The Influence of Demonstration Method Vs Discussion Method and Learning Motivation on Chassis Maintenance and Repair of Class XII Students at SMK PGRI 1 Gresik

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ABSTRACT: The purpose of this study is to describe the application of the demonstration method vs. the discussion method on student learning outcomes, this study also seeks differences between students who have high motivation and low motivation towards improving student learning outcomes and seeks interactions between learning methods and learning motivation towards improving student learning outcomes on the material of chassis maintenance and repair in class XII at SMK PGRI 1 Gresik.

The results and conclusions in this study are that (1) there is a difference in achievement between students who are given the demonstration method and discussion method treatment towards improving student learning outcomes, meaning that students who are given the demonstration method treatment obtain higher student learning outcomes than students who are given the discussion method treatment, (2) Students who have high motivation obtain higher learning outcomes compared to students who have low motivation, (3) and there is an interaction between learning methods and student learning motivation towards improving student learning outcomes on the material of chassis maintenance and repair in class XII students at SMK PGRI Gresik

KEYWORDS: Demonstration Method, Discussion Method, Learning Motivation, Learning Outcomes

I. INTRODUCTION

At this time, students are expected to be the subject of education, no longer the object of education. This condition is actually what Indonesia wants to show. With the label of competence, students should be able to be more active than their teachers, some even say that students should be 70% active and the rest is the teacher explaining material that has not been mastered. This means that learning activities are the most important activities in the education process in schools. So that all efforts must be made to create a better education process. The teaching and learning process is an activity that is deliberately created with the aim of changing student behavior. The success of the learning process is indicated by changes in attitudes and behavior and an increase in knowledge status from not knowing to knowing. However, one of the most important factors for this is the active involvement of students in the learning process (Handayanto, 2002: 23). Therefore, to foster student interest in economic subjects, a learning model is carried out that can increase student interest. By knowing the learning model, efforts to increase student interest in economics will be easier to do and in accordance with the desired targets. In addition to demonstrations, teachers can carry out teaching activities through group discussions, which are expected to be able to arouse student interest and motivation in finding solutions to problems and understanding concepts, because students actively participate in making observations. In addition, the group discussion teaching model is able to develop students' process skills in conducting observations. In order to find out how far the effectiveness of the group discussion teaching model is in improving student learning achievement, the process skills approach teaching model with the demonstration method is used.

Furthermore, the importance of connecting material with everyday life as a basis for developing a learning approach is aimed at: 1) motivating student learning; 2) training critical, creative, analytical thinking; 3) developing process skills and social skills. By carrying out this group discussion activity, students are expected to be able to strengthen the concept of the material given by the teacher. In addition, this group discussion will stimulate students to look for other sources which will ultimately enrich the nuances of thinking, and information that can be absorbed by students.

In line with the objectives of the activity-based teaching method where students are required to be able to play an active role, so that students really understand what is being studied because students have experience, involvement in a material or topic that is being studied. Furthermore, the selection of teaching strategies is adjusted to the material being taught and can achieve the predetermined teaching objectives. The many teaching methods that are in accordance with the demands for students to be active, not all methods are necessarily suitable for teaching economics, so further research is needed regarding this problem. One of the

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strategies for preparing learning conditions that can be used to help students understand economic concepts is by implementing a demonstration and group discussion teaching model.

Teaching through demonstration methods and group discussions aims to provide students with the ability to analyze and solve problems. Furthermore, discussions are used to see the development of students' mastery of theory. So that students can independently understand economic concepts because economics does not only lie in strengthening material/theory, but also requires application in students' daily lives.

With demonstration methods and group discussions, the role of teachers in learning is more likely to create more conducive learning conditions such as giving students the opportunity to play a more active role in processing information, thinking critically and responsibly. Furthermore, operationally in learning, students are given the opportunity and freedom to develop intellectual skills, personal skills. Freedom to develop skills in attitude and behavior from learning activities. Disclosure of concepts, generalization facts in learning allows the creation of meaningful learning conditions, students are given the opportunity to play an active role in processing information, thinking critically and responsibly.

In learning, students are given the opportunity to organize data, formulate problems, build concepts, make generalizations to solve problems. The role of teachers in learning is as a facilitator, motivator and as a creative mediator. With this demonstration and discussion method, it is expected to foster the interests and internal motivation of students. Because the growth of interest and motivation in students will encourage students to study the subject matter given.

On the other hand, motivation is also something that can be a stimulus in the education process, but in reality, the average community environment, family, and educational institutions where there are principals, teachers, employees still cannot provide maximum motivation in the education process which ultimately cannot create quality graduates.

Motivation is an effort that encourages someone to do something, thus causing a change in behavior in students, where this is closely related to the psyche and emotions, to then act or do something. This is inseparable from the existence of goals, needs or desires.

Based on the description above, the researcher wants to know the difference in student learning achievement in economics subjects in Senior High Schools that use demonstration learning methods, discussion method learning with the title "Differences in Learning Outcomes Between Using Demonstration Methods vs Discussion Methods, and Learning Motivation for Chassis Maintenance and Repair Subjects in Class XII Students of SMK PGRI 1 Gresik".

Demonstration means showing, but this demonstration method is not only used to show just to see an event, but according to Sukarno (2005: 43), it is more to show a principle, test the truth of a law obtained theoretically and to strengthen an understanding.

This opinion is supported by Subiyanto (2009: 39) who stated that Demonstration is done to illustrate scientific principles, to train critical thinking, to show how a tool works or to illustrate the application of scientific concepts in life. The function of implementing Demonstration in class is (1) to raise a problem (2) to provide a clear picture of something (3) to help solve problems (4) to briefly repeat what students have learned (Subiyanto, 2008: 52).

