

## The Effect of Applying Group Investigation Method on Vocational High School Students' Reading Comprehension

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**Abstract:** This experimental research aimed to discover the effect of applying Group Investigation Method on vocational high school students' reading comprehension. The participants were the eleventh grade students of SMK Negeri 1 Jember. The research participants was divided into two groups: experimental and control groups. The instrument used to collect the data was reading comprehension test. Product Moment formula was applied to measure the reliability of the reading test. The reliability coefficient of the reading test was 0.70, meaning that the reading test was adequately reliable. The data were analyzed by using t-test formula. The result of analysis revealed that the scores of reading test for the students in the experimental group were significantly different from the one in the control group at the significant level of 0.05. The t-test results indicate that applying Group Investigation Method significantly affected the students' reading comprehension. It is suggested that English teachers apply Group Investigation Method to teach and enhance students' reading comprehension.

**Keywords:** Group investigation, reading comprehension, vocational high school, reading

### Introduction

Cooperative learning (CL) method and its different models have become an interesting issue investigated by educational researchers in different countries. Group Investigation (GI) model with its collaborative nature and the integration of interaction and communication in the process of academic inquiry (Sharan and Sharan, 1992) enables students to take an active role in determining their own learning goals and processes (Jalilifar, 2009). This can be rephrased that GI is an inquiry model of teaching that assigns a group of students to investigate a topic, an issue, or a problem by giving them autonomy and responsibility to discuss and determine an effective strategy for achieving the goal of inquiry.

As a model of teaching, GI has been implemented and researched in English language teaching (ELT). The present study examines how GI facilitates students to comprehend reading text and affect students' reading comprehension. Reading that involves an active process of thinking (or meaning-making process) to understand messages in the textual and visual information (Westwood, 2008; Moreillon, 2007)

appears to be a complex process for students. Therefore, the choice of instructional method becomes a determining factor in the success of reading comprehension. Through collaborative learning activities that encourage students to take their own learning responsibilities and promote critical thinking, it is expected that GI method could help students comprehend reading texts more easily.

## **Literature review**

### ***Group Investigation and Its Effect on Reading Comprehension***

Grabe and Stoller (2002:29) report that reading comprehension is an extraordinary feat of balancing and coordinating many abilities in a very complex and rapid set of routines that makes comprehension a seemingly effortless and enjoyable activity for fluent readers. GI is form of cooperative learning teaching models that emphasize student's participation and activity to seek their own information on the lesson that will be learned through the materials.

Sharan and Sharan (1992) argue that group investigation gives students more opportunity to have ethnic attitude and will cooperate better than the students who study in traditional class. According to Sharan and Sharan (1992), the implementation of group investigation has 6 steps: 1) determining subtopics and organizing into groups, 2) planning investigation, 3) carrying out investigation, 4) planning a presentation, 5) giving a presentation, 6) and evaluating achievement. By applying the six steps, students have much freedom to choose their topics of interest for investigation, plan and carry it out, present and evaluate the results.

Group investigation method has many advantages, according to Trianto (2007:65) there are 4 kinds of excess group investigation method in the process of learning activities, namely: first, active learning and students-centered communicative; and second Learning by making an atmosphere of mutual cooperation and interaction among students in the group regardless of their background. Students are trained to have a good and conducive communication Students are motivated and active in the learning process from the planning phase until the final stage of learning that is presenting the results of investigation of each group. Based on the advantages above, it can be concluded that GI makes the students active in the classroom teaching and learning process and they are also more confident to

communicate with others.

However, there are 3 kinds of weaknesses in the process of GI methods of group learning activities (Trianto, 2007:65) namely: students who have weak power potential, will not be very active in doing group discussion; students who become member of the group will trust the chairman of the group. They will neither discuss do the group work nor present the result of investigation; students who are weak in intellectual and ability, tended to trail the friends' group. Based on the disadvantages above, it can be concluded that the teacher has to change the method of teaching and the teacher has to make the students active in the classroom, by choosing the students who are not active to answer the question and giving score if the students can answer well.

### *Previous studies*

Several previous studies on the effect of GI method on English, reading comprehension, and motivation report by educational researchers (see Mothaei, 2014; Karafkan, 2015; Pan et.al, 2013; Farzaneh et.al, 2014; Tan and Sharan, 2010; Jalilifar, 2009). This research were mostly situated in Asia (e.g., Turkey, Iran, Indonesia, Taiwan, Singapore) and Italy. All previous studies applied experimental research design although they differed in choosing the research participants. Three research studies (Mothaei, 2014; Pan et.al, 2013; Jalilifar, 2009) selected freshmen students as the participants, two research studies (Karafkan, 2015; Farzaneh et.al, 2014) selected senior high school students as the research participants, while Tan and Sharan, 2010 selected junior high school as the participant. As studies on the issue of GI and its effect on reading comprehension of vocational high school students in Indonesia were underexplored, the present study filled the gap by researching the effect of GI method on reading comprehension of the vocational high school students.

