

**The application of group investigation learning model to increase student's study  
interest**

**A aplicação do modelo de aprendizagem de investigação em grupo para aumentar o  
interesse de estudo do aluno**

**La aplicación del modelo de aprendizaje de investigación grupal para aumentar el  
interés de estudio del estudiante**

Received: 11/19/2020 | Reviewed: 11/19/2020 | Accept: 12/02/2020 | Published: 12/06/2020

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**Abstract**

Group investigation has function to help teacher linked between materials taught in class with students' life condition. Group investigation also pushed students to relate the relation between the lesson and the real condition. The objective of this study is to increase students' learning outcomes in economics through the application of group investigation learning model by using both quantitative and qualitative methodology. The subject of the study is students of High School 1 Bandar, Simalungun in 11<sup>th</sup> grade of social department. These students are given pretest and posttest in two assessments cycle to see the enhancement on their study interest. Pretest is given to see students' ability before the new learning model is implemented, while posttest is used to know the success from using the new method. The result showed that group investigation learning model can enhance the economics learning activities and outcomes. The increased number of active students during the economic lesson using group investigation model proved that it is effective to enhance students' study ability and interest.

**Keywords:** Group investigation; Learning method; Pretest; Posttest.

**Resumo**

A investigação em grupo tem a função de ajudar o professor a relacionar os materiais ensinados em sala de aula com a condição de vida dos alunos. A investigação em grupo também levou os alunos a relacionar a relação entre a aula e a condição real. O objetivo deste

estudo é aumentar os resultados de aprendizagem dos alunos em economia por meio da aplicação do modelo de aprendizagem de investigação em grupo usando metodologia quantitativa e qualitativa. O sujeito do estudo são alunos do Ensino Médio 1 Bandar, Simalungun, no 11º ano do departamento social. Esses alunos recebem um pré-teste e um pós-teste em dois ciclos de avaliações para ver a melhoria em seu interesse de estudo. O pré-teste é dado para ver a habilidade dos alunos antes que o novo modelo de aprendizagem seja implementado, enquanto o pós-teste é usado para saber o sucesso de usar o novo método. O resultado mostrou que o modelo de aprendizagem de investigação em grupo pode potencializar as atividades e resultados de aprendizagem da economia. O aumento do número de alunos ativos durante a aula de economia usando o modelo de investigação em grupo provou que é eficaz para aumentar a capacidade de estudo e o interesse dos alunos.

**Palavras-chave:** Investigação em grupo; Método de aprendizagem; Pré-teste; Pós-teste.

### **Resumen**

La investigación grupal tiene la función de ayudar al maestro a vincular los materiales enseñados en clase con la condición de vida de los estudiantes. La investigación grupal también empujó a los estudiantes a relacionar la relación entre la lección y la condición real. El objetivo de este estudio es aumentar los resultados del aprendizaje de los estudiantes en economía mediante la aplicación del modelo de aprendizaje de investigación grupal mediante el uso de metodología tanto cuantitativa como cualitativa. El sujeto del estudio son los estudiantes de la escuela secundaria 1 Bandar, Simalungun en el 11 ° grado del departamento social. Estos estudiantes reciben una prueba preliminar y una prueba posterior en dos ciclos de evaluación para ver la mejora en su interés de estudio. La prueba previa se realiza para ver la capacidad de los estudiantes antes de que se implemente el nuevo modelo de aprendizaje, mientras que la prueba posterior se utiliza para conocer el éxito del uso del nuevo método. El resultado mostró que el modelo de aprendizaje de investigación grupal puede mejorar las actividades y los resultados de aprendizaje de economía. El mayor número de estudiantes activos durante la lección económica utilizando el modelo de investigación grupal demostró que es eficaz para mejorar la capacidad y el interés de estudio de los estudiantes.

**Palabras clave:** Investigación grupal; Método de aprendizaje; Prueba preliminar; Postprueba.

## 1. Introduction

Education is always and cannot be separated from technology, especially in Indonesia nowadays. Yet, it depends on how school and environment react to the globalization, whether they respond it positive or negative. It is expected that education in Indonesia can give fresh and new things for students but still in accordance with the developed science and technology.

