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The effect of problem based learning (pbl) model on student learning motivation inproducts, creative and entrepreneurship subject in Eleventh Grade of SMK PGRI 1 Jombang

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Abstract. The teaching and learning process at SMK PGRI 1 Jombang is still using teacher centered and itis the only one source of information obtained by students. So, it is necessary to be done student-centered learning model in order to be able to provide student motivation.The purpose of the study is to explain whether any effect of the use of Problem Based Learning (PBL) Model on Students Learning Motivation to Product, Creative and Entrepreneurship Subjects in eleventh grade students of Management AutomationOffice Department. The study employed quantitative research design. The data were collected through observation, questionnaire, and documentation, then analyzed by simple linier regression formula.The findings showed that the value of $t_{test}$was at sig 0.001. It indicated that the significant value is lower than 0.05 or (0.001 <0.005). Therefore, Ho is rejected and Ha is accepted. It implied that there is significant effect of the use of Problem Based Learning (PBL) model on student motivation. Moreover, the value of R^2 was 0.383. It showed that the independent variable called Problem Based Learning (PBL) Learning Model influence the students' learning motivation at 38.3 %, and 61.7% are influenced by other factors, such as learning achievement and criticalthinking skills.

***Keywords**: Problem Based Learning (PBL) Models, Student Learning Motivation*

1. Introduction

Education is one of the significant aspects affecting State vision. The better future only can be achieved through educational implementation. The involvement of various participants including the government, as a representative, has overpowering obligation to lead to provide a good education for the nation (Quamruzzaman, et al., 2014). Apart from the government's role, teachers also become the main actors for practicing all educational policies and regulations.The 21st-century learning as a global phenomenon has been influencing education sector like other educational policies and regulations in the world. In this case, education should provide opportunity for the learners for promoting knowledge and skills' transfer (Capele, 2003).As a result, an educated individual needs to have the ability to continue learning to cope with the changing circumstances.

The Indonesian curriculum has objectives for preparing Indonesian people to have the ability to live asindividuals and citizens who are faithful, productive, creative, innovative and affective, as well as able tocontribute to the life of society, nation, state, and world civilization. School as institutions must be able to carry out the process of education, socialization and transformation. In fact,learning is the process of interaction between students and their environment, so that behavioral changes occur in

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a better direction besides the general purpose of Productive, Creative and Entrepreneurship learning is to develop students' ability to apply daily life.In the process of teaching and learning the teacher is a major factor in the teaching and learning process and teacher performance is the main parameter of the quality of education. Teachers are considered the crucial factorfor improving the quality of education. In the learning process, the teacher needs to improve teaching skills that students are able to get the maximum, even though in reality most teachers still apply conventional learningmodels. Related with the problem, teachers need to developinnovative learning models in order to achieve the goal of education. Learning models are one of factors that is be able to influence learning goals. The use of teaching models can help teachers to activate the teaching and learning process in the classroom. According to Fathurrohman (in Hamruni, 2012: 7) the teaching model is a way of presenting learning material to students to achieve the stated goals. The ability of teachers to apply appropriate, efficient and effective learning models as an effort to improve the quality of education where the teacher is an element who directly and actively interact with students. The teacher centered approach has been considered conventional and there needs to be a change because the teacher centered approach, with emphasis on coverage and dissemination of material, while students are less active, is not sufficient for the guidance of the current era.

Based on preliminary observations and interviews conducted by researchers with teachers in productive, creative and entrepreneurship studies at SMK PGRI 1 Jombang, the problem based learning model had never been used in the learning process. During this time the productive, creative and entrepreneurship learning in class XI of SMK PGRI 1 Jombang still applies the teacher-recitation learning model. When the teacher entered in the classroom, the teacher gives a speech on the subject matter that has been recorded previously, then continues by giving students some practice questions or assignments. Students are asked to open a notebook and work on a workbook or answer questions asked by the teacher. The learning process with conventional teacher models is still not enough to give a deep impression on students, because the teacher's role in delivering material is more dominant than the students' own activeness. The teacher gives more explanation than to pay attention to students' responses to the material presented. Therefore, teachers must have high creativity in choosing learning models. In accordance with the results of observations, economic learning in SMK PGRI 1 Jombang has not reached the desired level of success. The problem can be seen from students' learning motivation which they feel is still not showing meaningful spirit on Creative Productive and Entrepreneurship subjects. The low learning motivation of students on Creative Productive and Entrepreneurship subjects is one of the problems that the teacher wants to improve, for that we need a learning model for Creative Productive and Entrepreneurship lessons in order to increase student learning motivation.

