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The Effect Of Ideal Metacognitif Strategy on Achievement In Mathematic

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ABSTRACT
The aim of the study was to determine the effect metacognitif ideal strategy on achievement in math class X SMA Bakti Idhata Jakarta. The method used in this study is the experimental method, sampling technique using simple random sampling technique. Instruments to collect data on research in the form of a multiple choice test consisting of 20 items. Based on the calculation of the t-test then H0 rejected and H1 accepted. It can be concluded that the average math student achievement that are given ideal strategy metacognitif higher than the average of students' mathematics learning outcomes which were given conventional strategy. Thus, the ideal strategy metacognitif influence on achievement in math.
Keywords: IDEAL, metacognitif strategy, Mathematics Learning Outcomes.

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INTRUDUCTION

Mathematics is essentially a deductive formal axiomatic systems. As an axiomatic system, mathematics contains components and rules of composition or workmanship to establish a functional relationship between components. This has implications on learning outcomes in mathematics are not satisfactory. According Ruseffendi (2000) that "there are children who, after studying mathematics sederhanapun many do not understand, many of the concepts are misunderstood".

The low value of mathematics students were also influenced by the way delivery of content by teachers. Unable to dipungkri methods used by teachers in presenting the material, especially the math is still dominated by conventional methods. So students who already think math is a scourge to be less interested in mathematics. The conventional method makes students consider that mathematics is a lesson that must be memorized formulas that are especially hard to learn mathematics for students.

Therefore, it needs a learning strategy that can improve students' mathematics learning outcomes. One strategy that can improve the results of learning mathematics is metacognitive strategy types IDEAL. This strategy is able to construct students 'thinking and have an impact on students' mathematics learning outcomes

Achievement in Matematika

According Sunarto and Hartono (2006) " achievement is a combination of innate factors and environmental influences (the basic factors and teaching)". This means that the basic factors that affect prominent in cognitive abilities can be distinguished in the form of the natural environment and the environment created. Level cognitive abilities reflected in learning outcomes as measured by achievement test.

According Lestari (2012) " achievement is the result of one's learning process". This means that the learning outcomes associated with changes in those who learn. Shape changes as a result of studying the form of changes in knowledge, understanding, attitudes and behavior, skill and proficiency. Changes in the sense of the changes caused by the growth was not considered as a result of learning. Changes as a result of learning are relatively sedentary and have the potential to develop.

According Sudjana cited by Kustawan (2013) " achievement are the abilities of the students after receiving their learning experiences". This means that the results of learning is the ability of the student after the student actively participates in the learning process.

Based on the description above, it can be concluded that the achievement in mathematic is the change in the ability to understand and apply the concepts and developing thinking skills, problem-solving, as well as the intellectual ability to the subject sequence and series.

Metakognisi

Metacognition (metacognition) is a term introduced by Flavell in 1976. According to Flavell, cited by Livingston (1997), metacognition consists of metacognitive knowledge (metacognitive knowledge) and experience or metacognitive regulation (metacognitive experiences or regulation). Metacognitive knowledge refers to the acquired knowledge of cognitive processes, knowledge that can be used to control the cognitive processes. While the experience is the metacognitive processes that can be applied to control cognitive activities and achieve the objectives of the cognitive.

Meanwhile Margaret W. Matlin (1998) in his book entitled Cognition, stated: "metacognition is our knowledge, awareness, and control of our cognitive process". Metacognition, according Matlin, is pengeta-huan, awareness, and control of cognitive processes that occur yourself.

Taccasu Project (2008), metacogition is. 1) Metacognition is the part of planning, monitoring and evaluating the learning process. 2) Metacognition is is knowledge about one's own cognitive system; thinking about one's own thinking; essential skill for learning to learning. 3) Metacognition includes thoughts about what are we know or don't know and regulating how we go about learning. 4) Metacognition involves both the conscious awareness and the conscious control of one's learning. 5) Metacognition is learning how to learn involves possessing or acquiring the knowledge and skill to learn effectively in whatever learning situation learners encounters.

IDEAL Metacognitif Strategy

IDEAL learning strategy introduced by Bransford as a learning strategy that is used to help students in metacognitive processes, especially in improving the ability to think and solve problems. IDEAL stands for I-Identify the problem, D-Define goal, E-Explore possible strategies, A- Anticipate outcomes and act, L-look back and learn. IDEAL is designed to help identify and understand the different parts of the resolution of a problem, each letter symbolizes an important component in the process of completion, namely: (a) identify problems that others may have overlooked; (b) develop at least two sets of contrasting goals for any problem and define them explkitly; (c) explore strategies and continually evaluate their relevance to their goals; (d) anticipate the effects of strategies before acting on them; and (e)look at the effects of their efforts and learn from them. *(* Bransford,1984)