Gagne and Berliner in Rifa'i & Catharina(2011) stated that study defines as a process in which humans can change their behavior due to their experience. Piaget theory claimed that children know and understand their environment through interaction and adaptation with their surroundings or environment itself(Wijayanti, 2015). According to this theory, students should build up their own knowledge through observation, experiment, discussion and others. The implication of this theory against science is teacher should give chance to students to think and use their thought.

Hamalik said that there are some experts who define learning in either general or specific way. For him, learning refers to modification of behavior resulted through experience(Hamalik, 2005). Learning, in its essence, is interaction process between students and their environment that changes their behavior to be better (Mulyasa, 2003). While, Sanjaya defines learning as a complex system which success can be seen through two aspects, that is product and process. He said that the success of learning can be seen through the process and the result produced by students (Sanjaya, 2011). Lately, the growth of science and technology influence the development of education, especially in developed countries. Education as long-term investment in creating human resource quality need to be done in every phase.

School or known as education institution has duty to accompany students develop and expand their potential. School also believed as the only way for humans to have a better life. The success of education in school is really depend on the learning process within the class. This activity has objective to change students' behavior as they desired.

Until today, education in Indonesia is still dominated with paradigm of set of facts that needed to be memorized. The class is still focusing on teacher as the main source of science and lecture as the main choice for learning strategy. Thus, a new learning strategy which more empowering the students, a strategy which not required students to memorize the facts but to push students to construct the problem within their thought, is needed.

Richey defines model as the representation of reality which served with structure and sequence of degree (Richey, 1986). Group investigation is something which done in groups,

consists of students who experience and do some attempts to find principle (Rohaeni, Matsum, & Asriati, 2013). Group investigation has been used in any kind of situation, any field of study and any ages to guide students identify and explore the problem, collect data, and develop and test the hypothesis (Winaputra, 1992). This learning model helps teacher to link between the material taught within the class and the condition in real life. Also, it encourages students to relate the relation between the knowledge they got from school with the situation in their life. It is expected that this model can increase students' study interest and learning outcomes.

Based on that issue, the researcher wanted to use group investigation model to see the enhancement of students' study interest in learning economics in High School 1 Bandar, Simalungun.

## **2. Methodology**

The aim of this study is to enhance the students' learning outcomes in economics through the application of group investigation learning model. Quantitative and qualitative are used as the research methodology. Sugiyono defines quantitative as research method which data was in the form of numbers and statistic analysis.

While qualitative refers to research method that emphasize on social phenomenon which measured in objective aspect (Sugiyono, 2008). The data analysis were analyzed using pretest and posttest. Pretest refers to the beginning of learning process. Its role is to know the early students' ability, the level of students' progress and to define where the learning process should be started. Whereas posttest is the ending of learning process to see the success of the learning by comparing with the pretest result. According to Asmani observing the learning activity has aim to solve or increase students' quality within the classroom during the lesson (Asmani, 2011).

This study was done in the second week of February until the third week of April in High School 1 Bandar, Simalungun. It was done around that month since the material taught needed assessment score through test performance (group or individual task). The subject of this study was the 11<sup>th</sup> grade students of social department with total of 34 students. While the data collection technique used in this study was observation. Observation is used to measure the students' activity level in learning economics and implement the group investigation learning model. The collected data were in the form of students' learning outcomes,

documentation such as photos during the learning process. This study also used class action research which consisted of two cycle activities.

### **3. Result and Discussion**

#### **3.1 First Cycle: Students' activities and learning outcomes**

##### **a. Planning**

Researcher together with collaborator arranged for treatment planning which consisted of;

- Identifying the problems and finding the alternative solutions
- Choosing the lesson material on economics
- Arranging the learning strategy using group investigation model
- Arranging the students' work sheet
- Developing the observation, test and documentation format.

