(1): 012128.
- Kosasih, E., dan Kurniawan, E. (2019). 22 Jenis teks & strategi pembelajarannya di SMA-MA/SMK. Bandung: Penerbit Yrama Widya.
- Kurniawan, O. 2017. Penerapan Kurikulum 2013 dalam Meningkatkan Keterampilan, Sikap, dan Pengetahuan. FKIP Universitas Riau.
- Licorish, S. A., Owen, H. E., Daniel, B., & George, J. L. (2018). Students' perception of Kahoot!'s influence on teaching and learning. *Research and Practice in Technology Enhanced Learning*, 13(1), 1-23.
- Mulyanto, B. S., Sadono, T., & Koeswanti, H. D. (2020). Evaluation of Critical Thinking Ability with Discovery Learning Using Blended Learning Approach in Primary School. *Journal of Research and Educational Research Evaluation*, 9(2), 78-84.

- Ngafifi, M. (2014). Kemajuan teknologi dan pola hidup manusia dalam perspektif sosial budaya. *Jurnal Pembangunan Pendidikan: Fondasi dan Aplikasi*, 2(1).
- Pratiwi, I., Soedjoko, E., & Mulyono, M. 2014. “Efektivitas Pembelajaran Conceptual Understanding Procedures Untuk Meningkatkan Kemampuan Siswa Pada Aspek Koneksi Matematika”. *Kreano, Jurnal Matematika Kreatif-Inovatif*, 5(1): 41-47.
- Putra, C. A. (2017). Pemanfaatan Teknologi Gadget Sebagai Media Pembelajaran. *Bitnet: Jurnal Pendidikan Teknologi Informasi*, 2(2), 1-10.
- Sari, K. A., Prasetyo, Z. K., & Wibowo, W. S. (2017). Development of science student worksheet based on project based learning model to improve collaboration and communication skills of junior high school student. *Journal of Science Education Research*, 1(1).
- Sumarni, W., Wijayati, N., & Supanti, S. (2019). Analisis Kemampuan Kognitif Dan Berpikir Kreatif Siswa Melalui Pembelajaran Berbasis Proyek Berpendekatan Stem. *J-Pek (Jurnal Pembelajaran Kimia)*, 4(1), 18-30.
- Ulinuha, R., & Rochmad, R. (2019). Creative Thinking Ability With Open-Ended Problems Based on Self-Efficacy in Gnomio Blended Learning. *Unnes Journal of Mathematics Education Research*.
- Vaughan & Jim. 2016. “*Definitions for E-Learning*”. Open & Distance Learning Quality Council.
- Wellyanti, W. (2020). Optimalisasi Metode Eksperimen Dalam Peningkatan Prestasi Siswa Belajar Ipa Tentang Pengaruh Matahari Dalam Kehidupan Sehari-hari: (Optimization of Experimental Methods in Improving Student Achievement in Science Learning about the Effects of the Sun on Daily Life). *Uniqbu Journal of Exact Sciences*, 1(3), 23-31.
- Yang, Y. T. C. (2012). Building virtual cities, inspiring intelligent citizens: Digital games for developing students’ problem solving and learning motivation. *Computers & Education*, 59(2), 365-377.
- Zhou, C. (2012). Integrating creativity training into problem and project-based learning curriculum in engineering education. *European Journal of Engineering Education*, 37(5), 488-499.
- Zyainuri, Z., & Marpanaji, E. (2012). Penerapan e-learning moodle untuk pembelajaran siswa yang melaksanakan prakerin. *Jurnal Pendidikan Vokasi*, 2(3).