

# THE EFFECTIVENESS OF PROBLEM BASED LEARNING IN SOCIAL STUDY TOWARDS THE ENHANCEMENT OF LEARNING CREATIVITY OF STUDENTS

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**Abstract:** The purpose of this study is to find out, 1) how is the learning creativity of students in social studies lectures; 2) is there a difference in creativity in learning between learning based on problem based learning (PBL) and conventional learning in learning social studies; 3) is there the effectiveness of problem-based learning approaches (PBL) in learning social studies on student learning creativity. This study is a quasi experimental research, with pretest-postes design using a control group without random assignment. The sample of the pilot study is a 16 th grade A-class student of PGSD FKIP SWCU FKIP with 24 students and 16 E class with 24 students. Technique of collecting data by using test and direct observation. The research instrument test items and observation sheets are equipped with an assessment rubric The research instrument used an observation guide with a measurement rubric. Technique of data analysis using t-test with significance level  $\alpha = 0,05$  that is to analyze difference of mean score of independent sample t-test creativity score of control group and experiment group and aid program SPSS version 23,0. The results showed that: 1) The importance of creativity in learning is that students are directly involved in learning, creative students are able to solve problems and have the potential to produce works; 2) Implementation of Social Study learning with PBL approach through step a). Formulate the problem, b). Review social studies learning, c). Formulate social studies learning hypotheses and learning outcomes, d). Gather information, e). Troubleshooting and solutions, and f). Presentation. Creative learning lattice: a). the magnitude of the score for the formulation of social studies learning problems, b). the magnitude of the score from the study of social studies learning, c). the magnitude of the score for the formulation of the Social Studies learning hypothesis and the learning outcomes, d). the amount of score in solving problems and solutions, and e). the magnitude of the score during the presentation, 3) there is effectiveness of PBL approach to student's learning creativity. This can be seen from the significant value of the same variance assumed (2-tailed) learning creativity of Social Study  $<0.05$ . According to the basis of decision making in independent t-sample test, it can be concluded that  $H_0$  is rejected and  $H_a$  accepted, meaning that there is difference of mean value of learning creativity between experiment group and control group. Result of t test is bigger than t table, it means  $H_0$  is rejected and  $H_a$  accepted. .

**Keywords:** effectiveness; problem based learning (PBL) approach; learning creativity

## **1. Introduction**

Social Study learning examines a series of events, facts, concepts, and generalizations related to social issues so that the scope of social learning is very broad consisting of place, time, social system and behavior (Government Regulation Number 22 Year 2006 about Standard Contents). The consequences in social science subjects are the need to make learning designs that activate students. Students need to be involved in learning.

Forms of student involvement in learning include students can identify their own problems, formulate the problems they face, reason problems, collect information to solve problems, analyze information received and make their own conclusions. The involvement and success of students in their own learning will make students confident, heartened, which eventually students will be encouraged to find out continuously. These goals will be achieved by the goals of national education. The aim of national education is to develop the potential of students to become faithful and fearful people of God Almighty, noble, healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens (Law Number 20 of 2003 concerning Systems National Education, Article 3). The development of the potential of students is carried out in formal education through school, namely the learning process.

The learning process in the education unit is organized interactively, inspiring, fun, challenging, motivates the participants to actively participate, and provides sufficient space for initiative, creativity, and independence in accordance with the talents, interests, and physical and psychological development of students. For this reason, each education unit conducts learning planning, implementing the learning process and evaluating the learning process to improve the efficiency and effectiveness of the achievement of graduate competencies (Government Regulation Number 22 Year 2016 about process standards).

Students' competencies consist of attitude, knowledge and skills competencies that can be achieved through the learning process in the classroom. In the learning process measurements are made in accordance with the learning activities designed by the teacher when preparing learning planning.

Learning design is very important and will determine learning success. In the implementation of learning that is designed by involving students and learning processes that are designed with teacher-centered learning activities, of course in different measurements, the learning outcomes are also different. Therefore, learning design is very important. In the 2013 curriculum, using learning principles, among others, from students being told to students to find out; from the textual approach to the process as strengthening the use of scientific approaches; and from content-based learning towards learning based competence. This principle will determine the learning approach to be used. One approach to learning that can fulfill the above learning principles is a learning approach based on problem solving (problem based learning=PBL).

PBL is appropriate for social study materials that connect social problems with events, facts and generalizations. Learners learn to find out about social problems that exist around their lives, by observing the events that occur, the concepts that arise and draw conclusions as generalizations. This can be done if learning is student-centered. Learning with this social material requires the creativity of students to do every learning activity.