Explanation of the 5 stages in the IDEAL as follows below: (Bransford, 1993)

1) Identify the problem
2). Setting Goals
3). Exploring possible strategies
4). Implement the chosen strategy
5). Look back and learn

The Present Study

Title of the study: the effect of IDEAL Metacognitif strategy on achievment in mathematic

Objectives

The study the effect of IDEAL Metacognitif strategy on mathematic

HYPOTHESES OF STUDY

- H_1: there is significant difference on achievment in mathematic the student haigh school eleven taught throuhg IDEAL Metacognitif strategy on

Independent Variabel

- The treatment is teaching mathematic using IDEAL Metacognitif Strategy

Dependent variabel

- Achievement in mathematic: refer to the scor obtained by the students in the acievement test in mathematic prepared by authors

Population of the study

- The population consisted of all student studying in Bakti Idhata school, Cilandak. Jakarta, Indonesia

Sample of the study

- The sample consisted randomly selected eleven students in Bakti Idhata school, Cilandak. Jakarta, Indonesia

Tools used in the study

- Instructional material in math using IDEAL metacognitif strategy on selected topic from text book
- Achievement test in math constructed by the authors on the basis of selected topics from text book which were considered for the treatment

Procedure of data collection

Post test group design was followed in the study. The experimental procedure involved two phases as given below.

Phases I

- The exsperimental group was given instructional 10 session with the specially designed instructional material based on IDEAL metacognitif strategy prepared by authors.

Phases II

- Achievement test in math were administered to the exsperimental group

Descriptive statistics

Descriptive statistics mainly mean, median, mode, standars deviation, cumulative percentage of distribution was computed and graphical Representation like ogives were employed to analyze the variabeles of the study

Inferential statistics

The inferencial statistic t test was used to test the significant of diffrence between the mean post test of convensional strategy and IDEAL metacognitif strategy on achievement in math.

FINDING AND DISCUSSION OF THE STUDY

The research was conducted for approximately 3 weeks in high school Bakti Idhata Jakarta in class XI where students are placed in classes evenly with the same capabilities without classification class (class and regular seed). During the learning process conducted in this study, researchers used two classes. The experimental class learning about geometry uses the ideal material metacognitif strategy while the control group was given conventional strategy.

During the study period the researchers found several factors that cause difficulties for students to learn mathematics. Those factors are the nature of mathematics itself which is aksiomatris formal deductive model used by teachers unattractive, lack of motivation of the student to learn.

Mathematics that are aksomatris formal deductive namely the nature of interconnectedness between the statement of the previous statement. As a system aksiomatris, mathematics contains components and rules of composition or workmanship to establish a functional relationship between components. This makes learning difficulties matermatika students, because students do not understand the material before making it difficult to learn and understand the material next.

Currently very rapid growth strategy. A variety of models and methods developed in order to improve student learning outcomes. But in mathematics are still a few teachers who use an effective strategy, in schools where researchers study the average pass math teacher is still using a conventional strategy that has been grounded. This is reasonable because of the nature of mathematical abstraction and formal deductive aksiomatris so that teachers have a distinct fear that serious students can not learn when to use another strategy. It certainly can be overcome with the creativity of teachers in presenting the material. strategy can diseuaikan with the material presented.

Important factors that affect the difficulty learning mathematics is the motivation of the student. No matter how much effort the teachers in presenting the material, and interesting as any strategy that is used, however, if the low student motivation to learn the results will not be maximized. Low student motivation is strongly influenced by developments in technology, where the gadget is very easy to obtain. The situation encountered by researchers in the field, namely during school hours students are busy with gadgets, especially mobile phones. It clearly reduces the level of concentration of students in learning, because students focus more on gadgets than the lessons delivered by teachers.

Mathematics is aksiomatris formal deductive in the process to establish a functional relationship between components. Mathematical thinking involves searching for connections, and make connections to build an understanding of mathematics. If students have a mathematical connection capabilities will make it easier for students to learn math so that student learning outcomes satisfactorily.

Ideal metacognitif is a learning strategy that emphasizes the provision of project or task, which is expected to be focused on the learning materials that are considered important and can stimulate students' sense of responsibility in carrying out the project that has been given by the teacher in accordance with the group. Metacognitif ideal strategy to stimulate the students to understand the situational problem by using a specific form of representation, discuss and evaluate the problem solving. Conditions encountered researchers in the field, students enthusiastically participated in learning activities as students discover new things in learning activities and may participate in the learning activities are almost entirely student-centered.

How to improve student learning outcomes is to solve problems or factors that cause difficulties students learn some vital lessons. One way to use meodel appropriate learning and effective so that not only can

help students understand the material given by the teacher, but also can improve students' motivation to learn.

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