## **Research method**

### *Research Design*

This research applied quasi-experimental with posttest only design because it is not possible to randomly assign subjects to treatment and control group (Ary, et. al., 2010). The quasi experimental with posttest only design consisted of two groups, they were control group and experimental group. In this research one group as the experimental group was taught by using Group Investigation method and another one as the control

group was taught by using Scientific Approach. The experimental group and the control group got the same material, and post-test in the similar time allocation.

### ***Research Context***

This research was conducted at a vocational high school (SMKN 1) Jember. There were a number of reasons for selecting this school as the place to conduct the study. First, the school principal has given the writer permission to conduct the study in this school. Second, reading as one of the target language skills in the English Curriculum 2013 is also taught in this school. Lastly, the English teacher has allowed the writer to conduct the experimental research in two of her classes.

### ***Research Participants***

The participants of the present study were two of the three classes of the eleventh grade students of SMK Negeri 1 Jember. Therefore, the population of the present study was three classes of the eleventh grade students of SMK Negeri 1 Jember. Two classes were selected by applying cluster random sampling having known the result of homogeneity test (McMillan,1996).

### ***Research data and analysis***

The research data were collected by using test that met the content validity. It was developed based on the basic competence of reading stated in the 2013 English Curriculum document. The reading test covers 3 items on word comprehension, 5 items on sentence comprehension, 4 items on paragraph comprehension, and 3 items on text comprehension. The test was in the form of objective test with multiple choice items. The reading test consists of 15 items that must be done by the students in 45 minutes. The researcher tried out the test in order to measure its reliability (i.e., the consistency of scores produced by the instrument). The results of the tried out test was analyzed by using Spearman-Brown Formula (Split-half Odd Even). The researcher signed (X) for the odd numbers and (Y) for the even numbers. The correlation between X and Y was analyzed by using Product Moment formula (Sudjiono, 1996).

Heaton (1998) states that the difficulty index of an item simply shows how easy or difficult a particular item in the test. It is expressed as the fraction or percentage of the

students who answer the item correctly. If the test items are too easy, it will not stimulate the students' effort in answering the test items. On the contrary, if the test items are too difficult, it will make the students discouraged and unenthusiastic to answer the test items because they do not understand the test items. The item difficulty level is calculated by using the following formula (Djiwandono, 1996:141) The try out test consisted of 15 multiple choice questions. The test was administered within 45 minutes. From the result of the difficulty index analysis of the test items, it was known that the range of the difficulty index was from 0.66 to 0.78. From the result of the test items were categorized fair items. Therefore the researcher could use all the test items which were categorized as fair items. Thus, the researcher used 15 fair items in the post test.

Students' reading scores in the post-test will be analysed statistically by using independent sample t-test formula. It is used to compare the mean score of the control and the experimental group. It will be done to find whether or not there is a significant effect of Group Investigation Method on the eleventh grade students' reading achievement. The result of data analysis will be consulted to the independent sample t-test formula in SPSS Computing system with 5% significant level (confidence interval 95%) to know whether the result is significant or not. If the result of t-computation is higher than t-table, it means that the null hypothesis is rejected and the result of this research is accepted. The procedures using independent sample t-test formula in SPSS are as follows: first, inserting the scores of the experimental group and the control group.; second, giving a label (1) for experimental group, and (2) for control group; third, calculating the significant difference by clicking analyze, compare means, and independent sample t-test. Third, clicking the test variable and then click on the upper of the two buttons with arrows on, transfer the test variable into the box headed Test Variable(s)". Then, click on the grouping variable and then click on the lower button.

### **Research result and Discussion**

The post-test was administered to both experimental and control groups. It was given to collect the data about the achievement of both groups. The main data were obtained from the result of post-test. The post-test was administered to both of the experimental group and control group on Tuesday and Wednesday, January 22<sup>nd</sup> and 23<sup>rd</sup> 2019 after they had been taught two times. For the students in the experimental group, the

test was given from 12.30 a.m. until 13.15 p.m. For the control group, it was given from 07.00 a.m. until 07.45 a.m. In the posttest, the students were asked to choose the correct answer of four options provided in each question item.

The post-test scores from experimental and control group were analyzed by using statistical computation Independent Sample t-Test of SPSS. Based on the output of independent sample t-test above, the degree of freedom (df) of post-test was 66. The value of significance column of Levene's test was 0.000. Consequently, the row that must be read was the second row of t-test column. In the column, the value of sig (2 tailed) was 0.029 which lower than 0.05. Therefore, it can be concluded that there was a statistically difference between the experimental group and the control group.

