**PROBLEM BASED LEARNING WITH AN OUTDOOR LEARNING ACTIVITIES AND THE ABILITY TO APPLY THE CONCEPT OF GEOGRAPHY**

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**Abstract:**

Problem Based Learning (PBL) has several advantages than the other learning models. These include: 1) meaningful; 2) in problem stituation state; and 3) improving critical thinking skills, fostering initiative in work, having internal motivation to learn, and developing interpersonal relationship in groups. In addition, PBL also provides conditions that facilitate a group working, independent studying or collaborating, using critical thinking and build a passion for lifelong learning. The superiority of PBL is strengthen when it is equipped with an outdoor learning, because it engages students to actively learning both inside and outside the classroom. The ability to apply a concept is needed to facilitate a problem solving. PBL makes the students become more active, thus influence the implementation of students’ geography concept.

The study aimed to determine the impact of PBL with an outdoor learning activities on the ability to apply the concept of geography. The study applied quasy experiment design with a post-test only control group. Essay questions were used as the instrument with the total of five items that have passed the validity and reliability test. Whereas before the data analysis, a prerequisite test was carried out with normality and homogeneity test. Hypothesis test was done by using an independent sample t-test.

The results of the study indicate that PBL with an outdoor learning activities had a powerful impact on the ability to apply the concept of geography. The learning process made the students become more active and had a meaningful impression. A meaningful learning encouraged the students to easily remember the concept that have been learned so as to facilitate them in applied that concept. It proved by the average value of the experimental class (89,1) was higher than the control class (81,3). The hypothesis test’s value through t-test analysis were 0,001. The Problem Based Learning (PBL) with an outdoor learning activities has an impact on the ability to apply the concept of geography.

**Keywords**: problem based learning, outdoor learning, concept mplementation’s ability

1. **Introduction**

Problem Based Learning (PBL) is a learning model in which students solve authentic problems with the intention of compiling their own knowledge, developing inquiry and higher-level thinking skills, developing independence and self-confidence (Arends, 2007). Through the PBL, students will process their own knowledge from the teacher themselves. This makes this model able to develop the basic and complex knowledge.

The stages of the PBL supports a student-centered learning. These include: (a) problem oriented, (b) organizing for learning, (c) guiding an independent inquiry and group investigation, (d) developing and presenting the work, and (e) analyzing and evaluating problem solving processes (Arends, 2007). The PBL is designed not to help teachers deliver information to students. The main purpose of this model is to help learning by investigating the problems, developing thinking processes, and making students independent through the experiences they have experienced (Ratumanan, 2015). The purpose of the PBL, namely: (a) to help students develop flexible knowledge that can be applied to all situations, as opposed to inner knowledge which information that is remembered but rarely applied, and (b) to increase intrinsic motivation, problem solving skills, collaboration, and self-directed lifelong learning (Woolfolk in Ratumanan, 2015).

The PBL model has several advantages for students, teachers, and principals if it applied. The advantage for students is the approach used which is the student-centered. They become more happy and satisfied, understand the material better, and develop some skills for lifelong learning. For teachers this model can increase the students’ attention in the class, there is an intrinsic reward, learning in the high class can be comprehensive, have more time to learn, and improve the interdisciplinary. For leaders or principals, if this model is implemented it can give priority for students to learning, allow the assistance, connect with the real world, and allow the innovation (Sumarmi, 2012).

The advantages of PBL are as follows: (a) has a pretty good technique to understand the contents of the explanation better, (b) to get a new knowledge for students, (c) to improve student learning activities, (d) to help students understand problems in real life, (e) to help students develop a new knowledge and be responsible in learning that students do, besides that problem solving can also encourage students to conduct self-evaluation both on the results and the learning process, (f) to show on learners that each subject is basically a way of thinking and something that must be understood by students, not just learning only from the teacher or books, (g) problem solving is considered more fun and liked by students, (h) to develop the ability of students to think critically and adjust to a new knowledge, (i) to provide opportunities for students to apply the knowledge in the real world, and (j) to develop the interest of students to continuously learn even when learning in formal education ends (Sanjaya, 2008).

1. **Research Method**

The research was designed as a quasi-experimental study that conduct to determine the impact of the PBL model with an outdoor learning activities on the ability to apply the concept of geography with post-test only control group design. This research implemented in two classes, namely experimental class and control class. Post-test is used to determine the ability to apply the concept. The data analysis used in this research is unpaired sample t-test which had previously been carried out pre-requisite test with normality and homogeneity test.

1. **Results And Discussion**

Based on the results, the 6.5% of control class was able to do the concept implementation’s test with very good qualification, the 87% with good’s qualification, and the remaining 6.5% with pretty good’s qualification. The mean value obtained by the control class is 81.3 with the highest value of 93 and the lowest value of 64.