##### **b. Implementation**

The implementation of the first cycle was done on February 4<sup>th</sup>2019 using discovery strategy or known as learning strategy which centered on students) through group investigation model. This cycle was done in one time meeting with time duration of 2x40 minutes. This implementation focused on problem identification and alternative solution, with steps as below:

###### **- Introduction**

Teacher gave appreciation and explained on the material that will be taught for that day.

###### **- Main activities**

Teacher explained in detail about the steps of group investigation learning model. After that, teacher divided the class into 5 groups with 6 members for each group. The teacher also gave name, such as A,B,C,D,E and F for each groups. The task then given based on the name which every A,B,C,D,E and F were differ. After the group finished the discussion, teacher let them present their discussion.

###### **- Closing**

Written test was given for individual task by teacher before ending the class. The teacher also gave reward for groups with high score.

### c. Observation

During the learning process, the teacher was monitored by the collaborator, while the students were monitored by both teacher and collaborator by filling the observation sheet. There were 5 people who monitored the students' activity, including 4 collaborators and 1 person observe students in groups. The observation also took place in strategic area due to not disturb students' activity. The observation result on students' activities in first cycle can be seen in Table 1 below.

**Table 1.** First cycle students' activity during learning process.

No.	Score	Activity	Students	Percentage (%)
1	4	Very active	5	14.70
2	3	Active	7	20.59
3	2	Less active	10	29.41
4	1	Passive	12	35.30
Total			34	100.00

Source: Own Study.

Based on the Table 1, it is seen that there was behavior improvement in first cycle learning process. it is proved by the observation result that from 34 students, there were 5 among them (14.70%) got very good activity category, 7 students (20.59%) with active category, 10 students (29.41%) were less active and 12 students (35.30%) were passive. Next Table 2 shows students with very good outcome learning.

**Table 2.** First cycle students' learning outcomes during learning process.

No.	Score	Score Category	Total	First Cycle (%)
1	85 – 100	Very good	2	5.89
2	70 – 84.9	Good	7	20.59
3	55 – 69.9	Average	17	50.00
4	40 – 54.9	Low	4	11.76
5	0 – 39.9	Very low	4	11.76
Total			34	100.00

Source: Own Study.

The Table 2 above indicated that the total number of students with very good learning outcome category had increased for 2 students (5.89%), 7 students (20.59%) with good category, while students with average learning outcome was 17 students (50.00%), and 4 students (11.76%) for both low and very low learning outcome. Therefore, there was an increase in learning outcome in the first cycle using the application of group investigation model.

### 3.2 Second Cycle: Students' activities and learning outcomes

Similar to the first cycle, group investigation learning model was also done in second cycle on February 11<sup>th</sup> 2019. This second cycle started with reviewing the group steps and revise the students group due to make sure the group was heterogenic. The observation in the second cycle can be seen in table 3 below.

**Table 3.** Second cycle of students' activity during learning process.

No.	Score	Activity	Total	%
1	4	Very Active	7	20.59
2	3	Active	12	35.29
3	2	Less Active	12	35.29
4	1	Passive	3	8.83
Total			34	100.00%

Source: Own Study.

Through the Table 5 above, it can be seen that there was improvement in learning process behavior. From the total students, 7 students (20.59%) were very active, 12 students (35.29%) with active category, 12 students (20.59%) were less active and the remaining 3 students (8.83%) were passive. Compared to the first cycle, this second cycle the active students were increased (Table 4).

**Table 4.** Second cycle of students' learning outcome.

No.	Score	Score Category	Total	Second Cycle (%)
1	85 – 100	Very Good	5	14.71
2	70 – 84.9	Good	9	26.47
3	55 – 69.9	Enough	18	52.94
4	40 – 54.9	Low	2	5.88
5	0 – 39.9	Very Low	0	0.00
				100.00

Source: Own Study.

Based on the Table 4 above, it is seen that the total of the students who receive very good learning outcome category increased to 5 students (14.71%), 9 students (26.47%) for active category, 18 students (52.94) with enough learning outcome, 2 students (5.88%) with low category and zero students (0%) with very low category.