Referring to the problems above,teachers need to developinnovative learning models such as Problem Based Learning (PBL) for improving the way their teaching to be.Problem-solving is important for students to become effective problem solvers in their profession, andor later career success (Mazumder, 2014). The problem-based learning is focused on problems in whichstudents can construct their own knowledge, develop inquiry and thinking skills to a higher level.Studentsshould be able to formulate a temporary answer to a problem requiring logical intelligence, courage andactive solution with in real situation. Similarly, According to Duch, Allen and White in Hamruni (2012: 104) the Problem Based Learning model provides conditions for improving critical and analytical thinking skills and solving complex problems in real life so that it will bring up "thinking culture" in students, learning processes like this requires students to play an active role in learning activities that are not only teacher-centered so that they can improve students' learning motivation in the subject matter delivered.Students also need to improve their independence, self-confidence andendurance to solve the problem (Talib and Kailani, 2014). According to Glatthorn and Craft-Tripp (in Pecore, 2012) Problem Based Learning is a learningmodel based on constructivism theory that will make the students interest in learning and activelyparticipate in the learning process.

Some studies dealing with the problem based learning were conducted in some disciplines. The first, research conducted by Anisaunnafi'ah (2015) on "The Effect of the Problem BeasedLearnig (PBL) Model on Teaching Social Sciences Motivation in Grade IV Grojongan Elementary School" it can be

seen from the results of calculating the learning motivation scale score. The average pretest score of the experimental group's learning motivation scale is 75.57, while the average control class pre-test is 75.26. Furthermore, the average post-test score of the learning motivation scale in the experimental class was 87.57, while the average post-test score of the control class motivation scale was 78.77. The second research was conducted by Ragilia (2018) that aiming at producing and testing theeffectiveness of development PBL model learner worksheet to improve critical thinking ability of students infourth grade of elementary school. The results show that PBL model learnerworksheet is feasible to use and PBL model learner worksheet is effective to improve critical thinking ability ofstudents. Then, Mulyanto, H, et al (2018) carried out the experimental research that aims to determine the effect of applying problem based learning model on students'mathematics learning outcomes viewed from critical thinking skills of fifth grade students of thePrivate primary school in the Surakarta region. Results of this study indicate (1) There is significant differences in mathematics learning outcomes between students who enrolled in ProblemBased Learning model and conventional model (2) There is a significant difference in mathematicslearning outcomes between students who have high and low critical thinking skills. (3) There is nointeraction effect between learning model and critical thinking skills on mathematics learningoutcomes.

Referring to the theoretical and empirical data above, it can be concluded that the existence of a learning model of Problem Based Learning will add to the enthusiasm of students in learning because through group work will make students active to complete varioustask. Though various scientific skills that they will need when living their adult lives. Teacher interaction with students is needed, with these interactions students are expected to be able to build self-learning (learning to be). To achieve educational goals and age abilities that require students to have thinking skills, interpersonal skills, adapt skills well, scientific skills that will be needed in the workforce, an appropriate teaching model is needed,one of which is the Problem Based Learning (PBL) model. The problem solving approach places the teacher as a facilitator where teaching and learning activities will focus on student effectiveness. The learning process that involves students actively both individuals and groups, will be more meaningful because in the learning process students have more experience. For self-discipline self-study must be with principles. One principle must be done is "learning must be with interest". Many students in their learning appear to not know or lack interest and there is no intention to try how they can grow their interest in learning, they always feel learning is a burden. The element of interest influences the quality of learning, students who are interested in a lesson will study seriously because of their attractiveness. Therefore, the researchers is interested in conducting a research dealing withthe effect of Problem Based Learning (PBL) model on student learning motivation in Products, Creative and Entrepreneurship Subject In Eleventh Grade Of SMK PGRI 1 Jombang. This study is aiming at to reveal whether there is significant effect of the use of the Problem based learning (PBL) learning model on student motivation in Creative, Productive and Entrepreneurship Subject at SMK PGRI 1 Jombang or not.

