

The Effect of Guided Inquiry Learning Strategies on the Results of Learning Natural Sciences (Experiment Research in Taruna Terpadu Junior High School, Bogor)

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ABSTRACT

The purpose of this research is to find out the effect of guided inquiry learning strategies on science learning outcomes of students of the Taruna terpadu Bogor Junior High School. Guided inquiry is one of the learning strategies that emphasize students active learning through the investigation with guidance from the teacher. This research uses an experimental method with a quantitative approach that is carried out to test the effect of a variable with other variables. In general, it can be concluded that the guided inquiry learning strategy has a positive influence on the science learning outcomes of students at Taruna Terpadu Junior High School Bogor.

Keywords: experiments, guided inquiry, learning outcomes

1. INTRODUCTION

Education is one of the efforts in providing learning experiences to individuals both through formal and non-formal education programs that last a lifetime through mentoring, learning, and training activities. According to education is an effort to improve the quality of human resources which in turn will play a decisive role in the utilization of natural resources for the sake of improving the quality of life based on thoughts based on future insights [1]. The purpose of education is actually very useful to determine the direction in which a student will be taken, from here it is very clear that education will determine a person's future in the future, through education someone is expected to be able to face future life challenges that have noble character, intelligence, personality and self-control. Junior High School is one of the basic education levels informal education after graduating from elementary school. Junior High School students are generally aged 13-15 years or can be called early adolescence after they go through elementary school education, where at that age children are able to be invited to think further, in other words children can already be invited to use their logic in solving learning problems.

One effort in order to facilitate learning in accordance with the period of development of children's thinking ability and as an effort in order to improve the quality of learning of students, and to improve the effectiveness and efficiency of learning, it is necessary to consider several supporting aspects including those relating to strategies and techniques proper learning. In accordance with the 2013 curriculum, learning in junior high schools requires

students to be active in their learning. In the learning process, a student must carry out his learning tasks actively by making connections and organizing his learning into meaningful concepts. Learning motivation is a strong urge to take action to achieve goals. According to motivation is a physiological and psychological condition found in a person that drives him to carry out certain activities in order to achieve a goal (need) [2]. Based on the results of observations and initial interviews conducted by researchers said that the Integrated Junior High School is one of the private junior high schools that have a lot of interest in the Bogor district environment. At the moment, Taruna Middle School has integrated each grade level to have 14 study groups (ROMBEL), each group consisting of 30-32 students. The admission selection process is not enforced at this junior high school, so that all children may enter and attend this junior high school. In the process of teaching and learning especially science subjects teachers still use conventional learning strategies, teachers do not facilitate students to actively learn and use a variety of learning resources available, so students are less motivated to learn and learning that occurs less pleasant.

The findings that occur indicate that the average science learning outcomes obtained by students are still low, the minimum completeness value for natural science lessons is 75, while the results obtained by students for natural science lessons for the 2017/2018 academic year show 28% above average, and 72% of the scores obtained by students are still below the average. Based on the preliminary observational data, it can be concluded that the learning outcomes of Integrated Taruna Middle School students are still low, this can be caused because students are less motivated in their learning, students are less

actively involved in their learning, seeing the reality that occurs then in the learning of SMP Natural Sciences Integrated cadets need to improve learning strategies used by teachers, teachers must involve more students in the learning process in class, because science subjects are one of the subjects that learn about nature and their contents which are done through observation and experimentation, so science subjects not only mastery of a collection of knowledge in the form of facts, concepts, or principles, but also is a process of discovery.

II. LITERATURE REVIEW

Learning is a process or an attempt by a person to obtain changes in behavior in themselves in the form of knowledge, skills, and attitudes. Learning is one of the efforts made by individuals in order to develop themselves for the better. Research journals said that students who are learning are those who direct their abilities and thoughts seriously to explore and understand the knowledge of subject matter to achieve success in learning [3]. The concept put forward by experts, for example, states that "learning is defined as a change in one's abilities, attitudes, beliefs, knowledge, and / or skills"[4]. From this definition it is clear that in learning there is a process and results involved, a person is said to have experienced learning activities if there is a change in his knowledge, attitude, and skills.

Based on the understanding of learning according to some of these opinions it can be concluded that learning is a change that occurs in individuals both cognitive, affective, and psychomotor as a result of their interactions with the environment. That learning is an activity that involves a person in an effort to obtain knowledge, skills, and positive values by utilizing various sources for learning [5]. Furthermore learning means the process of making people learn [6]. From this understanding the purpose of learning is to help someone to learn by manipulating the learning environment so as to make it easier for people who learn. From the various opinions on the meaning of learning above, it can be concluded that learning is a process of activity that allows teachers to deliver material to students and students can receive material properly in accordance with the desired goals in a learning environment [14].