A Demonstration is more qualitative than quantitative and the results of the Demonstration can be known immediately. The goal to be achieved by implementing Demonstration in teaching economics is to illustrate scientific facts, principles and processes to stimulate interest and create problem solving for students (Sukarno, 2005: 12).

Discussion Learning is a learning activity by carrying out actions to analyze, solve problems (LP3, Airlangga University). Meanwhile, Soedarno, et al., (2008) stated that the discussion method is a way of teaching in discussing and presenting material through a problem or question that must be solved based on opinions or decisions together. With this discussion model, it means that there is an interaction process between two or more individuals involved in exchanging experiences, or information, to solve problems. The implementation of the discussion model in the teaching and learning process will be able to increase individual student participation and develop a sense of social. In addition, it is also a democratic approach and develops leadership (Soedarno, et al. 2008).

Furthermore, according to Rusyan (2007: 152), class discussion is a discussion in which the teacher as the presenter of a problem to students and students as members of the discussion respond to the main problem presented. According to him, the discussion leader can always be done by the teacher and the discussion is regulated by the discussion leader and secretary. Furthermore, Rusyan argues that in this class discussion, the problems raised will be resolved by accommodating various opinions, ideas or concepts. Teachers or students who are appointed as discussion leaders make decisions on solutions to problems faced Rusyan (2007: 154)

According to Roestiyah (2007: 7), discussion leaders must be students who organize the discussion so that the discussion runs smoothly. A discussion leader must be someone who understands and masters the problem to be discussed, has authority, and is respected by his friends, speaks well and fluently, can act firmly, fairly and democratically and has the skills to organize his friends. In its implementation, this discussion method has advantages or benefits, including the following: (1) students exchange ideas, (2) students can internalize the problem, (3) stimulate students to express their opinions, (4) can develop a sense of responsibility/solidarity, (5) foster speaking skills, (5) students learn to understand other people's thoughts, and (6) provide learning opportunities.

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According to Sutomo, motivation is all the power that can arouse or encourage someone to do something. (2003: 141). Amir Daen Indrakusuma emphasized that motivation is interpreted as a power that exists within a person that can influence his behavior to carry out activities in order to fulfill his needs. (2005: 110). This opinion includes three things, namely, motivation must begin with a change in power within a person. Marked by a change in a person's behavior, and motivation to fulfill his needs. So motivation in this case is actually a response to an activity.

In connection with the statement above, Pasaribu and Simanjuntak (2004: 49) stated that every activity carried out by a person is driven by a power, this driving force is called a motive. Furthermore, based on this expression, it can be stated that a person carries out certain activities or activities because there is a driving force that drives him. Furthermore, Sardiman (2008: 74) stated that starting from that motive, motivation can be interpreted as an active driving force.

The driving force or active force is called motivation, motivation can be divided into two, namely motivation can arise from within the individual (intrinsic motivation) and can also arise from outside himself (extrinsic motivation). (Usman, 2006: 29). Intrinsic motivation is the driving force or force that comes from within the individual himself, while extrinsic motivation is the driving force or driving force that comes from outside a person. The same opinion was put forward by the Ministry of Education and Culture, according to its ranks, motivation can be divided into two, namely extrinsic motivation is motivation that comes from outside a person and intrinsic motivation is motivation that comes from within the individual. (2005: 53). Meanwhile, according to Soeharto (2005: 111) stated that from a behaviorist perspective, motivation is extrinsic, because the location of the drive that motivates students is outside the student himself. Cognitive psychologists have a different view, the source of motivational drive is not outside but already exists in students naturally. In this case, the teacher only needs to arouse and encourage it, therefore cognitive psychologists say that motivation is intrinsic. Based on the various opinions expressed about motivation above, this provides an illustration that in general motivation comes from within the individual himself, said to be intrinsic motivation, and while motivation in the form of stimulation, driving force or driving force that comes from outside, is called extrinsic motivation. Both forms of motivation are interrelated, meaning that intrinsic motivation will be more meaningful or significant if reinforced by extrinsic motivation.

Based on the various previous opinions, it can be stated that the power that drives students to participate in learning can come from within themselves and can also come from outside themselves, or is called extrinsic motivation. Furthermore, related to the problems raised, it will tend to discuss extrinsic motivations given in the form of learning methods, learning attitudes with the implementation of active, creative, effective and enjoyable learning for students. The principles of driving learning motivation are closely related to the principles of learning itself. There are several principles of learning and motivation conveyed by Hamalik (2002), in order to get attention from the teaching planners, especially in planning teaching and learning activities. These principles can be used by educators in trying to increase student motivation in participating in teaching and learning activities, so that optimal learning achievements are obtained. Among them: (1) Meaningfulness. Lessons will be meaningful to students if the teacher tries to connect them with past experiences, or experiences they have had before. Something that interests and has the highest value for students means meaningful to them. Therefore, teachers should try to adjust the lesson to the interests of their students, by giving students the opportunity to participate in choosing, (b) Modeling. Students will like to acquire new behavior when witnessed and imitated. Lessons will be easier for students to internalize and apply if the teacher teaches in the form of model behavior, not just by lecturing/telling orally. With the model behavior, students can observe and imitate what the teacher wants, (c) Open Communication. Students prefer to learn when the presentation is structured so that the teacher's messages are open to student supervision, (d) Prerequisites. What students have learned previously may be an important factor that can determine student success in learning. Therefore, teachers should try to find out/recognize the prerequisites they already have. Students who are in the prerequisite group will easily observe the relationship between simple knowledge they already have and complex knowledge that will be learned, (e) Novelty. Students will be happier learning if their attention is attracted by new or unfamiliar presentations, (f) Active and Useful Exercises/Practices. Active practice means that students do it themselves, not listening to lectures and taking notes in notebooks, (g) Divided Exercises. Students are happier learning if the exercises are divided into a number of short periods of time. Such exercises will increase students' motivation to learn compared to exercises that are done all at once over a long period of time, (h) Systematically Reduce Learning Coercion. Students need to be given coercion or pumping. However, for students who have begun to master the lesson, then the pumping is systematically reduced and finally the students can learn by themselves, and (i) Pleasant conditions. Students will be happier continuing their learning if the teaching conditions are pleasant.