2. Review of Related

1. Teaching Model

Learning modelis a plan or a pattern that is used as a guide in planning classroom learning or tutorial learning (Trianto, 2007: 01). The learning model is a guideline for planning a lesson or material that will be prepared in teaching and learning activities in the classroom both used directly or indirectly in order to achieve the learning objectives.

The success of the teaching and learning process is determined by the teaching model, namely how the teacher delivers the material to be taught. Literally the method (method) means "way". In general usage, the model is interpreted as a way of doing something activities or how to do work by using facts and concepts systematically. Hamruni (2012: 7) suggests that teaching models are ways of presenting learning material to students to achieve the stated goals. While the learning model is basically a form of learning that is illustrated from the beginning to the end which

is presented specifically by the teacher. In other words, the learning model is a wrapper or frame of application of an approach, method, and learning technique.

Sukamto in (Trianto, 2007: 5) suggests the purpose of a learning model is a conceptual framework that describes systematic procedures to achieve certain learning goals and serves as a guide for learning designers and instructors in planning teaching and learning activities. Because one of the things that is very basic to understand the teacher is how to understand the position of the model as one component in education that can create effective learning in accordance with the opinions of Djamarah and Zain (2006: 74) who say the model is a teaching strategy that can achieve goals expected.

Several types of learning models that can be applied to the learning process include: direct learning, cooperative learning, problem-based learning, discussion and learning strategies. Based on the problem based learning model students are required to always be active, think critically and problem solving skills and try to find information to solve all problems so that they are motivated to always learn to achieve goals.

2. Problem Based Learning Model

Problem Beased Learning (PBL) Learning ModelsProblem-based learning model is a learning model that refers to problems where students must be able to solve a problem so students are required to think critically and learn actively so they are able to find answers toproblems they have.

According Munawaroh and Setyani, (2015: 04). The method of APBL (Authentic Problem Based Learning) was learning method that involved student participation (divided into several small groups) to solve actual problems in the business world (authentic problem) which have been prepared carefully by the tutors (teacher) and provide student opportunities to find them more effective the answer of problems and present the class so that they invent the conceptof learning experience.

It means that the APBL Method (Authentic Problem Based Learning) is a learning method that involves active student participation (divided into several small groups) to solve real problems in the business world (authentic problems) that have been carefully prepared by tutors (teachers) and provide opportunities to students find themselves answering problems and presenting them in class so as to create experiential learning concepts.

According to Shoimin, (2014: 129) this Problem Beased Learning (PBL) Learning Model trains to develop the ability to solve problems that are oriented to the physical problem of the actual life of students, to stimulate high-level thinking skills. Based on the opinions of several experts above, it can be concluded that the Learning Model of Problem Beased Learning (PBL) refers to problems where students not only have to be able to solve problems but must learn methods so they are able to think critically.

The ability to think critically in this learning model is very necessary because it demands the activity of students in understanding concepts through problems presented at the beginning of learning. Relating curiosity and ability to analyze students in groups in order that provide opportunities for students to find themselves answering problems and presenting them in class sothey are able to gain experience.

3. Learning Motivation

Motivation is a person's drive to do something to achieve what he wants, because motivation is very important for someone because motivation arises from oneself. Some understanding of motivation according to experts. Whereas according to Mc. Donald (Sardiman, 2014: 74) motivation has three important elements.

a. That motivation initiates changes in energy in each individual human being. The development of motivation will bring some changes in energy in the "neurophysiological" system that exists in the human organism (although that motivation arises from within humans), its appearance will involve human physical activities.

b. Motivation is characterized by the appearance, feeling / "felling" of one's affection. In this case motivation is relevant to psychological problems, affections and emotions that can determine human behavior.
c. Motivation will be stimulated because of the purpose. So motivation in this case is actually a response to an action, namely a goal. Motivation does arise from within humans, but its appearance because it is stimulated / driven by the presence of other elements, in this case is the goal. This goal will be related to needs.

