



The Effect of Learning Model and Critical Thinking on Entrepreneurship Learning Outcomes of 11th Grade Student in 7 Vocational School Academic Year 2019/2020

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Abstract:

This study aims to determine the effect of learning models and critical thinking skills on student entrepreneurial learning outcomes. This study is an experimental study with a population of 83 students in 11th OTKP 7 Vocational School Medan. Research samples from OTKP 10th grade were 41 students and from OTKP 2 class were 42 students and selected by total sampling technique divided into 2 groups that were taught with the Problem Based Learning model and the Inquiry Learning model. The research method uses quasi-experimental (Quasi Experiment) with 2 x 2 factorial design. The technique analysis data used is two-way ANAVA at a significant level = 0.05. after normality and homogeneity were tested, continued with Scheffe further tests. Hypothesis testing results obtained (1) there is a difference in the average value of entrepreneurship between students who are taught with the Problem Based Learning model (77.68) with students who are taught with Inquiry learning models (72.87) with $F_{count} (7.53) > F_{table} (3,96)$, (2) there are differences in the average value of entrepreneurial learning outcomes of students who have high critical thinking skills (79.35) higher than the average value of entrepreneurial learning outcomes that have low critical thinking abilities (71.66) with $F_{count} (17.16) > F_{table} (3,96)$.

Keyword:

problem based learning model of learning; critical thinking skills; entrepreneurial learning outcomes.

I. Introduction

The ability of teachers to choose the right learning model is very likely for the creation of conducive and enjoyable learning conditions, so that the learning activities can take place effectively and efficiently. Thus the learning model is a very decisive component for the creation of efficient conditions during the course of learning activities. No matter how well the design of the implementation of learning is made, there is very little chance that it will be able to succeed optimally to achieve the expected competency achievement if it is not supported by the selection of learning models. Indonesia consists of thousands of large and small islands which are inhabited by hundreds of ethnic groups with a variety of cultures have provided a special feature. The behavior of the community, especially traditional communities, is reflected in their behavior utilizing the intellectual property of local people in the form of their traditional knowledge and biodiversity in their environment. Cultural practices related to health are partly claimed by "modern" knowledgeable people as one of the causes of poor health status of the local community (Angkasawati, 2015).

In addition to selecting and applying learning models, teachers must also have knowledge about students' critical thinking skills. Teaching the same material, the same methods, and the same assessment methods to all students is considered to produce the same

results, this is not quite right, because even though all are treated the same, but who do the learning of individuals who have the ability to think critically different.

Critical thinking skills are the cognitive processes of students in analyzing systematically and specifically the problems faced, distinguishing these problems carefully and thoroughly, as well as identifying and reviewing information to plan problem solving strategies. This opinion is reinforced by Stobaugh (2013: 2) who explains that critical thinking is reflective thinking in depth in decision making and problem solving to analyze situations, evaluate arguments, and draw appropriate conclusions. People who are able to think critically are people who are able to infer what they know, know how to use information to solve problems, and are able to find relevant information sources as supporters of solving Adinda's problem (2016: 129). Based on the explanation above, critical thinking skills are the basic ability to solve problems. The application of critical thinking skills in learning is very important. The results showed that critical thinking in learning can improve student achievement (Jacob, 2012). In accordance with this opinion, Adeyemi (2012) states that critical thinking is very important in the learning process.

Based on observations made at 7 vocational school Medan regarding the results of learning entrepreneurship XI-OTKP grade. Data was obtained that their learning outcomes were not satisfactory. That is because when the teacher teaches learning is still monotonous with the rote system, resulting in limited space for students. Students are more silent and wait for the material presented by the teacher and students are more likely to think passively, whereas in entrepreneurship learning students are very required to think critically. This makes students reluctant to learn, feel bored and desires for the learning process to finish quickly, and there are still many students who do not have the courage to ask questions. Even before the learning process takes place students try to look for reasons to get out of class and get rid of boredom. Based on this it shows that the learning process so far has not been able to make students motivated to learn optimally and tend to think passively, hence the impact on low student learning outcomes.

Based on data received by researchers at 7 vocational school Medan shows that the average results of daily tests in Grade XI OTKP 1 students from the results of Daily Tests I, II, and III students who obtained completeness scores were only 16 students (43.2%). Similarly, in XI-OTKP grade 2 from the results of the daily tests I, II, and III students who obtained completeness scores were only 15 students (41%). It can be concluded that students who are able to achieve a value above the minimum completeness criteria of more than 40% and less than 60% of students have not been able to achieve a value above the minimum completeness criteria.