Table 1. Concept Implementation’s Ability

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Class** | **Interval** | **Qualifications** | **Control** | | **Experiment** | |
| **f** | **%** |  | **%** |
| A  B  C  D  E | 91-100  75-90  60-74  40-59  <40 | Very good  Good  Pretty Good  Weak  Very Weak | 2  27  2  0  0 | 6,5  87  6,5  0  0 | 15  15  0  0  0 | 50  50  0  0  0 |
| **Total** |  |  | **31** | **100** | **30** | **100** |

The results of the concept implementation’s ability test in the experimental class showed that as much as 50% was able to do the test with very good result and the remaining 50% with good result. The average value of the experimental class was 89.1 with the highest value of 100 and the lowest value of 76. Thus it can be concluded that the average experimental class is higher than the control class.

The hypothesis test was done by using the t-test for unpaired samples and obtained a significance value (2-tailed) of 0.001, which means it is smaller than the significance level of 0.05. Based on this result, it can be concluded that the PBL model with an outdoor learning activities give an impact to student’s ability to apply geographic concepts.

The impact of the PBL model with an outdoor learning activities on the implementation of geographic concepts can be seen in giving the special treatment during the learning process. The given treatment is adjusted to the steps of PBL model. There are five stages that must be done in the PBL model, include; student’s orientation to the problem, organizing students to learn, guiding an individual and group’s investigation, developing and presenting work, and analyzing and evaluating problem solving processes (Sumarmi, 2012). The given treatment in the experimental class is adjusted to the stages mentioned before, but there are modifications to the outdoor learning activities. Therefore, at the stage of investigations students did it outside the classroom and out of class hours.

The first stage is the student’s orientation to the problem. At this stage, students are first given a video related to natural disasters that occur in Indonesia. The video screening was conducted with the aim of attracting students’ attention and giving students an idea of natural disasters in Indonesia. After being given a video, one of the students gave an argument about the video. If one of the students conveyed an argument, the other students listened carefully. After one student expressed an argument there were other students who responded. Then the teacher asked to stimulate students’ curiosity. There were several students who can answer questions correctly from the teacher. Students who were unable to answer, they listen it with interest.

After that, the students are grouped heterogeneously where one group consists of six students. Each group received an article and an inquiry guidance sheet. Groups 1 to 3 received articles about potential geological disasters, then groups 4 and 5 received articles about floods. At this stage, the students will recognize the problem by reading the article provided. After recognizing the problem that must be resolved, students indirectly recognize things that deviate from the geosphere phenomenon. It means that students have implemented and fulfilled one of the indicators of the application of the concept, namely being able to recognize things that deviate from principles and generalizations.

The second stage is organizing students to learn. At this stage, students identified the problems by group. Several things to do to identify the problems; identify the causes, make hypotheses, make alternative solutions, and formulate problems. Then, the students are guided to do an investigation plan. Students in groups might determine the investigation process, determine the data and information needed, and appoint one person to report the investigation plan.

The third stage is guiding individual and group’s investigation. At this stage, an outdoor learning activities is carried out. First, students in groups searched for information through the books or internet. Then students conducted an investigation outside the classroom and out of school hours. Students in groups carried out the investigations based on the guidance of the investigation that has been given. Students gathered with groups to collect data through interviews with residents around the site that were thought to have potential natural disasters. Students conducted interviews about local residents’ natural disaster mitigation. At the planning stage, students have made interview guidelines to collect data in the field. In addition, students also carried out simulations during and after an earthquake disaster. This was done because the location of the school is prone to earthquakes. At the time of this simulation, it provided an opportunity for students to apply the concept of earthquake disaster mitigation that they have learned.

This investigation stage was directly related to three indicators of the implementation of the concept, namely: 1) the ability to apply the material in new situations; 2) the ability to apply principles or generalizations to new situations; and 3) to compile various problems so that they can apply generalizations. During the simulation these three indicators can be carried out. Students can apply mitigation concepts during and after an earthquake. Besides that, it can also formulate a strategy to save themself when an earthquake occurs. This showed that the outdoor learning activities was able to improve the student’s ability to apply the concepts. This is supported by the statement that in PBL requires students to conduct authentic investigations to find real solutions to a problem (Arends, 2007).

The fourth stage in PBL model is to develop the results of the investigation and present the work. At this stage, the group developed data based on the results of the investigation. The development of the investigation’s results was done by matching existing theories with the data that has been obtained. By developing the results of the investigation data, students were able to do one indicator of the application of the concept, namely being able to recognize new phenomena from principles and generalizations, then the data were analyzed and drawn the conclusions. After that, the results of the report are presented. Each group presented a report. When one group made a presentation, another group responded, refuted, and gave a criticism and suggestions, and so on. This is supported by the opinion that field studies are able to develop specific skills such as collecting data, making reports, and developing intellectual skills such as problem solving skills (Tilbury, 1997).