Learning achievement cannot be separated from the act of learning, because learning is a process, while learning achievement is the result of the learning process. For a student, learning is an obligation. The success or failure of a student in education depends on the learning process experienced by the student.

According to Logan, et al (2006) in Tjundjing (2001: 70) learning can be interpreted as a relatively permanent change in behavior as a result of experience and practice. In line with this, Winkel (2007: 193) argues that learning in humans can be formulated as a mental or psychic activity that takes place in active interaction with the environment, which results in changes in knowledge and attitude values. These changes are relatively constant and lasting. Learning can not only be done at school, but can be done anywhere,

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such as at home or in the community. Irwanto (2007: 105) argues that learning is a process of change from not being able to being able and occurs within a certain period of time. Meanwhile, according to Mudzakir (2007: 34) learning is an effort or activity that aims to make changes in a person, including changes in behavior, attitudes, habits, knowledge, skills and so on.

In learning, students experience the process from not knowing to knowing, therefore according to Cronbach (Suryabrata, 2008: 231): "The best learning is by experiencing and in experiencing it, students use their five senses. The five senses are not limited to just the sense of sight, but also apply to other senses." Furthermore, it can also be said that learning is the main activity of individuals who experience education and teaching. There are many limitations on the definition of learning, which are put forward by education experts, namely Bower and Hilgard (in Paulina, 2002: 11) learning refers to changes in behavior or individual potential as a result of experience and these changes are not caused by instinct, maturity or fatigue and habits. Meanwhile, according to Morgan (Ratumanan, 2002: 11) changes in behavior that are relatively permanent and occur as a result of practice or experience. Gagne (Paulina; 2002: 11) a change in ability that lasts a long time and does not come from the growth process. (Mustangin, 2002: 1) a very important activity for every human being. A person's knowledge, skills, habits, hobbies and attitudes are formed and developed through learning. (Hudojo, 2001: 92) learning is an active process in gaining new experiences/knowledge that causes changes in behavior. Based on the description above, it can be concluded that learning is a process of effort made by students to obtain a new change in behavior as a whole, intentionally, consciously and the change is relatively permanent and brings positive influences and benefits for students in interacting with their environment.

II. METHOD

This study uses a quasi-experimental design method by providing different treatments to two sample groups, conditioning them homogeneously. One sample group was given treatment in the form of group discussion learning. While the other group was given a demonstration method learning treatment. Then each group was divided into two, namely the control group and the experimental group with high motivation and the control and experimental group with low motivation. At the end of learning or the end of treatment, each group, both the group with the group discussion method learning and the demonstration method treatment, was given a test to determine the learning outcomes. From the collection of test results for each group, it was then analyzed using 2-way ANOVA. According to Winarsunu (2002: 114), the research design is as in the following table.

Table 1: Research Design

Metode Pembelajaran / Motivasi Belajar	Demontrasi (A1)	Diskusi (A2)
Tinggi (B1)	A1.B1	**A2.B2**
Rendah (B2)	A1.B2	A2.B2

Population and Research Sample
The population in this study were students of class XII-TKR and XII-TAB at SMK PGRI 1 Gresik, totaling 98 people.

Table 2. Determination of Population, Sample, and Sampling Technique

No.	Kelas	Population	Sample Demonstrattion	Discussion	Teknik Sampling
1	XII TKR 1	33			
2	XII TKR 2	36	60	58	Random Sampling
3	XII TAB 1	38			
4	XII TAB 2	38			
Total		145	60	58	

Data Collection Methods
The data collection methods used are:
Questionnaire Method

It is a number of written questions and is used to obtain information from respondents in the sense of reports about their personality or things they know. (Suharsimi, 2009: 124). The questionnaire is given in the form of closed multiple choice, meaning that the questionnaire given to respondents is provided with alternative answers so that respondents only need to choose an answer from the answers provided. This questionnaire method is used to obtain data on learning motivation of class XII-TKR and XII-TAB students at SMK PGRI 1 Gresik