Researchers conducted interviews to find out how students' thinking skills in the classroom were done by interviewing entrepreneurial teachers. In the interview results it is known that of the 37 students in the class, 75% of students are unable to formulate problems and analyze arguments, which formulate problems and analyze arguments are indicators of critical thinking skills. That is caused by students who tend to be passive and only accept learning from the teacher and do not try to think in formulating problems and analyzing arguments.

Effective teaching and learning processes require appropriate strategies, methods and learning models (Sudjana, 2017: 25). One effort that can be done by teachers to improve student learning outcomes in learning by selecting and using appropriate learning models.

In entrepreneurship subjects teachers need to use learning models that can make students able to think critically according to what is needed by students and adapted to conditions so that learning objectives can be achieved. One action that can be taken is to use the Problem Based Learning and Inquiry learning model. Because the model is able to provide opportunities and expectations of students to be better able to solve problems and think critically.

Arends (2008: 100) states that the Problem Based Learning model is the presentation of authentic and meaningful situations to students that can be the basis of inquiry and inquiry. Learning based on student activeness problems is preferred because activities in learning based on problems include analysis of the problem, formulating hypotheses, planning research until its implementation, to get a conclusion which is the answer or problem solving given. Entrepreneurship learning has not been meaningful, structured and does not emphasize problem solving, so that the problem-solving abilities of students are low. It is also one of the reasons why the contents of entrepreneurial learning are considered memorizing the concepts of entrepreneurship but students are unable to interpret their meanings. Problem Based Learning model is one of the learning models that involves students gaining knowledge and having the ability to solve problems

II. Review of Literature

2.1 Problem Based Learning (PBL) Learning Model

PBL is a learning approach that starts with solving a problem, but to solve that problem students need new knowledge to be able to solve it. PBL is a student centered learning. This PBL model has been known since the time of Jhon Dewey.

PBL provides a challenge for students to learn on their own. This, students are more invited to form a knowledge with a little guidance or direction of the teacher while in traditional learning, students are more treated as a recipient of knowledge given in a structured manner by a teacher.

The role of the teacher in this learning sometimes involves the presentation and explanation of things to students, but in essence in the PBL model the teacher acts as a guide and facilitator so students learn to think and solve problems in their own way. PBL is not designed to help teachers convey large amounts of information to students. Barrow in Huda (2014) defines PBL learning obtained through a process of understanding the resolution of a problem. The problem is first in the learning process.

Arends (2013) states that the essence of problem-based learning is the presentation of authentic and meaningful money problem situations to students which can be the basis of inquiry and inquiry. PBL learning is structured based on real situations that get rid of simple answers and invite competing solutions.

2.2 The Nature of Inquiry Learning Models

Stone (in Hamalik, 2008) defines inquiry strategy as teaching in which the teacher and child learns scientific events and phenomena with the approach and spirit of the scientists. Inquiry-based teaching is a student-centered strategy in which student groups are faced with a problem or search.

According to Yulianto (2000: 34) Inquiry method is a learning method where students are required to be more active in the discovery process, placing students more on their own learning and developing activities and solving problems. So, the inquiry method is a method of learning on its own initiative, which can be carried out individually or in small groups. The difference between scientific and inquiry methods is that in learning scientific approaches not only focus on how to develop student competencies in conducting observations or experiments, but how to develop knowledge and thinking skills so that they can support creative activities in innovating or creating. Whereas the inquiry method only develops students' competence to conduct observations and experiments.

Learning model is a model that provides opportunities for students or participants to present ideas or opinions to other fellow participants. Student Facilitator and Explaining model has the advantage that students are invited to be able to explain to other students, students can put out ideas in their minds so they can better understand the material (Trianto in Situmorang, 2018).

This is also supported by the opinion of Huda in Situmorang (2018). which states that Student Facilitator and Explaining learning model is a series of presentation of teaching material that begins with an open explanation, gives students the opportunity to explain back to their peers, and ends with the delivery of all material to students

According to Sanjaya (2008: 88) inquiry learning strategy is defined as a learning process based on observation, search and discovery through the process of thinking systematically. Knowledge is not a number of facts from the result of remembering, but the result of the process of discovering itself. According to Sagala (2007: 57) finding is a core part of inquiry learning activities. The knowledge and skills acquired by students are expected to be not only the result of remembering a set of facts but also the results of discovering themselves.