The result of post-test analysis above was used to test the hypothesis, i.e. to prove whether or not the null hypothesis ( $H_0$ ) was accepted or rejected. The null hypothesis ( $H_0$ ) of this research was "there is no significant effect of using GI method on students' reading comprehension". The null hypothesis ( $H_0$ ) is accepted if the value of significant column (2 tailed) is more than 0.05 and it is rejected if the value of significant column (2 tailed) is less than 0.05.

Based on the output of Independent sample of t-test analysis by using SPSS, the result showed that the value of significant column (2 tailed) was less than 0,05 ( $0.00 < 0.05$ ). Therefore, it can be concluded that null hypothesis ( $H_0$ ): "there is no significant effect of using GI method on students' reading comprehension" was rejected. This means the alternative hypothesis ( $H_a$ ): "there is a significant effect of using GI method on students' reading comprehension" was accepted. In addition, GI method significantly influenced students' reading comprehension.

The result of hypothesis verification revealed that there was a significant effect of using GI method on vocational high school students' reading comprehension. The following will explain the teaching of reading through GI affects students' understanding of reading text.

Dealing with the teaching and learning process, the first and the second meeting of the experimental group the students showed better enthusiasm in the reading activity, and they enjoyed working in groups as well. The findings were in line with what was argued by Sharan and Sharan (1992), Group Investigation is a cooperative learning method to

integrate interaction and communication in the classroom with the process of academic inquiry. The result of this recent research showed that students in the experimental group got better score than those in control group. It indicates that the use of group investigation stimulates students' enthusiasm. From the first and the second treatments, students in experimental group were more enthusiastic for learning their reading text since they enjoyed the environment in the class for learning. It is supported by Hollingsworth et al (2007) who claims that GI as a method of teaching turns out to be a valuable tool to help students learn comprehension strategies while encouraging positive interaction among peers. The students achieve academic success by increasing their reading levels and knowledge of comprehension skills, and there is also an increase in enthusiasm and motivation towards reading.

In addition, the research finding supported the findings of the previous studies conducted by other researchers. Karafkhan (2015) proving that there was a meaningful difference in the mean scores of reading comprehension of students in experimental group (GI and CRIC) compared to the mean scores of students in the control group. According to Mothaei (2014) showed that there was a difference of cooperative learning on students' general English achievement. The students in experimental group got better scores in nearly all components of general English in post-test. The differences were statistically significant. Based on those finding, it can be concluded that GI gives a significant effect on the vocational high school students' reading comprehension.

Moreover, this research also has some limitations. The first limitation was the students' unfamiliarity with GI. Therefore, the researcher needed to give explanation in the first meeting so that the students could understand what they should do. The second limitation was with the class management, dealing with the process of GI in teaching reading comprehension, the researcher found some students who had difficulties in applying summarizing step. The researcher had to remind the students to make conclusion based on the important information in each paragraph by using their own words. These problems were also faced by the students when the teacher asked them to summarize the text by using their own words, they spent much time to do it. Besides in summarizing, students also faced some difficulties in making question, they tended to made general and easy question about the text given. While in presentation project, it affected students in high, average and low achivers work cooperatively. Every group

shared information about their finding such as main ideas and conclusions of the investigation in the classroom. The third limitation is about the availability of the equipment to support the learning process. It was difficult to find the equipment which was needed by the researcher i.e. LCD projector. The school did not provide LCD projector in each classroom. Therefore, the researcher had to borrow it from the office. As a result, the learning time decreased due to postponement.

### **Conclusion**

Based on the data analysis, hypothesis verification and discussion that had been discussed in Chapter IV, it can be concluded that there was a significant effect of using GI on the eleventh grade students' reading comprehension at SMK Negeri 1 Jember. This result indicates that the experimental group who was treated by using GI achieved a better reading comprehension than the control group who was treated by using scientific approach.

Due to the results of the research which showed that GI gave a significant effect on the students' reading comprehension achievement, this strategy can be used as a consideration in teaching reading comprehension. Therefore, the researcher proposed some suggestions to the following people.

The English teachers of SMK Negeri 1 Jember can use Group Investigation Method as an alternative method in their teaching learning process. The teacher can use this method to improve their students' reading comprehension because this method is designed to relate the students' background knowledge with reading text. Also, the English teacher can use this research as a reference to find out the steps to apply Group Investigation in teaching reading comprehension. Future researchers should conduct a research with the same strategy. They can use this research as the source of information and consideration to conduct the same research with different participants, design, or the text type.

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