Meanwhile Hull (Dimyati and Mudjiono, 2013: 82), states that motivation or encouragement is an attempt to meet needs. Motivation is a way that humans do to maintain their survival. It is human needs that make the cause of the impulse arise, and the drive will activate behavior. The behavior raised by humans is a human response in meeting their needs.

So it can be concluded that motivation is a person's drive to do something to reach the desired goal. The encouragement can be obtained from each individual because each individual has a different purpose to reach the goal or meet their needs in the presence of such a way that there will be encouragement or motivation, but also it is not be able to be separated from the outside environment. Motivation can be seen from the physical that is through the behavior of humans every day.

While the understanding of learning according to OemarHamalik, (2001: 28) is a process of changing individual behavior through interaction with the environment. Sardiman, (2014: 20) which states that learning is always a change in behavior or appearance, with a series of activities such as reading, observing, listening, imitating and so on. Thus we can conclude that learning is a process in which business or behavior change is carried out by individuals through the interaction of individuals with the environment that is able to obtain a change in the form of increasing quality and quantitysuch as knowledge, attitudes, habits and other abilities that can change someone to achieve certain goals.

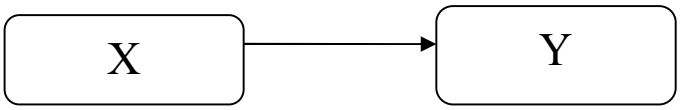
(Sardiman, 2014: 75) states that motivation to learn is the overall driving force in students that gives rise to learning activities, which gives direction to learning activities so that learning objectives are achieved. So motivation to learn is the driving force that exists in students to do something that makes students to do learning activities in order to achieve learning goals. This learning motivation can arise if the learning activities carried out in the classroom require the involvement of students in solving a problem in groups. In this study motivation is generated through the Problem Based Learning (PBL) model.

3. Research Method

1. Research design

The research type is quantitative research because the symptoms observed can be measured and changed in the form of numbers, allowing statistical analysis to be used. The sample of this study was 27 students and simple randomly selected. While the method of collecting data using the method of observation, interviews and questionnaires and Test Validity and Reliability. Data analysis techniques using a simple Linear Regression test that aims to explain the presence or absence of the effect of learning model Problem Based Learning (PBL) on student learning motivation Productive Creative subjects Entrepreneurship class XI Department of Office Management Automation at SMK PGRI 1 Jombang. With the research design as follows:

Figure 1. Research Design



Note: :
X: Problem Based Learning (PBL) Learning Model
Y: Learning Motivation
Influencing Line: ⟶
The formulas of the Simple Linear Regression Test are as follows:

$$Y = a + b X$$

Note: :
Y = predicted regression coefficient value
a = Constants or if the price of X = 0
b = Regression coefficient
X = Independent variable value.

4. Result and Discussion

1. Result

The results of the research findings on the effect of Problem Based Learning (PBL) Model on the learning motivation of Creative, Productive Learning and Entrepreneurship subject in Class XI of the Department of Automation and Office Management in SMK PGRI 1 Jombang can be seen in the following descriptions:

a. First meeting Observation

Based on the results of observations at the first meeting conducted by researchers during the learning process of Creative Productive and Entrepreneurship subjects, teachers are still not fully using the steps of the Problem Based Learning (PBL) learning model. In the results of student observations, students have not been interested in the Problem Based Learning (PBL) learning model because when the process of teaching and learning activities in creative and Entrepreneurship Product subjects takes place students pay less attention when the teacher explains the learning objectives using the Problem Based Learning (PBL) learning model. because students have not fully understood the Problem Based Learning (PBL) learning model so that the enthusiasm of students in accepting the learning process of the Productive Creative and Entrepreneurship subjects has not run smoothly

b. Second Meeting Observation

Based on the results of the second meeting observation conducted by researchers during the learning process of teaching Creative Productive and Entrepreneurship subjects, the teacher has understood the Learning Model of Problem Beased Learning (PBL), but the steps (syntax) have not been fully carried out by the teacher.Student motivation is already visible in part where students pay attention when the teacher explains the objectives and problems to be completed but there are still some students who have not paid attention when the learning process of Creative Productive and Entrepreneurship subjects takes place.