2.3 The Nature of Critical Thinking Ability

The ability to think is one of the capital that students must possess as a provision in facing the development of science and technology at the present time. According to Mason (2010: 25), "The concept of critical thinking may be one of the most significant trends in education relative to the dynamic relationship between how teachers teach and how students learn"

Critical thinking skills are the cognitive processes of students in analyzing systematically and specifically the problems faced, distinguishing these problems carefully and thoroughly, as well as identifying and reviewing information to plan problem solving strategies. This opinion is reinforced by Stobaugh (2013: 2) who explains that critical thinking is reflective thinking in depth in decision making and problem solving to analyze situations, evaluate arguments, and draw appropriate conclusions. People who are able to think critically are people who are able to infer what they know, know how to use information to solve problems, and are able to find relevant information sources as supporters of solving Adinda's problem (2016: 129). Based on the explanation above, critical thinking skills are the basic ability to solve problems.

2.4 The results of entrepreneurial learning

Learning is a change of mind and skills and knowledge in a person. Learning also influences changes in a person's behavior to make ends meet. As stated Sadirman (2011: 6)

that "Learning is a series of physical and mental activities, psycho-physical to lead to the development of the whole human person, which means that it involves elements of creativity, taste and intention, cognitive, affective, and psychomotor.

Furthermore Slameto (2010: 7) also said that "Learning is a business process carried out by individuals to obtain a new behavior change as a whole, as a result of the individual's own experience in interaction and environment".

From the above opinion it can be concluded that the learning outcome is a level of student mastery of the lessons obtained by means of effort and perseverance both individually and in groups which are indicated by the value obtained which is increasingly increasing. However, it does not mean that every teaching and learning process in class gives good results like students who master the lesson. In the process of teaching and learning required in-depth observations of what factors influence learning outcomes.

III. Research Method

The type of research applied in this study is quasi-experimental method with a 2 x 2 factorial design. This research was conducted at 7 vocational school Medan, located in Jl. STM No. 12 E, Sitirejo II, Medan. When the study was conducted in 1st Semester of the 2019/2020 academic year. The population in this study were all students of 11th grade ATKP at 7 vocational school Medan in the 2019/2020 academic year, amounting to 70 people divided into 2 classes. Data collection techniques in this study used tests and non-tests. The test technique is used to obtain learning outcomes data in the form of multiple choice objectives and non-test techniques in the form of a questionnaire are used to obtain critical thinking data.

The instruments used in this study were tests of economic learning outcomes and critical thinking questionnaires. Researchers can analyze students' critical thinking skills questionnaire by using descriptive statistical analysis on average based on the value given or the results of student questionnaires that have been answered (Astupura, 2016: 20). The criteria used to describe the research average of the observations are that the positive scores strongly agree = 4, agree = 3, disagree = 2, strongly disagree = 1 and the negative score strongly agree = 1, agree = 2, disagree = 3, strongly disagree = 4 (Sudaryono, 2013: 45). Data analysis technique aims to process data so that research can be justified. Before testing the hypothesis first, the data analysis requirements test is performed. In this case normality test and homogeneity test data are calculated.

IV. Discussion

4.1 Data Description

The data described in this study are data on student entrepreneurship learning outcomes in the class of Problem Based Learning models and Inquiry learning models. Detailed description of data description includes the highest value, lowest value, average, standard deviation and variance.

4.1.1 Student entrepreneurship learning outcomes are taught using the Problem Based learning model

The highest value of student entrepreneurship learning outcomes taught by the Problem Based Learning model is 94 and the lowest value is 61 With the sturges technique obtained range 33, the number of 6th grade intervals and length of 5th grade interval. The

results of basic statistical calculations obtained an average value = 77, 68, standard deviation = 10.25, and variance value = 105.03. Obtained 26.83% of students who have entrepreneurial abilities below average and 53.66% of students who have entrepreneurial abilities above average.