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Test Method

A test is a series of questions or exercises and other tools used to measure skills, knowledge, intelligence, abilities or talents possessed by individuals or groups (Suharsimi, 2002: 127). While the achievement test is a test used to measure a person's achievement after studying something (Suharsimi, 2002: 128). The test is given with the aim of measuring and knowing the learning outcomes of students, namely in the form of student scores during the test. The test carried out is to find out the results of students' economic learning. Independent variables are variables that cause the emergence or change of related variables, so independent variables are variables that influence them. In this study, the independent variables are Demonstration learning, Discussion learning. The operational definition of each variable is as follows: Demonstration method, is a way to show a particular event. In the demonstration method, the teacher shows how a tool works to a group of students. In addition, the demonstration method is more for showing a principle, testing the truth of a law obtained theoretically and to strengthen an understanding. Group discussion method, Group discussion is a way of teaching in discussing and presenting material by providing problems or problem questions that must be answered/solved based on group opinions or decisions. Moderator Variable Learning motivation is the power that drives students to do something to learn, where the drive can come from within a person or from outside, Bound Variable The bound variable or dependent variable is a variable that is influenced or that is the result of the influence of the independent variable (Darmawan, 2006: 51). The bound variable in this study is Learning Outcomes (Y). Chassis Maintenance and Repair Learning Outcomes are students' achievements in mastering the existing Chassis Maintenance and Repair subject materials. The indicators used in this understanding ability are: 1. Mastery of the material, 2. Explaining the material, 3. Summarizing the material, and 4. Student learning outcomes.

Data Analysis Techniques

The data analysis used in this study is by using the two-way variance analysis technique.

Prerequisite Test Analysis

Before the data is analyzed, it is necessary to conduct a prerequisite analysis test, namely the normality test and the homogeneity test, described as follows.

(a) Normality Test

The normality test aims to determine whether the data obtained is normally distributed or not. The test used is using Kolmogorov-Smirnov, with the hypothesis:

H0 = Data is normally distributed

H1 = Data is not normally distributed

The criteria are as follows:

- Probability sig., $\alpha > 0.05$ then the data is normally distributed.
- Probability sig., $\alpha < 0.05$ then the data is not normally distributed.

(b) Variance Homogeneity Test

The variance homogeneity test is used to determine whether the data analyzed is homogeneous or not. The formula used to test homogeneity is:

$$F = \frac{Varian\,terbesar}{Varian\,\text{terkecil}}$$

With the criteria, the data has a homogeneous variance if Fcount < F1/2(n1-1)(n2-2). To test the hypothesis, the data must have a homogeneous variance.

Hypothesis Testing

After the prerequisite test is carried out, the next step is to conduct a two-way ANOVA test which refers to the following steps.

1. Calculate the total number of squares (Jk¬¬t), between A (JkA), between B (JkB), AxB interaction (JkAB), and within groups

(Jkd).Jk$_t$ $= \sum X_t^2 - \frac{(X_t)^2}{N}$

2. Jk$_A$ $= \left[\frac{(X_{A1})^2}{n_{A1}} - \frac{(X_{A2})^2}{n_{A2}} \right] - Sk$

3. Jk$_B$ $= \left[\frac{(X_{B1})^2}{n_{B1}} + \frac{(X_{B2})^2}{n_{B2}} + \frac{(X_{B3})^2}{n_{B3}} \right] - Sk$

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4. $Jk_{AB} = \left[\dfrac{(X_{AB})^2}{n_{AB}} \right] - Sk - (Jk_A + Jk_B)$

5. $Jk_d = Jk_t - (Jk_A + Jk_B + Jk_{AB})$

1. Calculate the total degrees of freedom (db¬¬t), between A (dbA), between B (dbB), AxB interaction (dbAB), and within groups (dbd).
    a. (db_t) $= N - 1$
    b. (db_A) $= K - 1$
    c. (db_B) $= K - 1$
    d. (db_{AB}) $= db_A \times db_B$
    e. (db_d) $= db_t - (db_A + db_B + db_{AB})$

2. Calculate the mean square between A (RkA), between B (RkB), AxB interaction (RkAB), and within groups (RkD).
    a. $Rk_A = \dfrac{Jk_A}{db_A}$

    b. $Rk_B = \dfrac{Jk_B}{db_B}$

    c. $Rk_{AB} = \dfrac{Jk_{AB}}{db_{AB}}$

    d. $Rk_D = \dfrac{Jk_D}{db_D}$

3. Calculate the ratio F_A, F_B, dan F_{AB}
    a. $F_A = \dfrac{Rk_A}{Rk_d}$

    b. $F_B = \dfrac{Rk_B}{Rk_d}$

    c. $F_{AB} = \dfrac{Rk_{AB}}{Rk_d}$

For further calculations in this study will use a computer-based statistical program, namely SPSS. The hypotheses are as follows.

Hypothesis

Ho: There is no significant difference in learning outcomes and interactions between the test
results of students who use the demonstration learning method with the discussion learning
method and who have high learning motivation with those who have low learning
motivation

H: There is a significant difference in learning outcomes and interactions between the test
results of students who use the demonstration learning method with the discussion learning
method and who have high learning motivation with those who have low learning
motivation.

Decision making:

Based on probability

- If probability > 0.05 then Ho is accepted
  If probability < 0.05 then Ho is rejected

III. RESULT

DESCRIPTION OF RESEARCH RESULTS

In this research report, the findings in the field will be explained when the researcher conducted the research activities. The research was conducted at SMK PGRI 1 Gresik.

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The research aimed to examine the differences in learning outcomes of Chassis Maintenance and Repair in students using the demonstration method and discussion method was carried out using a questionnaire data collection technique, namely to determine the level of student learning motivation, and a test method to determine learning outcomes in the subject of Chassis **Maintenance and Repair.**

To determine the level of student motivation towards the subject of Economics, a questionnaire was given to students who were respondents, then the questionnaire that was distributed was tested to determine the level of validity and reliability of the questionnaire. Furthermore, it can be explained as follows.