Human creativity basically exists since humans were born. Creative potential appears through natural wonders when babies are born in exploring everything around them (Rahmawati Yeni dkk, 2011, 17). Hota (2003,21), all individuals are creative in diverse way and different degrees. Creativity is within the realm of individuals depending upon the area of expression and capacity of the individuals. One misconception about creative persons is that they are eccentric. But actually they are not. This is important to be developed in the learning process.

The potential of one's creativity is not the same. Need to be measured. Assessment of the learning process uses an authentic assessment approach that assesses students' readiness, process, and learning outcomes as a whole. Authentic assessment results are used by teachers to plan programs remedial learning, enrichment, or service counseling. In addition, authentic assessment results are used as material for improve the learning process in accordance with the Assessment Standards Education.

Evaluation of the learning process is carried out during the process learning using tools: observation sheets, peer questionnaires, recordings, anecdotal notes, and reflections. Evaluation of learning outcomes done during the learning process and at the end of the lesson unit with using methods and tools: oral / deed tests, and written tests. Results the final evaluation is obtained from a combination of process evaluation and outcome evaluation learning.

In elementary schools not all schools have implemented the 2013 curriculum in full. Even in universities, the Indonesian National Qualifications Framework (KKNI) -based curriculum cannot yet be fully implemented in lectures.

Lectures for SWCU PSGD students adjust to the characteristics of students. In the social studies lecture there are two classes, one class of learning takes place conventionally namely the explanation of the material and question and answer, while one other class is carried out innovative learning that is using the problem based learning approach. We believe that PBL provides a forum in which these essential skills will be developed, (Dutch etc, 2001,1). Through this innovative learning experiment, the problem formulated is 1) how is the learning creativity of students in lectures in Social Studies; 2) is there a difference in creativity in learning between learning based on problem based learning (PBL) and conventional learning in learning social studies; 3) is there the effectiveness of problem-based learning approaches (PBL) in learning social studies on student learning creativity.

## **2. Problem Based Learning, conventional learning and Creativity**

Behavioralism and constructivist understanding produce different learning activities. Demikian also for the measurement of results also use different methods. Behaviorism emphasizes behavioral change, which in reality in the field tends toward conventional, teacher-centered learning. Constructivist understanding emphasizes the process, which in reality in the field is considered more innovative and student-centered learning.

The learning process is fully directed at the development of the three domains, namely the affective, knowledge and psychomotor domains as a whole / holistic, meaning that the development of one domain cannot be separated from the other. Thus the whole learning process gives birth to personal qualities that are attitudes, knowledge, and skills (competencies) (Government Regulation Number 22 Year 2016 about process standards, 4). Learning objectives that are in accordance with the Graduates Competency Standards, includes the development of the realm of attitudes, knowledge, and skills that are elaborated for each education unit. The three competency domains have an acquisition trajectory (process psychological) different. Attitudes obtained through activities "accept, run, appreciate, live, and practice ". Knowledge obtained through activities "remembering, understanding, implementing, analyze, evaluate, create ". Skills are obtained through activity "observing, asking, trying, reasoning, presenting, and creating".

Competency characteristics along with different acquisition paths affect the characteristics of standard processes. To strengthen the approach integrated scientific (thematic), thematic (thematic) subjects, and thematic (in a subject) needs to be applied based learning disclosure / research (discovery / inquiry learning). To encourage the ability of students to produce contextual work, good individually or in groups it is strongly recommended to use learning approaches that produce solving-based work problem (project based learning) (Government Regulation Number 22 Year 2016 about process standards, 13). The characteristics of the learning process are adapted to the characteristics competence. Thematic learning integrated in SD / MI / SDLB / Package A adapted to the level of development of students (Government Regulation Number 22 Year 2016 about process standards, 14).

The formulation of Dutch (1994), Problem Based Learning (PBL) is an instructional method that challenges students to "learn and learn", work with groups to find solutions to real problems. This problem is used to link the curiosity and ability of students' analysis and initiative on the subject matter. Problem Based Learning (PBL) prepares students to think critically and analytically, and to search for and use appropriate learning resources. Problem Based Learning (PBL) begins with real life problems that are meaningful in which students have the opportunity to choose and conduct any investigation inside and outside of school as far as it is needed to solve the problem. Strategy Based Learning (PBL) is an effective approach to teaching the process of high-level thinking, this learning helps students to process information that has been formed in their minds and compile their own

knowledge about the social world and its surroundings. With Problem Based Learning (PBL) students are trained to develop their own knowledge, develop problem solving skills. In addition, by giving authentic problems, students can shape the meaning of learning materials through the learning process and store them in memory so that they can be used at any time.