In the fifth or final stage is analyzing and evaluating the problem solving process. At this stage, the teacher and students reflected and evaluated the entire learning process from the beginning to the end. Each group reflected by giving opinions, comments, and input on the implementation of the PBL model.

Based on the several stages of the PBL model that has been described, it proven that the model affect the students to apply the concepts that they have learned. These stages can spur the ability to apply the concept. These evidenced by the emergence of indicators of the ability to apply concepts, namely: 1) being able to apply material in new situations; 2) able to apply principles or generalizations to new situations; 3) compile various problems so that they can apply generalizations; 4) can recognize things that deviate from principles and generalizations; and 5) can recognize new phenomena from principles and generalizations.

PBL with an outdoor learning activities affects the implementation of student’s concepts by making students more active and independent in the learning process. By the time of learning, students has done more learning activities independently inside and outside the classroom. The learning situation is student-centered and the teacher only acts as a facilitator. Almost all students give opinions about the solution to the problems given in each group.

At presentation, the other groups gave opinions, students also actively seek out information, made hypotheses and alternative solutions to problems that has been given. Student’s activeness can also be seen during the investigation phase where students can well divide the assignments. This fact proves the theory stated that the advantages of outdoor study are that students are more active in participating in learning (Widiasworo, 2017).

The learning model applied in this study did not make students bored. Students were more challenged to take part in learning by carrying out simulations applied by the teacher. Students took the earthquake disaster simulation well and enthusiastically. Thus, students were also not saturated with existing learning. This is in line with the opinion that learning with an Outdoor study is able to eliminate boredom for students and teachers from learning routines that always take place in the classroom (Widiasworo, 2017).

The PBL model can give an impact to the implementation of student’s concepts because it can make learning more meaningful. The initial situation of students greatly influences the application of student concepts. The initial state of the experimental and control class students can be seen from the daily test scores where the average values ​​of these two classes were close together. The learning process in the control class tends to be monotonous because the learning process was teacher-centered only, while in the experimental class was more fun because students become more active in the learning process. In the experimental class, students are invited out of the class to investigate. This made the learning process in the experimental class more meaningful. This is shown when students perform simulations they were able to play a good role in it. This will be easily remembered by students, so that when students get the situation as simulated, students can immediately save themselves. In addition, students will also easily answer questions about rescue strategies during an earthquake. This can be seen in the value of the experimental class is higher than the control class. This proves that learning will significantly affect the application of student concepts.

At the stage of PBL with an outdoor learning activites, students are required to develop knowledge independently. Students are faced with a problem that exists around the student’s environment. Then students will use some information to make a hypothesis. The next step, students begin to dig deeper information to get an accurate data. The data obtained is finally analyzed to find a solution to the problem at hand.

The stages that have been passed by the student are able to encourage students to actively think and apply the knowledge that has been obtained. Thus, students will get full knowledge because they are also actively involved in seeking knowledge. This is in line with the statement that problem-based learning is a learning approach where learners work on authentic problems with the intention of compiling their own knowledge, developing inquiry and higher-level thinking skills, developing self-reliance and self-confidence (Arends, 2007). Problem identification and preparation of inquiry planning make students compile their own knowledge.

The model applied in this study is problem-based learning with an outdoor learning activities background. The application of this model used a disaster simulation that will strengthen the memory of the concepts that have been learned, because students do the learning process directly which encourages this learning to be more meaningful. This is supported by the opinion that learning in the field is learning that is designed so students learn directly the subject matter on the actual object (Widiasworo, 2017). By given a simulation, students can have a meaningful and learning experience, so that when an earthquake occurs they can apply it well because they still remember it.

This research is supported by a previous research that conducted by Wulandari (2013). It concluded that the problem based learning model with an outdoor lerning activities background had a significant effect on students’ analytical thinking abilities. Another similar study was conducted by Suherman, (2011) with the result that there is a difference in the ability to apply the geography concept using a problem based learning model based on outdoor study and project based learning, where the ability to apply concepts using problem based learning models has a higher average compared to classes that use project based learning models.

1. **Conclusion**

Based on the problem’s state and the results, the conclusion of the study is that the Problem-Based Learning model with an outdoor learning activities has a significant impact on the application of geographic concepts. Things that need to be considered in implementing problem-based learning with an outdoor learning activities background was the preparation of outdoor activities so that learning goes according to plan. Besides, the time management has to be well planned because this model take a long time.

The implementation of the problem-based learning model with an outdoor learning activities is expected to be able to contribute for teachers by providing references, encouragement, and facilities to use this model as an effort to improve the quality of learning.

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