Validity Test

Validity is a test tool to determine the accuracy of a measuring instrument (Questionnaire), has the measuring instrument measured what is meant?, with high validity, the measuring instrument is said to have measured the actual thing (the variable in question, in this case student learning motivation). The results of the validity test using product moment correlation will be compared with rtable N = 60 in the table with □ = 0.05 obtained a value of 0.254, the results of the instrument test are as follows:

Table 3: Results of the Validity Test of Motivation Variables

Item	Rcount	Rtable	Information
Item 1	0.48	0.254	Valid
Item 2	0.44	0.254	Valid
Item 3	0.77	0.254	Valid
Item 4	0.67	0.254	Valid
Item 5	0.37	0.254	Valid
Item 6	0.61	0.254	Valid
Item 7	0.37	0.254	Valid
Item 8	0.52	0.254	Valid
Item 9	0.68	0.254	Valid
Item 10	0.75	0.254	Valid
Item 11	0.67	0.254	Valid
Item 12	0.37	0.254	Valid
Item 13	0.45	0.254	Valid
Item 14	0.68	0.254	Valid
Item 15	0.73	0.254	Valid
Item 16	0.71	0.254	Valid
Item 17	0.41	0.254	Valid
Item 18	0.47	0.254	Valid
Item 19	0.46	0.254	Valid
Item 20	0.44	0.254	Valid

Based on the table above, it shows that at a significant level of 5%, a number of instruments used in this study obtained a correlation coefficient value greater than the r table Product Moment value of 0.254. Thus, it can be said that the instruments in this study are valid or can measure the variables studied.

Reliability Test

Reliability is a tool used to determine the level of reliability of the measuring instrument used, the higher the reliability value or the data has been reliable, the measuring instrument used is also better (reliable) for use in further research or different places (locations). The method used is the alpha formula. The results of the reliability test of the research data are as in the following table.

Table 4: Reliability Test Results

Variable	r	Information
Motivation to learn	0.879	Reliabel

The results of the reliability test in the table above show that the value of the variable reliability coefficient used, in the variables above is greater than the rtable value of 0.6. Then the results of the respondents' answers can be relied on in other words that if the same research is carried out at different times, the respondents will give the same answers. After conducting validity tests and reliability tests on the motivation questionnaire, a 2-way variance analysis test will be carried out to test the hypothesis

that has been proposed. However, a prerequisite test will be carried out beforehand, to determine the normality and homogeneity used.

DATA ANALYSIS
Prerequisite Test
Before conducting the 2-way Analysis of Variance test, to determine the interaction between the demonstration method and the discussion method with students who have high or low motivation, a prerequisite test was previously conducted, namely normality and homogeneity.

Normality Test

To detect data normality can be done in various ways, namely: (1) By looking at the Skewnesss/Kurtosis ratio, (2) By using Graphs, and (3) By using the Kolmogorov-Smirnov test. In this study, to detect data normality, the Kolmogorov-Smirnov test was used, with the following hypotheses:

Ho: data is normally distributed

Hi: data is not normally distributed

The decision-making criteria are: probability sig., $\alpha > 0.05$ then the data is normally distributed probability sig., $\alpha < 0.05$ then the data is not normally distributedTable 4.3.**.** Results of the demonstration method normality test

The K-S value for the demonstration learning method data obtained a value of 1.156 with a significance probability of 0.138 and the value is above $\square = 0.05$. This means that the null hypothesis is accepted or the learning outcome data using the demonstration method class is normally distributed.

Table 5: Results of the discussion method normality

One-Sample Kolmogorov-Smirnov Test

			Discussion Method
N			58
Normal Parameters a,b	Mean		74.4138
	Std. Deviation		8.80796
Most Extreme Differences	Absolute		.164
	Positive		.151
	Negative		-.164
Kolmogorov-Smirnov Z			1.253
Asymp. Sig. (2-tailed)			.087

a. Test distribution is Normal.

b. Calculated from data.

The K-S value for the discussion learning method data obtained a value of 1.243 with a significance probability of 0.087 and the value is above $\alpha = 0.05$, this means that the null hypothesis is accepted or the learning outcome data using the discussion method class is normally distributed.

Based on the description above, it can be explained that both classes of demonstration methods and discussion methods have normally distributed data.

Homogeneity Test
The results of the homogeneity calculation can be seen from the following table.

Table 6: Homogeneity Calculation

Levene's Test of Equality of Error Variances			
Dependent Variable: Learning outcomes			
F	df1	df2	Sig.
1.221	3	114	.225

Tests the null hypothesis that the error variance of

the dependent variable is equal across groups.

a. Design: Intercept+Factor_A+Factor B+Factor_A * Factor_B

With decision making:
- if probability <0.05 is not homogeneous
- if probability > 0.05 is homogeneous

Based on the table above, it can be seen that the probability value of the data above is 0.254, meaning probability > 0.05, this gives the understanding that the class data for the demonstration method and discussion method are homogeneous.

From the description above, it can be seen that both research sites have the same economic learning ability, where both samples have the same or homogeneous characteristics. After the learning process was carried out in each class, where one class was treated with the demonstration method, one class was given the discussion method. From the learning process in these 118 samples, it will be seen that some students who like demonstration learning are called having high motivation, and those who do not like demonstration learning or have low motivation, as well as in the discussion method, students who are happy or motivated to follow the learning are said to be a high motivation group, and the rest are low motivation. After the implementation of learning in each predetermined learning, where one class is given the demonstration method while the other class is given the discussion method. The implementation of learning carried out in each class produces data, in this case the data is known to be normally distributed and homogeneous, the next test is a hypothesis test using 2-way analysis of variance.

Hypothesis Testing

The hypothesis test in this study used the 2-Way Anova test, with the following results. The descriptive results of the two classes are as follows.