4.1.2 Entrepreneurial learning outcomes learned by the inquiry learning model

The highest value of student entrepreneurship learning outcomes taught by the Inquiry Learning model is 91 and the lowest value is 58 with the sturges technique obtained 33 ranges, the number of 6th grade intervals and the length of the 5th grade interval. The results of basic statistical calculations obtained an average value = 72.87, standard deviation = 8.44, and the value of variance = 71.20. Based on these results obtained 33.33% of students who have entrepreneurial abilities below average, and 42.86% of students who have entrepreneurial abilities above average.

4.1.3 Entrepreneurial learning outcomes that have high critical thinking skills

Based on the results of the learning test given after the treatment process is obtained a description of research statistics with the average value of students who have high critical thinking skills is 78.94, the standard deviation of 9.70, the variance of 94.10, the highest value is 94 and the value of the lowest is 61 with a sample of 41 people.

Based on the frequency distribution of student learning outcomes data that have high critical thinking skills it can be seen that the average interval class is in the 4th grade with a percentage of 17.07%. In addition, it can also be seen the percentage of students who are below the average interval class that is equal to 43.90% and above the average interval class of 39.02%.

4.1.4 Entrepreneurial learning outcomes that have low critical thinking skills

Based on the results of the learning test given after the treatment process is obtained a description of research statistics with the average value of students who have low critical thinking skills is 71.65, the standard deviation of 8.16, the variance of 66.66, the highest value is 88 and the value the lowest is 58 with a sample of 42 people. Based on the frequency distribution of student learning outcomes data that have low critical thinking skills that the average interval class is in the third class with a percentage of 21.43%.

4.1.5 Entrepreneurial learning outcomes that have high critical thinking skills in the classroom that uses the Problem Based Learning Model.

Based on the test of learning outcomes given the treatment process obtained a description of research statistics with the average value of students who have high critical thinking skills in the class using the Problem Based Learning model is 85.01, Standard deviation of 6.96, variance of 48, 44, the highest score was 94 and the lowest score was 67 with a sample of 19 people.

Based on the frequency distribution of student learning outcomes data that have high critical thinking skills in the class using the Problem Based Learning model, it can be seen that the average interval class is in the fourth class with a percentage of 42.11%. In addition, it can also be seen the percentage of students who are below the class average of 31.58% and above the average interval class of 26.32%.

4.1.6 Entrepreneurial learning outcomes that have low critical thinking skills in classes that use the Problem Based Learning Model

Based on the test of learning outcomes given the treatment process obtained a description of research statistics with the average value of students who have high critical thinking skills in the class using the Problem Based Learning model is 71.35, the standard deviation is 8.24, the variance is 67, 98, the highest score was 88 and the lowest score was 61 with a sample of 22 people.

Based on the frequency distribution of student learning outcomes data that have low critical thinking skills in the class using the Problem Based Learning model that the average interval class is in the 2th grade with a percentage of 18.18%. In addition, it can also be seen the percentage of students who are below the class average of 27.27% and above the average interval class of 54.55%.

4.1.7 Entrepreneurial learning outcomes that have high critical thinking skills in the classroom using the Inquiry Learning Model.

Based on the test of learning outcomes given the process of giving treatment obtained a description of research statistics with the average value of students who have high critical thinking skills in the classroom using Inquiry learning models is 73.69, the standard deviation of 8.69, the variance of 75.55, the highest value was 91 and the lowest value was 61 with a sample of 22 people.

Based on the frequency distribution of student learning outcomes data that have high critical thinking skills in classes using Inquiry learning models that the average interval class is in the 3rd grade with a percentage of 31.82%. In addition, it can also be seen the percentage of students who are below the class average of 36.36% and above the average interval class of 31.82%.

4.1.8 Entrepreneurial learning outcomes that have low critical thinking skills in classes using the Inquiry Learning Model.

Based on the test of learning outcomes given the treatment process obtained a description of research statistics with the average value of students who have low critical thinking skills in the classroom using Inquiry learning models is 71.97, the standard deviation of 8.28, the variance of 68.51, the highest value is 88 and the lowest value is 58 with a sample of 20 people.

Based on the frequency distribution of student learning outcomes data that have high critical thinking skills in classes using Inquiry learning models that the average interval class is in the 3rd grade with a percentage of 25%. In addition, it can also be seen the percentage of students who are below the class average of 35% and above the class average interval of 40%.