PBL provides a forum in which these essential skills will be developed, (Dutch etc, 2001,1). In the problem based approach, complex, real-world problems are used to motivate students to identify and research the concepts and principles they need to know to work through those problems. The characteristics of PBL are a) submission of questions or problems, b) focusing on interdisciplinary relationships, namely social study subjects, c) authentic inquiry to find a real solution to real problems. d) producing products and displaying them can be in the form of reports and e) collaboration and cooperation.

Conventional learning is different from innovative PBL learning. According to Burrowes conventional learning places more emphasis on content recitation, without giving students enough time to reflect on the material presented, link it to previous knowledge, or apply it to real life situations (<http://kamiluszaman.blogspot.com/2015/04/metode-pembelajaran-konvensional.html>). According to conventional Ministry of National Education (2001: 592) has meaning based on a general (agreement) convention (such as custom, custom, custom), traditional.

In conventional learning, prioritizing learning activities that are usually done. Conventional, teacher-centred teaching and lecture is the most common teaching behaviour found in schools worldwide. Teacher-centred teaching can be very effective, particularly for a) sharing information that is not easily found elsewhere, b) presenting information in a quick manner, c) generating interest in the information, d) teaching learners who learn best by listening. However, teacher-centred teaching also presents several challenges, including, a) Not all learners learn best by listening, b) Keeping learners' interest is often difficult, c) the approach tends to require little or no critical thinking, and d) the approach assumes that all learners learn in the same impersonal way.

Characteristics of conventional learning, seen in: a) prioritize rote learning, b) passive learning occurs, c) learning resources in the form of verbal information obtained from books, d) no study groups are formed for discussion, e) interaction between students is less, f) sporadic assessment, g) prioritizing results rather than processes, h) teacher-centered learning. Conventional learning approaches are the approach taken by combining various-kinds of learning methods. In practice this method teacher centered, teachers dominate in learning activities. The learning method conducted in the form of lecture methods, assignments and questions answer. Conventional approaches are approaches learning that is widely practiced in schools today, which use the sequence of activities giving examples of examples and exercises. The methods commonly used in conventional learning are; a) lecture method, b) discussion method, c) habituation method, d) reward method (reward), e) exemplary method, f) punishment method, g) sorogan method, h) bandongan method and etc.

Learning activities between conventional learning and PBL learning, the measurements or assessments used to find out the creativity of students' learning are also different. This difference will be sought in this study.

Rachmawati Yeni (2011: 15) stated that creativity is a person's ability to give birth to something new, both in the form of ideas and real works that are relatively different from what already exists. Creativity is a high-level thinking ability which implies an escalation in thinking ability, characterized by succession, discontinuity, differentiation, and integration between stages of development.

Creativity according to Monty and Fidelis is closely related to the five affective characteristics of creative people consisting of: a) fluency: curiosity that encourages individuals to ask more questions, always pay attention to people, objects and situations and make them more sensitive in observation and want to know or research, b) flexibility: has a living imagination, namely the ability to demonstrate or imagine things that have never happened before; c) originality: feeling challenged by encouraging progress to overcome difficult problems; d) elaboration: The nature of taking risks, which makes creative people not afraid of failure or criticism; and e) redefenition: The nature of appreciating his own developing talents. (Satiadarma, Monty P. dan Fidelis E. Waruwu, (hal. 1110, 2003). Basing on the characteristics of creativity, the indicator of creativity includes: a) fluency: asking questions, b)

flexibility: reasoning through reading, c) Originality: solving problems, d) elaboration: make a decision, e) redefenition: communicating results.

### 3. Material & Methodology

#### a. Data

This research is an experimental research. The research subjects were students of elementary school teacher education at the Satya Wacana Christian University in 2016/2017. Students take social studies learning innovation courses. There are 2 students taking this course, each consisting of 24 students. The design of this study used a quasi-experimental design on with two different groups in which one group was treated with a problem based learning approach and one group was not treated. Data collection techniques are test and observation techniques. The research instrument test items and observation sheets are equipped with an assessment rubric. The Problem Based Learning (PBL) approach is as follows: a). formulate the problem of social studies learning, b). review social studies learning, c). formulate social studies learning hypotheses and learning outcomes, d). gather information about social studies learning and learning outcomes, e). troubleshooting and solutions, and f). presentation. Creative learning lattice: a). the magnitude of the score for the formulation of social studies learning problems, b). the magnitude of the score from the study of social studies learning, c). the magnitude of the score for the formulation of the Social Studies learning hypothesis and the learning outcomes, d). the amount of score in solving problems and solutions, and e). the magnitude of the score during the presentation.