Table 7: Descriptive Learning Outcomes

Descriptive Statistics				
Dependent Variable: Learning Outcomes				
Factor_A	Factor_B	Mean	Std. Deviation	N
Demonstration	High Motivation	86.7667	7.12782	30
	Low Motivation	73.2000	5.10172	30
	Total	79.9833	9.19560	60
Discussion	High Motivation	77.5862	8.72401	29
	Low Motivation	71.2414	7.80867	29
	Total	74.4138	8.80796	58
Total	High Motivation	82.2542	9.14178	59
	Low Motivation	72.2373	6.58980	59
	Total	77.2458	9.39443	118

From the table above, it can be seen that there is a difference in the average learning outcomes of Chassis Maintenance and Repair in each class, both using the demonstration method and using the discussion method for students with high motivation and low motivation.

Based on the table above, it can be seen that the demonstration method with high motivation has greater learning outcomes when compared to the demonstration method for students with low motivation. Likewise, the discussion method with high motivation has greater learning outcomes compared to the discussion method with low motivation. And the demonstration method is greater than the discussion method. However, to ensure its significance, it was tested with a mean difference test or t-test, with the following results. Further details can be seen in the following table.

Table 8: **Average demonstration and discussion methods and with high and low motivation**

4. Factor_A * Factor_B					
Dependent Variable: Learning Outcome					
Factor_A	Factor_B	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Demonstration	High Motivation	86.767	1.332	84.128	89.405
	Low Motivation	73.200	1.332	70.562	75.838
Discussion	High Motivation	77.586	1.355	74.903	80.270
	Low Motivation	71.241	1.355	68.558	73.925

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Based on the table above, it can be explained that the demonstration method is better when compared to the discussion method for students who have high motivation or low motivation.

However, to ensure its significance, it was tested with a mean difference test or t-test, with the following results.

Table 9: Mean Difference Test for Demonstration Method and Discussion Method

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower	Upper
Learning outcomes	Equal variances assumed	.131	.718	3.358	116	.001	5.56954	1.65860	2.28448	8.85461
	Equal variances not assumed			3.360	115.991	.001	5.56954	1.65738	2.28689	8.85219

From the table above, the significance value is below 0.05 (α <0.05), so it can be explained that there is a difference in the learning outcomes of Chassis Maintenance and Repair in class XII students at SMK PGRI 1 Gresik using the demonstration method and discussion method.

Furthermore, to test the significance of the average difference between students with high motivation and low motivation, the following results were obtained.

Table 10: Average Difference Test of Students with High Motivation and Low Motivation in the Demonstration Method

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower	Upper
Learning outcomes	Equal variances assumed	5.983	.017	8.477	58	.000	13.56667	1.60035	10.36322	16.77011
	Equal variances not assumed			8.477	52.536	.000	13.56667	1.60035	10.35612	16.77722

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From the table above, the significance value is below 0.05 ($\alpha < 0.05$), so it can be explained that there is a difference in student learning outcomes in the subject of Chassis Maintenance and Repair in grade XII students at SMK PGRI 1 Gresik who have high learning motivation and those who have low learning motivation in the demonstration method. While in the discussion method, it is presented as follows.

Table 11: Average Difference Test of Students with High Motivation and Low Motivation in the Discussion Method

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Learning outcomes	Equal variances assumed	.429	.515	2.918	56	.005	6.34483	2.17417	1.98944	10.70022
	Equal variances not assumed			2.918	55.326	.005	6.34483	2.17417	1.98827	10.70139

From the table above, the significance value is above 0.05 ($\square < 0.05$), so it can be explained that there is a difference in the learning outcomes of Chassis Maintenance and Repair in grade XII students at SMK PGRI 1 Gresik who have high learning motivation and those who have low learning motivation in classes that use the discussion method.

After the prerequisite test was carried out, a 2-way ANOVA test was then carried out to determine the interaction between the learning method and the motivation possessed by the students. The results of the two-way ANOVA test are as follows.

Table 12: 2-Way ANOVA Test Results

Tests of Between-Subjects Effects

Dependent Variable: Learning Outcomes

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4259.361 a	3	1419.787	26.680	.000
Intercept	703032.922	1	703032.922	13211.176	.000
Factor_A	914.821	1	914.821	17.191	.000
Factor_B	2923.109	1	2923.109	54.930	.000
Factor_A * Factor_B	384.532	1	384.532	7.226	.008
Error	6066.511	114	53.215		
Total	714421.000	118			
Corrected Total	10325.873	117			

a. R Squared = .412 (Adjusted R Squared = .397)

Based on the table above, it can be explained that

1) FA ratio (F count value on the learning method used) = 17,191 with a significance value smaller than $\alpha < 0.05$, namely 0.000, with df1 = 1 and df2 = 114, the Ftable value is obtained = 3.94 so that it can be explained that FA count> Ftable, meaning that there is an influence on learning outcomes between the demonstration method and the discussion method applied to students in the Chassis Maintenance and Repair subject for class XII students at SMK PGRI 1 Gresik.

2) FB ratio (F count value at the level of student learning motivation) = 54,930, with a significance value smaller than α <0.05, which is 0.017, with df1 = 1 and df2 = 114, the F table value is obtained = 3.94 so that it can be explained that F count > F table, meaning that there is a difference in learning outcomes between students who have high learning motivation and students who have low motivation in students in the subject of Chassis Maintenance and Repair in class XII students at SMK PGRI 1 Gresik.