4.2 Testing Requirements Analysis

Before testing the hypothesis, the data needs to be analyzed by conducting tests of normality and homogeneity. In detail the normality and homogeneity tests for each sample group are as follows:

4.2.1 Normality Test

Normality test is used to determine whether the sample taken is from a normal distribution population or not. Normality test is done using the Lilliefors test. Summarizing the results of normality testing with Lilliefors for all sample groups below,

Table 1. Normality Test data Student learning outcomes Entrepreneur
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Learning outcomes PBL	,127	41	,094	,938	41	,028

a. Lilliefors Significance Correction

In testing the normality test using Kolmogrov-Smirnov, a data is said to be normally distributed if the significance value is more than 0.05 (sig> 0.05). The significance data (p) in the Kolmogrov-Smirnov test was 0.94 (p> 0.05), so based on the Kolmogrov-Smirnov normality test the value of student entrepreneurial learning outcomes taught by the Problem Based Learning model was normally distributed.

Table 2. Normality Test data Student learning outcomes Entrepreneurship in classes taught with Problem Based Learning Model that has high critical thinking skills
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Learning outcomes PBL	,186	19	,081	,911	19	,078

a. Lilliefors Significance Correction

In testing the normality test using Kolmogrov-Smirnov, a data is said to be normally distributed if the significance value is more than 0.05 (sig> 0.05). The significance data (p) in the Kolmogrov-Smirnov test is 0.81 (p> 0.05), so based on the Kolmogrov-Smirnov normality test the results of the entrepreneurial results of student entrepreneurship in the classes taught by the Problem Based Learning Learning Model that have critical thinking skills high normally distributed.

Table 3. Test Normality of Student Entrepreneurship learning outcomes data in classes taught with the Problem Based Learning Model that has low critical thinking skills
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Learning outcomes PBL	,170	22	,100	,931	22	,131

a. Lilliefors Significance Correction

In testing the normality test using Kolmogrov-Smirnov, a data is said to be normally distributed if the significance value is more than 0.05 (sig> 0.05). Significance data (p) in the Kolmogrov-Smirnov test was 0.10 (p> 0.05), so based on the Kolmogrov-Smirnov normality test the results of the entrepreneurial outcomes of students in the classes taught by the Problem Based Learning Model that have critical thinking skills low normally distributed.

Table 4. Normality Test of Student Entrepreneurship learning outcomes data in classes taught by Inquiry Learning Model
Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Learning outcomes Inkuiri	,102	42	,200*	,969	42	,309

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

In testing the normality test using Kolmogorov-Smirnov, a data is said to be normally distributed if the significance value is more than 0.05 ($\text{sig} > 0.05$). The significance data (p) in the Kolmogorov-Smirnov test is 0.20 ($p > 0.05$), so based on the Kolmogorov-Smirnov normality test the results of the entrepreneurship outcomes of students in the classes taught by the Inquiry Learning Model are normally distributed.

Table 5. Normality Test data Student learning outcomes Entrepreneurship in classes taught by Inquiry Learning Model that has high critical thinking skills

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Learning outcomes Inkuiri	,109	22	,200*	,955	22	,388

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

In testing the normality test using Kolmogorov-Smirnov, a data is said to be normally distributed if the significance value is more than 0.05 ($\text{sig} > 0.05$). The significance data (p) in the Kolmogorov-Smirnov test is 0.20 ($p > 0.05$), so based on the Kolmogorov-Smirnov normality test, the results of the entrepreneurship results of students in the classes taught by the Inquiry Learning Model that have high critical thinking skills are distributed normal.

Table 6. Test Normality of Student Entrepreneurship learning outcomes data in classes taught with Inquiry Learning Models that have low critical thinking skills.

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Learning outcomes Inkuiri	,108	20	,200*	,976	20	,878

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

In testing the normality test using Kolmogorov-Smirnov, a data is said to be normally distributed if the significance value is more than 0.05 ($\text{sig} > 0.05$). The significance data (p) in the Kolmogorov-Smirnov test is 0.20 ($p > 0.05$), so based on the Kolmogorov-Smirnov normality test, the results of the entrepreneurship outcomes of students in the classes taught by the Inquiry Learning Model that have low critical thinking skills are distributed normal.

4.2.2 Homogeneity Test

Homogeneity testing is performed to determine whether the sample variation is homogeneous or not. Homogeneity test results of entrepreneurship degrees taught by the learning model Problem Based Learning and Inquiry.