#### b. The Method of Data Analysis.

The statistical analysis used were T-test to see the different effect of problem based learning approach towards the enhancement of learning creativity of students. PBL's effectiveness on IPS learning creativity is known from the magnitude of the mean difference between the experimental group and the control group. The magnitude of the mean creativity of learning from each group, measured through tests related to creativity in learning. Each item in the test must be valid and reliable. The validity of the item was between 0.549 - 0.763 and the reliability was 0.879. Question items that have been valid and reliable are used to determine the homogeneity of the 2 groups and the normality of each group. Test of Homogeneity of Variance results of interest scores shows the number of significance on based on mean =0.178, on a based on median = 0.194, based on median and adjusted df = 0.174, and on based on trimmed mean = 0.181. Because the significance value is > 0.05, it can be said that the data of learning interest in the experimental class and the control class have the same or homogeneous variants. Based on the results of the normality test, the Sig. 0,580 in the experimental class and 0.955 in the control class. Because the value of Sig. in the experimental class and control class > 0.05, it can be said that the distribution of data from the learning interest of the experimental class and the control class is normally distributed

#### c. Method

This research was a quasi-experimental design on two different intact group of 2<sup>th</sup> grade social study subject (IPS) students at Elementary Education, with *Nonequivalent Control Group Design*, selected the experiment group as group A and the control group as group B. All of the samples were given the pretest of the same material (Sugiyono, 2011:116)

**Table 1: Design Research**

Group	Test 1	Action	Test 2
R1 (Experiment)	O1	X1	O2
R2(Control)	O3	X0	O4

Notes:

X1: Action Problem Based Learning Approach

X0: No Action (Behavioristic Learning Approach)

O1: Scoring test 1 Creative learning A eksperimental group

O2: Scoring test 2 Creative learning A eksperimental group

O3: Scoring test 1 Creative learning B control group

O4: Scoring test 2 Creative learning B control group

To conclude all activities in this experiment research, it can be seen from the overall plan of the study presented below.

## 4. Results and Discussion

### a. Result

The initial step in this study is to measure the consistency of PBL learning and conventional learning. Implementation of Social Study learning with PBL approach through step a). Formulate the problem, b). Review social studies learning, c). Formulate social studies learning hypotheses and learning outcomes, d). Gather information, e). Troubleshooting and solutions, and f). Presentation. PBL learning in the experimental class can take place according to plan. In detail the results of the implementation of PBL learning are shown in table 2 below.

Table 2: The Frequency Distribution of Creativity in PBL the Experimental Class

Learning steps / Indicator of creativity/number of creative participants	Formulate the problem		Review social studies learning		Formulate, hypotheses and learning outcomes		Gather information		Troubleshooting and solutions		Presentation	
	Frekuensi	Prosentase (%)	Frekuensi	Prosentase (%)	Frekuensi	Prosentase (%)	Frekuensi	Prosentase (%)	Frekuensi	Prosentase (%)	Frekuensi	Prosentase (%)
Formulate the problem	24	100										
The study of social studies learning			23	93,83								
The formulation of the hypothesis and the learning outcomes					23	93,83						
Solve problems and solutions							22	91,67	22	91,67		
Presentation											24	100

In PBL learning, the teacher observes the creativity of each student. The observations made were students' responses to learning activities namely a). the magnitude of the score for the formulation of social studies learning problems, b). the magnitude of the score from the study of social studies learning, c). the magnitude of the score for the formulation of the Social Studies learning hypothesis and the learning outcomes, d). the amount of score in solving problems and solutions, and e). the magnitude of the score during the presentation. Writing is done on each indicator of creativity learning. Indicator scoring consists of score 1 for less creative learning activities, score 2 for learning activities is quite creative, and score 3 for learning activities that are very creative. From the results of the study, it appears that the learning creativity of participants is at a score of 2 and a score of 3, and reaches a high percentage of ranging from 91 to 100%.

The next step in this study is observing the implementation of conventional learning. Conventional learning steps are a) listening to difficult information, b) answering teacher questions, c)

asking, d) listening to teachers and friends. In detail the results of the implementation of conventional learning are shown in table 3 below.