3) While the FAB value is used to determine the significance of the interaction between factor A (demonstration method and discussion method) and factor B (high student learning motivation and low learning motivation) the calculated FAB value is 7,226 with a significance level of 0.008, comparison with F table and significance level □ = 0.05; (7.228 > 3.94), so it can be explained that factor A (demonstration method and discussion method) and factor B (high learning motivation and low learning motivation) have an influence on learning outcomes in economics subjects. This means that there is an interaction between the demonstration method, discussion method and learning motivation on student learning outcomes in the Chassis Maintenance and Repair competency for class XII students at SMK PGRI 1 Gresik

Based on the calculation results above, it can be explained that the hypothesis proposed Ho is rejected or H1 is accepted. This means that there is a difference in learning outcomes and test results and a significant interaction between student learning outcomes in classes that use the demonstration method and classes that use the discussion method as well as students who have high learning motivation with those who have low learning motivation in the subject of Chassis Maintenance and Repair for class XII students at SMK PGRI 1 Gresik

DISCUSSION
Based on the research report, data presentation, and data analysis on the Influence of the Use of Demonstration Methods and Discussion Methods and Learning Motivation on Student Learning Outcomes in the Chassis Maintenance and Repair Subject for class XII students at SMK PGRI 1 Gresik, it can then be analyzed and interpreted as follows.

Based on the calculation results and test results conducted in each class, it can be explained that the learning outcomes of Chassis Maintenance and Repair for class XII students at SMK PGRI 1 Gresik, at the beginning of learning (before being given the demonstration method or discussion method) have the same ability, where the average learning outcomes are the same. After being treated using the demonstration method and discussion method, there were differences in learning outcomes in each class, where the differences were quite significant, there was an increase in the learning outcomes of Chassis Maintenance and Repair for class XII students at SMK PGRI 1 Gresik.

This provides an illustration that learning using the demonstration method motivates students to learn and improve their learning outcomes. Likewise, students who use the discussion method also have a better average after treatment on their learning outcomes. This can be explained that students are actively involved in the learning process, so that the material can be absorbed well.

Similarly, in the demonstration method, where almost all materials can be absorbed by students, because students are directly involved in the activities given by seeing what is demonstrated, when students study, do assignments and interpret them, so that students master the material better. The average difference between classes with the demonstration method and the discussion method has a significantly different learning outcome, this is indicated by the average value of learning outcomes obtained by each class, where using the demonstration method has a higher average value compared to the value using the discussion method. Statistically, this is also indicated by a greater tcount value than ttable and a significance value of the difference between the two learning activities below 0.05.

The results of this calculation indicate that the proposed hypothesis can be accepted, where there is a difference in learning outcomes for Chassis Maintenance and Repair in class XII students at SMK PGRI 1 Gresik between classes taught using the demonstration method and classes taught using the discussion method.

Furthermore, the motivation of students in the learning process is very likely to be different, where students have high learning motivation and some have low learning motivation, the difference in motivation of these students has its own influence on the learning outcomes of Chassis Maintenance and Repair of class XII students at SMK PGRI 1 Gresik. This is also shown by the average difference test, where the achievement results of both (students with high motivation and students with low motivation) with different learning methods, in the demonstration method, the results obtained were significantly different between students with high and low motivation as indicated by the tcount value> ttable and the significance value is less than 0.05, while in the discussion method shows the tcount value> ttable, meaning that there is a significant difference in the learning outcomes of students who have high motivation with students who have low motivation.

Based on the calculation using 2-way variance analysis, the FA value (F count for the demonstration method and discussion method factors) obtained results greater than Ftable, meaning that there is an influence on learning outcomes between the demonstration method and the discussion method applied to students in the Chassis Maintenance and Repair subject for class XII students at SMK PGRI 1 Gresik.

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This means that the second hypothesis can be accepted, namely that there is a difference in learning outcomes for Chassis Maintenance and Repair for class XII students at SMK PGRI 1 Gresik between those who have high learning motivation and those who have low learning motivation.

In addition, using 2-way variance analysis, the FB value (F count for high student motivation levels and low student motivation) obtained results that FB is greater than Ftable, thus meaning that there is an influence on learning outcomes between students who have high learning motivation and students who have low motivation in students in the Chassis Maintenance and Repair subject for class XII students at SMK PGRI 1 Gresik.

Furthermore, calculations using 2-way variance analysis are also used to determine the interaction between factor A (demonstration method and discussion method) with factor B (students with high motivation and students with low motivation).

Based on the calculations carried out to determine the interaction between the two, the demonstration method and the discussion method with students who have high learning motivation and low learning motivation, it can be explained that there is a significant interaction between the learning model (discussion method and demonstration method) and students' learning motivation towards their learning outcomes. This is indicated by the Fcount value> Ftable and the significance level is less than 0.05 (5%), so it can be explained that there is an interaction between the learning method and the motivation possessed by the students. This means that there is no interaction between the demonstration method, discussion method and learning motivation towards students' learning outcomes in the Chassis Maintenance and Repair subject for class XII students at SMK PGRI 1 Gresik.

Based on the description above, it can be explained that students with high learning motivation using the demonstration method have high learning outcomes for Chassis Maintenance and Repair for class XII students at SMK PGRI 1 Gresik compared to the learning outcomes of students who have low motivation. Students with high learning motivation using the discussion method have learning outcomes that are also different from the learning outcomes of students with low motivation.