1. Test the homogeneity of the classes taught by the problem based learning model and the classes taught by the inquiry learning model

Test of Homogeneity of Variances			
Post Test Learning Outcomes			
Levene Statistic	df1	df2	Sig.
3,036	1	81	,085

The significance of homogeneity of 0.085 (> 0.05) indicates data on entrepreneurial learning outcomes taught by PBL learning models and entrepreneurial learning outcomes data taught with inquiry models are homogeneous, with Levene Statistics 3.036.

2. Homogeneity Test of students who have high critical thinking skills and low critical thinking skills.

Test of Homogeneity of Variances

KBK

Levene Statistic	df1	df2	Sig.
1,443	1	81	,233

The significance of homogeneity of 0.233 (> 0.05) shows the data of high critical thinking ability and low critical thinking ability is homogeneous, with Levene Statistics 1.443.

4.3 Hypothesis Testing

Hypothesis testing is done by inferential 2-way anava technique. The test criteria used are if $F^{count} > F^{table}$ at a significance level of 0.05 then H_0 is rejected and vice versa if $F^{count} < F^{table}$ then H_0 is accepted.

4.3.1 First Hypothesis

The first hypothesis testing to determine the effect of learning strategies on entrepreneurial learning outcomes mathematically written:

$$H_0 : \mu A_1 \leq \mu A_2$$

$$H_a : \mu A_1 \geq \mu A_2$$

With the sentence:

H_0 : The group of students taught using the Problem based Learning model has lower Entrepreneurial learning outcomes or is the same as the group of students taught using the Inquiry learning model.

H_a : The group of students taught using the Problem based Learning model has significantly higher Entrepreneurial learning outcomes than the group of students taught using the Inquiry learning model.

Based on table 4.10, it can be seen that the F_{count} between columns is greater than F_{table} ($7.53 > 3.96$) at a significance level of 5%. Thus H_0 is rejected and H_a is accepted. Thus the research hypothesis which states that groups of students who have high critical thinking skills get higher entrepreneurial learning outcomes than groups of students who have low critical thinking skills tested for truth.

4.3.2 Second Hypothesis

The first hypothesis testing to determine the effect of learning strategies on entrepreneurial learning outcomes mathematically written:

$$H_0 : \mu B_1 \leq \mu B_2$$

$$H_a : \mu B_1 \geq \mu B_2$$

With sentence can be written:

H_0 : The groups of students who have high critical thinking skills get lower entrepreneurial learning outcomes or the same group of students who have low thinking skills.

H_a : Groups of students who have high critical thinking skills get significantly higher entrepreneurial learning outcomes than groups of students who have low thinking abilities

Based on table 4.10, it can be seen that the value of $F_{calculated}$ between rows is greater than F_{table} ($17.16 > 3.96$) at a significance level of 5%. Thus H_0 is rejected and H_a is accepted.

V. Conclusion

Based on the results of research and discussion previously stated, in this study it can be concluded that:

1. Students' entrepreneurial critical thinking skills taught with Problem Based Learning models are higher than students' entrepreneurial skills taught with Inquiry learning models. The average value of student entrepreneurship learning outcomes taught by the Problem Based Learning model is higher than the average value of student entrepreneurship learning outcomes that are taught by the Inquiry learning model. Differences in student entrepreneurship learning outcomes for groups that are taught with the Problem Based Learning model and groups of students that are taught with Inquiry models can be used as considerations for selecting and managing appropriate learning models for each subject matter of entrepreneurship in 11th grade in 13 vocational schools. In this study entrepreneurial subject material is in line with the test of critical thinking skills provided by psychologists.
2. The entrepreneurial learning outcomes of students who have higher critical thinking skills are higher than the entrepreneurial learning outcomes of students who have low critical thinking skills. The average value of entrepreneurial learning outcomes with higher critical thinking skills is higher than the entrepreneurial learning outcomes of students with low critical thinking skills. Students who have high critical thinking skills tend to be more courageous in their opinions, more critical in making decisions and more able to manage emotions. Working in a plural group requires a more mature person so that mutual respect for skills, different opinions can be created. This condition contributes positively both to students who have high critical thinking skills and to students who have low critical thinking skills. Helping one another and helping among group friends fosters confidence in students who have low critical thinking skills to strive forward.

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