In their research journals stated that learning outcomes do not only involve cognitive aspects but attitudes, motivations, and performance that affect learning outcomes [7]. Research journal said that the factors that influence learning activities are the use of learning strategies, learning strategies as a tool to create teaching and learning processes, through learning strategies that are expected to grow teaching and learning activities that can create educational interactions [8].

III. RESULTS AND DISCUSSION

The research method used in this study is the experimental method. The experimental research method is research that uses a quantitative research approach conducted to examine the effect of a variable on other variables. In the opinion of "Experimental research involves a study of the effects of the systematic manipulation of one variable (s) on another variable" [9]. Experimental research is research that examines the effect of a variable with other variables. Variables in experimental research consist of variables that influence or are treated or manipulated are called experimental variables or independent variables or independent variables, while variables that are observed or measured as a result of variables that influence are called dependent variables or dependent variables or control variables. The dependent variable and the independent variable in this study, with the following details [20-21]:

- a. The dependent variable in this study was the learning outcomes of Bogor Taruna Integrated Junior High School students.
- b. The independent variables in this study consisted of two, namely:
 1. Treatment variables: learning strategies consisting of guided inquiry learning strategies and interactive expository learning strategies.
 2. Moderator variables: motivation to learn, which consists of high motivation and low motivation.

This research was conducted on students who study at Bogor Integrated Junior High School Taruna which were divided into two groups, namely students who were given treatment and groups that functioned as controls. The results of learning motivation instruments that have been filled out by students are used as a basis in determining which groups have high learning motivation and groups that have low learning motivation [12-13].

The object of this research study is to see the effect of guided inquiry learning strategies and interactive expository learning strategies as well as high learning motivation and low learning motivation towards the learning outcomes of Bogor Taruna Integrated Junior High School students, the research method chosen is an experimental method with 2 x 2 factorial design [18-19].

Population is a generalization area consisting of: objects / subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions [10]. This means that the population is the target in a study [16]. The target population in this study were all regular class students of the Taruna Integrated Bogor Junior High School, totaling 1140 students, and the targeted population was all regular 8th grade students in the 2018/2019 academic year consisting of 12 parallel classes with 360 students [17].

The research sample is part of the total population selected in the research data source. The sampling technique in this study was carried out by random sampling technique. This technique is used because the sampling of members of the population is done randomly without regard to strata in the

population. The determination of the experimental class and the control class were carried out by randomly selecting two classes used in the study of the existing class that was drawn with lottery numbers 1 through number 12, then two numbers were taken. The first number that comes out is made as an experimental class (the class that is given the treatment of a guided inquiry strategy) and the second number that comes out is used as a control class (a class that uses an interactive expository strategy).

Specifically, this study aims to find out:

1. Differences in science learning outcomes between students who are taught using guided inquiry learning strategies and those who are taught using interactive expository strategies.
2. The effect of the interaction between learning strategies and students' learning motivation on the learning outcomes of Natural Sciences.
3. Differences in learning outcomes of students who have high learning motivation who are taught using guided inquiry learning strategies with those who are taught using interactive expository strategies.
4. Differences in science learning outcomes of students who have low learning motivation who are taught using guided inquiry learning strategies with those who are taught with interactive expository strategies.
5. Differences in science learning outcomes of students who have high learning motivation and students who have low learning motivation who are taught using guided inquiry learning strategies.
6. Differences in science learning outcomes of students who have high learning motivation and students who have low learning motivation who are taught using interactive expository strategies.

This study uses a treatment design on a 2x2 treatment by level design consisting of learning strategies (A), and learning motivation (B). Learning strategies (A) consist of groups that are treated guided inquiry strategies (A1) as an experimental class, and interactive exposure strategies (A2) as a control class. Whereas learning motivation (B) consists of two groups namely high learning motivation group (B1) and low learning motivation group (B2).

IV. CONCLUSION

Based on the results of the above research, it can be concluded:

1. Learning is a process or an attempt by a person to obtain changes in behavior in themselves in the form of knowledge, skills, and attitudes.
2. learning outcomes do not only involve cognitive aspects but attitudes, motivations, and performance that affect learning outcomes.
3. Motivation to learn is a strong urge to take action in achieving goals.
4. factors that influence learning activities, namely the use of learning strategies, learning strategies as a tool to create teaching and learning processes, through learning strategies are expected to grow teaching and

learning activities that can create educational interactions.

5. This study is a preliminary study in which the research method used is an experimental research method using a treatment design by 2x2 level treatment.

ACKNOWLEDGMENT

This research work is supported by the SMP Taruna Terpadu Bogor.

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