CONCLUSIONS

Explicitly, this research can conclude that (1) there is a difference in achievement between students who are given the demonstration method and discussion method treatment in terms of improving student learning outcomes, meaning that students who are given the demonstration method treatment obtain higher student learning outcomes than students who are given the discussion method treatment, (2) Students who have high motivation obtain higher learning outcomes compared to students who have low motivation, (3) and there is an interaction between learning methods and student learning motivation in terms of improving student learning outcomes in the material on chassis maintenance and repair in class XII students at SMK PGRI Gresik.

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REFERENCES

1) Ahmad, Mudzakir. 2007. Educational Psychology. Bandung: Pustaka Setia.
2) Arikunto, Suharsimi.2009, Research Procedure, A Practical Approach, Jakarta: Bina Aksara
3) Berg, Euwe.1991. Misconceptions of Mathematics and Remediation. Salatiga: Satya Wacana Christian University.
4) Darmawan, Didit. 2006. Research Methodology An Introduction, Metromedia Mandiri Pustaka: Surabaya.
5) Hadi Sutrisno. 2007. Statistics Volume 2. Yogyakarta: YPFP. UGM
6) Hamalik, O. 1981. Teaching and Learning Process. PT Bumi Aksara: Jakarta
7) Handayanto, Supriyono Koes. 2002. Teaching and Learning Strategy. Lecture notes, State University of Malang.
8) Hudojo, H. 2008. Teaching and Learning Mathematics. Jakarta: Ministry of Education and Culture
9) Il. Pasaribu and B. Simanjuntak. 2003. Personality Theory. Tarsito: Bandung
10) Indrakusuma, Dean, Amir. 1995. Educational Development Media, Fa Dian Indah Pustaka, Surabaya.
11) Irwanto. 2007. General Psychology. Jakarta: PT. Gramedia Pustaka Utama.
12) Joyce, Bruce and Weil, Marsha. 1980. Models of Teaching. 2-nd edition, New Jersey: Prentice Hall Inc.
13) Institute for Educational Assessment and Development (LP3). 2008. Learning Methods. Airlangga University.
14) Lisa Choiru Trsinawati. 2004. Reading and Writing Tutoring for Students of Muslimat XII Rahayu Kindergarten. Thesis. Unpublished. State University of Malang.
15) Mila Ratnawati. 2006. The Relationship between Children's Perceptions of Family Atmosphere, Self-Image, and Achievement Motives with Learning Achievement in Grade V Students of Ta'Miriyah Elementary School Surabaya. Anima Journal Vol XI No. 42.

16) Mustangin. 2002. Basics of Mathematics Learning. Islamic University of Malang.

17) Nana, Sudjana. 2001. Assessment of the Results of the Teaching and Learning Process. Seventh edition. Bandung: PT Remaja Rosdakarya.

18) Paulina. 2002. Learning and Teaching. Open University. Jakarta

19) Purwanto, Ngalim. 2007. Educational Psychology. CV. Remaja Karya: Bandung

20) Ratumanan, T.G. 2002. Learning and Teaching. FKIP Pattimura University Ambon.

21) Robbins, P. Stephen. 2003. Organizational behavior. Ninth edition. PT. Indeks Grup Gramedia. Jakarta

22) Roestiyah, N.K. 2007, Teaching and Learning Strategies, Bina Aksara: Jakarta.

23) Rusyan, Rusdi. 2007. Teaching and Learning Strategies. PT. Rineka Cipta: Jakarta.

24) Saifuddin Azwar. 2008. Achievement Test Functions and Development of Learning Achievement Measurement. Yogyakarta: Pustaka Pelajar Offset.

25) Sarlito Wirawan. 2007. Adolescent Psychology. Jakarta: PT. Raja Grafindo Persada

26) Sia, Tjundjing. (2001). the Relationship between IQ, EQ, and QA with Academic Achievement in High School Students. Anima Journal Vol. 17 no. 1

27) Subiyanto. 2009. Science Education Evaluation. Jakarta: P2LPTK.

28) Subiyanto. 2008. Natural Science Education. Jakarta: P2LPTK

29) Sudikin & Mundir. 2005. Research Methods: Guiding and Delivering Your Success in the World of Research. Insan Cendikia: Surabaya.

30) Sudjana. 2006. Statistics II. Bina Aksara. Jakarta

31) Sukarno. 2005. Basics of Science Education. Jakarta: Rajawali

32) Sumadi, Suryabrata. 2008. Educational Psychology. Jakarta: PT. Raja Grafindo Persada.

33) Umar, Husein, 2003, Organizational Behavior Research Methods, PT. Gramedia Pustaka Utama Jakarta.

34) Law of the Republic of Indonesia. 2003. Number 20 of 2003 Concerning the National Education System. House of Representatives of the Republic of Indonesia

35) Usman, Uzer, Mohammad. 2009. Becoming a Professional Teacher. Remaja Rosdakarya: Bandung.

36) Walgito, Bimo, 2009. Introduction to General Psychology. (Revised edition). Andi Offset: Yogyakarta

37) Wasis DS, Bulletin of the Book Center. Vol.10: 2004.

38) Widayat, 2004. Marketing Research Methods, SPSS Software Application. First Edition. Publisher UMM Press. Malang.

39) Winarsunu, Tulus, 2002. Statistics in Psychology and Educational Research, First Edition. Malang: Publisher UMM Press

40) Winkel, WS, 2007. Educational Psychology and Learning Evaluation. Jakarta: Gramedia.

41) Winkel, WS. 2003. Psychology and Learning Evaluation. PT. Gramedia: Jakarta.

42) Winkel. 2007. B. Educational Psychology and Learning Evaluation. Jakarta: Gramedia