The fact showed that there was reduction on the total students who get low and very low score during the learning process. Therefore, there was improvement in students' learning outcome by using group investigation model.

### 3. Discussion

In every cycles, students' activity during the learning process is taken for data observation along with the test which given in the beginning and end of the cycle. The observation on students' activity in every cycle can be seen in Table 5 below.

**Table 5.** Students' activity in first and second cycle.

No.	Score	Activity	Early	Cycle I	Cycle II
1	4	Very Active	5.88	14.70	20.59
2	3	Active	8.82	20.59	35.29
3	2	Less Active	17.64	29.41	35.29
4	1	Passive	67.66	35.30	8.83
Total			100.00	100.00	100.00

Source: Own Study.



Comparing the data among the cycles on Table 5 above, it indicated that the total number of students who were very active during the learning process using group investigation model was increased for 20.59% in second cycle from the early cycle 5.88% and 14.70% in first cycle. Similar to the active students who also improved from their early cycle 8.82% to be 20.59 in first cycle and 35.29% in second cycle.

Total number of less active students were also increased from 17.64% in the beginning, 29.41% in first cycle and 35.29% in second cycle. However, the fact that showed the enhancement of the less active students during the lesson did not mean that the learning process using group investigation was not successful. But, it occurred because the number of very less active or passive students decreased from its early cycle 67.66% to be 35.30% in first cycle and 8.83% in second cycle. The enhancement on very active and active students and also the decrease of passive students showed that the group investigation learning model could improve the students' participation during the lesson.

The students' activity during the lesson was very influential toward their learning outcomes. An active, creative, effective and fun learning was indeed can create satisfying result. The group investigation learning model applied by the researcher after giving the test in the end of the cycle resulted as below (Table 6).

**Table 6.** Students' learning outcome in first and second cycle.

No.	Score	Score Category	Early	Cycle I	Cycle II
1	85 – 100	Very Good	0.00	5.89	14.71
2	70 – 84.9	Good	11.75	20.59	26.47
3	55 – 69.9	Enough	44.12	50.00	52.94
4	40 – 54.9	Low	26.47	11.76	5.88
5	0 – 39.9	Very Low	17.66	11.76	0.00
Total			100.00	100.00	100.00

Source: Own Study.

Based on the Table 6 above, the enhancement on total students who got very good score category were seen. The early cycle, no student (0.00%) had very good score in class, which then increased to 5.89% in first cycle and increased again in second cycle for 14.71%. This also happened in students with good score, that increase from 11.75% in the early phase to 20.59% in first cycle and in the second cycle the number had reached 26.47%.

Students with enough score category also had enhancement from 44.12% to 50.00% in first cycle and 52.96% in second cycle. Whereas, for students with low and very low score had reduced till it reached zero number. This indicated that the model of group investigation learning was effective in improving students' learning outcome, especially in economics.

#### **4. Conclusion**

In conclusion, group investigation learning model done in High School 1 Bandar, Simalungun had succeed to increase the students' learning outcome, especially in economics. This was proved from the number of students that increased in every cycles.

The very active students enhance from 5.88% to 144.70% in the first cycle and 20.59% in second cycle. This enhancement also happened to active students with 8.82% in the early phase and 20.59% in first cycle, and 35.29% in second cycle. However, the total number of less active students were also increased from 17.64% in the beginning, 29.41% in first cycle and 35.29% in second cycle.

The fact that showed the enhancement of the less active students during the lesson did not mean that the learning process using group investigation was not successful. But, it occurred because the number of very less active or passive students decreased from its early cycle 67.66% to be 35.30% in first cycle and 8.83% in second cycle.

The enhancement on very active and active students and also the decrease of passive students showed that the group investigation learning model could improve the students' participation during the lesson.

#### **Suggestion**

This study suggested teachers of High School 1 Bandar, Simalungun and other teachers of other schools within Simalungun city could be motivated to do action class research. They also hoped could apply the group investigation learning model in every school subjects to enhance the education quality.

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**Percentage of contribution of each author in the manuscript**

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