Four steps of conventional learning have been carried out in learning and are followed by all students well according to plan. Likewise 5 indicators of creativity are also carried out well. Scoring of indicators is the same as that done in an experimental class. The results of the creative scoring are shown in table 2 above. It appears in the creativity score table, it can only be implemented in 2 steps of conventional learning, and the number of students who get a score of 2-3 is far below the control class. Students who get a score of 2-3 reach between 50% -83.33%. There appears to be a significant difference in creativity between PBL and conventional learning

Table 3: The Frequency Distribution of Creativity in Conventional Learning the Control Class

Learning steps / Indicator of creativity/number of creative participants	Listening to difficult information		Answering teacher questions		Asking		Listening to teachers		Listening to friends	
	Frekuensi	Prosentase (%)	Frekuensi	Prosentase (%)	Frekuensi	Prosentase (%)	Frekuensi	Prosentase (%)	Frekuensi	Prosentase (%)
Formulate the problem			15	62,50						
The study of social studies learning						83,33				
The formulation of the hypothesis and the learning outcomes			15	62,50						
Solve problems and solutions			14	58,33						
Presentation			12	50						

## b. Discussion

In this study, data analysis techniques used t test. The t test is used to examine differences in creativity of learning between the experimental group and the control group. The t-test uses independent samples test with the help of the SPSS version 23 computer program, producing output as presented in table 4 and table 5 below.

Tabel 4: Group Statistics

Score	Group	N	Mean	Std. Deviation	Std. Error Mean
1	Experiment	24	2,75	,644	,114
2	Control	24	1,63	,871	,149

From table 4, shows that there are 2 groups tested the average difference, namely the experimental group (1) totaling 24 respondents and the control group (2) totaling 24 respondents. The average score obtained after treatment for the experimental group 2.75 from score 3, and the control group 1.63 from score 3. The score obtained from the average of the experimental group were 2.75 and the control group was 1.63, indicating a significant difference in mean means a significant difference. The difference is 1.12 from score 3 or a difference of 37.33%.

The results of the t-test are presented in the following table 5

Tabel 5: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Differ ence	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SKOR	Equal variances assumed	8,132	,007	3,167	47	,003	1,120	,190	,228	,985
	Equal variances not assumed			3,228	60,683	,003	1,120	,188	,231	,982

Based on the output of independent sample t-test, the Sig (2-tailed) value was  $0.03 \leq 0.05$ . In accordance with the basis of decision making in the independent sample t-test, it can be concluded that  $H_0$  is rejected and  $H_A$  is accepted, which means that there is a difference in the average score of creativity learning between the experimental group and the control group.

The current study aims to find out whether there is a PBL learning treatment effect on the creativity of students' social study learning. Treatment is carried out by referring to the steps that have been set. Based on the output of the t-test, it can be seen that the results of the calculated F levene test is 8,132 with a probability of  $0,007 > 0,05$ , it can be concluded that the two samples have the same variant or in other words the two groups are homogeneous. Thus the analysis of different test t-tests must use the assumption of equal variance assumed. From table 5 above, it appears that the results of the t test are 3.167 with a significance probability of  $0.003 < 0.05$ , so it can be concluded that there is a significant influence on social studies learning PBL for creativity learning.

From the results of the data analysis that has been done, after obtaining the results of different tests, the hypothesis analysis is: There is a significant positive influence on PBL's social studies learning on student creativity in SWCU FKIP elementary school semester 2 academic year 2017/2018.

## 5. Conclusion And Policy Implication

### a. Conclusion

The results showed that: 1) The importance of creativity in learning is that students are directly involved in learning, creative students are able to solve problems and have the potential to produce works; 2) Implementation of Social Study learning with PBL approach through step a). Formulate the problem, b). Review social studies learning, c). Formulate social studies learning hypotheses and learning outcomes, d). Gather information, e). Troubleshooting and solutions, and f). Presentation. Creative learning lattice: a). the magnitude of the score for the formulation of social studies learning problems, b). the magnitude of the score from the study of social studies learning, c). the magnitude of the score for the formulation of the Social Studies learning hypothesis and the learning outcomes, d). the amount of score in solving problems and solutions, and e). the magnitude of the score during the presentation, 3) there is effectiveness of PBL approach to student's learning creativity. This can be seen from the significant value of the same variance assumed (2-tailed) learning creativity of Social Study  $< 0.05$ . According to the basis of decision making in independent t-sample test, it can be concluded that  $H_0$  is rejected and  $H_a$  accepted, meaning that there is difference of mean value of learning creativity between experiment group and control group. Result of t test is bigger than t table, it means  $H_0$  is rejected and  $H_a$  accepted.



**b. Policy Implication**

Teachers are expected to modify a learning that is concerned to the students by designing innovative learning, especially on problem based learning that encourages the students' creativity.

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**Appendix**

Government Regulation Number 22 Year 2006 about Standard Contents

Law Number 20 of 2003 concerning Systems National Education, Article 3