c. Third Meeting Observation

Based on the results of the third meeting observations conducted by researchers during the learning process Creative Productive and Entrepreneurship subjects take place using the Problem Based Learning (PBL) learning model the teacher has fully used the steps as follows:

1) The teacher explains the learning objectives. Explain the problem needed. Motivate students to be able to solve selected problems.
2) The teacher helps students define and organize learning assignments related to problems in national income material.
3) The teacher encourages students to gather appropriate information, so that they are able to get explanations and problem solving, data collection, hypotheses, and problem solving.
4) The teacher assists students in planning and preparing appropriate works such as reports and helping students for various assignments with friends.
5) The teacher helps students to reflect or evaluate their investigations and the processes they use.

In the learning process takes place student learning motivation is very good where students enthusiastically pay attention when the teacher explains the purpose of learning, solving problems and looking for other information for learning materials but students have not been able to work with good groups to solve a problem.

d. Fourth meeting Observation

Based on the results of the fourth meeting conducted by researchers during the learning process of Creative Productive and Entrepreneurship subjects the teacher has understood the Problem Based Learning (PBL) Learning Model and has used the steps in accordance with the following stages:

1) The teacher explains the learning objectives. Explain the problem needed. Motivate students to be able to solve selected problems.
2) The teacher helps students define and organize study assignments related to the problem of Entrepreneurship Science and Behavior
3) The teacher encourages students to gather appropriate information, so that they are able to get explanations and problem solving, data collection, hypotheses, and problem solving.
4) The teacher assists students in planning and preparing appropriate works such as reports and helping students with various tasks with their friends.
5) The teacher helps students to reflect or evaluate their investigations and the processes they used.

Student observations during the learning process using the Problem Based Learning (PBL) Learning model of students are very interested because it can be seen during the learning process of Creative Productive and Entrepreneurship subjects that students are very happy in groups because they exchange ideas with other students to solve problems and students enthusiastic listening when the teacher explains the purpose, issues, and is responsible for theresults of the final report.

2. Hypothesis Testing

Simple linear regression analysis is used to explain the presence or absence of the influence of independent variable, Problem Based Learning (PBL) Learning model (X) on the dependent variable of learning motivation (Y). In the study, simple linear regression analysis was carried out by using SPSS 20.0 for Windows. The results of the simple regressionanalysis test can be seen in table 1 below:

Table 1 Simple Linear Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	60.221	8.020		7.509	.000
	Problem Based Learning (PBL) Model	.834	.212	.619	3.941	.001

a. Dependent Variable: Learning Motivation

Table 1 indicated that the simple linear regression equation model obtained by the constant coefficients and variable coefficients in the Unstandardized Coefficients B. column

Based on the table the regression equation model is obtained as follows:

$$Y = a + b X$$

$$Y = 60{,}221 + 0{,}834X$$

Simple regression equations can be described as follows:

a. Constants (a) = 60,221 That is, if there is no independent variable that influences or the Probem Based Learning (PBL) Learning Model variable is considered to be zero, then it can be said that Student Learning Motivation is good because the constant is worth 60,221.
b. Regression coefficient Problem Based Learning (PBL) Learning Model (X) = 0.834. That is, if the Problem Based Learning (PBL) Learning Model variable increases by one unit, then the Learning Motivation variable will increase by 0.834 one unit. So it can be concluded that there is a positive and significant relationship between the Problem Based Learning (PBL) Learning Model and Learning Motivation.

Table 1 also revealed the result of $t_{test.}$ It showed that the significant value for Problem Based Learning (PBL) Learning Model variable is 0.001 and it was considered lower than 0.05 or 0.001 <0.05, then it indicated that Ho is rejected and Ha is accepted. For that reason, it can be concluded that there is an effect of using Problem Based Learning (PBL) Learning Model partially on learning motivation. Furthermore, the results of the R^2 / determinant coefficient is used to measure how far the ability of the model in explaining independent variables. The result can be seen in the following table :

Table2Result ofDeterminant Coefficient (R^2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.619[a]	.383	.359	3.130

a. Predictors: (Constant), Problem Based Learning (PBL)

Table R Summary Model shows that the value of 0.619 can be interpreted as having a strong relationship between independent variables (X), namely the learning model of Problem Based Learning (PBL) on the dependent variable (Y) Student learning motivation. While the R-Square shows a value of 0.383 or 38.3%, so it can be concluded that the percentage contribution of independent variables (Learning Model Problem Based Learning (PBL)) to the dependent variable (Student Learning Motivation) is 38.3% while the rest 61.7% is influenced by other variables not included in this study.

3. Discussion

Based on the findings of the research on the effect of using Problem Based Learning (PBL) Learning Model on Student Learning Motivation in Creative Productive and Entrepreneurship Subjects in class XI of the Automation Department and office management at SMK PGRI 1 Jombang that using Problem Based Learning Learning Model (PBL) feels right to use because with the Problem Based Learning (PBL) Learning model it will improve students' ability to think critically, because with the existence of a comfortable learning model it will increase the enthusiasm of students to follow the teaching and learning process. According to Trianto, (2007: 01) Through learning models in order to help students get information, ideas, skills, ways of thinking, and expressing ideas.

Problem Based Learning (PBL) learning model is a learning model using problems in the real world as a context for students to learn about critical thinking and problem solving skills, and to gain knowledge and concepts from subject matter, because according to Shoimin, (2014: 129) Problem Based Learning (PBL) Learning Model develops the ability to solve problems that are oriented to the physical problem of the actual life of students, to stimulate high-level thinking skills.

A teacher in carrying out teaching and learning activities using the right learning model to be applied in learning will foster a sense of student learning motivation. (Sardiman, 2014: 75) states that motivation to learn is the overall driving force in students that gives rise to learning activities, gives direction to learning activities so that learning objectives are achieved. The learning process to foster motivation to learn is needed encouragement because with the encouragement it will give direction or

stimulation in order to achieve what is desired in accordance with the purpose of learning because motivation arises from oneself.

The use of Problem Based Learning (PBL) Learning Model in the learning process is expected to lead to student learning motivation. According to Sardiman (2014: 75) Motivation is a way that humans do to maintain survival. With the existence of strong motivation, it will increase the enthusiasm for survival in achieving what is desired. Because the existence of Problem Based Learning (PBL) learning model will greatly influence the learning success of students because the learning model of Problem Based Learning (PBL) will be able to solve various problems in the real world because students are required to be able to think critically. So it is natural for teachers to improve the use of Problem Based Learning (PBL) learning models in the learning process, because student motivation will appear in optimal student learning activities.

So the interrelationship between the Problem Based Learning (PBL) Learning Model variables towards Learning Motivation needs to be examined further, because the interrelationship between Problem Based Learning (PBL) variables towards Learning Motivation is not necessarily positive because, the possibility can occur because it is in accordance with the circumstances there at that time. Thus theoretically there is indeed a connection between the use of Problem Based Learning (PBL) learning models for Student learning motivation, based on the results of a regression analysis of 38.3% and the remaining 61.7% influenced by learning achievement variables, and the ability to think critically.

5. Conclusion

Referring to the description and analysis above, it can be concluded that there is a significant effect of the Use of Problem Based Learning (PBL) Model on Learning Motivation of Students of Creative Productive and Entrepreneurship Subjects in class XI of Department of Automation and Office Management in SMK PGRI 1 Jombang which is indicated by a significant value t_{test} of 0.001 which is less than 0.05. This study implemented the PBL model in one of vocational school and revealed that the students' learning motivation was significantly enhanced Therefore, itis firmly recommended that future studies use the PBLapproach in various education disciplines to offer studentsthe opportunity to enhance their learning motivation as well as other elements such as critical thinking.

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