



THE EFFECT OF THE CLASSROOM CLIMATE, STUDENTS' ATTITUDES, AND PERCEPTIONS ON MATH TOWARD THE ASSOCIATION MATERIAL LEARNING OUTCOMES THROUGH STUDENTS' MOTIVATION OF CLASS VII SMP IN THE DISTRICT OF KOLAKA

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Abstract

The Influence of The Classroom Climate, Students Attitude and Perception in Mathematics toward Mathematics Learning Outcomes through Learning Motivation of Class VII Student at SMPN in Kolaka. This research aimed to discover the description and the influence of classroom climate, student's attitude and perception in mathematics toward the association material learning outcome through learning motivation of class VII students at SMPN in Kolaka. This research was causality *ex-post facto* research. The sample and population of this research was the student of class VII of SMPN in Kolaka subdistrict with the total of 227 students in academic year of 2013/2014 chosen by using proportional cluster random sampling. The instruments of this research were: 1) classroom climate scale, 2) the students' attitude in mathematics scale, 3) the students' perception in mathematics scale, 4) learning motivation scale, 5) the test of mathematics learning outcomes in class VII. The data was analyzed by descriptive statistic and path analysis. The result of the research showed that: 1) 227 students of class VII at SMPN in Kolaka had: classroom climate was in high category, the students' attitude in mathematics was in high category, the students' perception in Mathematics was in high category, learning motivation was in high category, and the cognitive learning outcomes was in high category; 2) there were positive and significant influence of the classroom climate toward the students' outcome directly and or indirectly through the students' learning motivation in mathematics ; 3) there were positive and significant influence of the students' attitude in mathematics toward the students' outcome directly and or indirectly through the students' learning motivation in mathematics; 4) there were positive and significant influence of the students' perception in mathematics toward the students' outcome directly and or indirectly through the students' learning motivation in mathematics; 5) there were positive and significant influence of the students' learning motivation toward the students' outcome directly and or indirectly through the students' learning motivation in mathematics.

Keywords: *Learning Outcomes of Mathematics, Classroom Climate, Learning Motivation, Perception in Mathematics and Students in Mathematics.*

A. Introduction

Mathematics as a basic science is one of the subjects that play an important role in every level of education as a means of logical thinking, critical, analytical, rational and systematic. Because it is expected to provide basic mathematical thinking skills of students in other subjects and can be useful in everyday life.

But in fact the mathematics achievement in Indonesia showed unsatisfactory results. This can be seen by the results of Trend in International Mathematics and Science Study (TIMSS) and PISA. The mean mathematics achievement of Indonesian students at TIMSS 1999 is the 403

ranks 34th out of 38 participating countries. The mean mathematics achievement of Indonesian students in the TIMSS 2003 is the 411 ranks 35th out of 46 participating countries. Then, the average Indonesian student math achievement in TIMSS 2007 was 379 ranks 36th out of 49 countries in TIMSS 2011 Indonesia was ranked 38 out of 45 countries with a score of 386. This score has decreased when compared with 2007, at which time Indonesia ranks 36 of 49 countries with a score of 397. The mean mathematics achievement of Indonesian students in PISA 2000 was 367 ranks 39th out of 41 participating countries. Average student mathematics achievement in 2003 was 360 Indonesia is ranked 38 out of the 40 participants. The mean mathematics achievement of Indonesian students in PISA 2006 was 391 ranks 50 out of 57 participating countries, Indonesia in PISA 2012 is ranked 64 out of 65 participating countries with a value of 375 (Tiro, M. A, 2012).

We need to realize that although various attempts have been made to improve mathematics achievement of students as good as the curriculum, complete facilities, the ability of teachers to manage the learning process, would be meaningless if students are not serious in their learning activities. Seriousness of students in learning is determined by various factors. Many factors come from inside and outside the self-learners that affect learning outcomes in mathematics and also the limitations of the author in a variety of things such as cost, time, and abilities. The authors confine themselves to the study, namely Climate Class, attitudes and perceptions of students in mathematics and motivation to learn as internal factors that influence students' mathematics learning outcomes.

The formulation of the problem in this study as follows.

1. How much influence the classroom climate, both directly and indirectly to the learning outcomes of association material through learning motivation Semester students of class VII SMP Negeri in District of Kolaka?
2. How much influence the attitudes of students in mathematics directly or indirectly to the learning outcomes of association material through learning motivation Semester students of class VII SMP Negeri at Kecamatan Kolaka?
3. How much influence the perception of students in mathematics directly or indirectly to the learning outcomes of association material through learning motivation Semester students of class VII SMP Negeri at Kecamatan Kolaka?
4. How much influence learning motivation to the learning outcomes of association material Semester students of class VII SMP Negeri at Kecamatan Kolaka?
5. How much influence the classroom climate, attitudes, and perceptions of students of association material directly or indirectly through the students' motivation Semester class VII SMP Negeri in district Kolaka?

Adapun tujuan dalam penelitian ini sebagai berikut.

1. To investigate how much influence the classroom climate, both directly and indirectly to the learning outcomes of association material through learning motivation Semester students of class VII SMP Negeri in District of Kolaka?
2. To investigate how much influence the attitudes of students in mathematics directly or indirectly to the learning outcomes of association material through learning motivation Semester students of class VII SMP Negeri at Kecamatan Kolaka?
3. To investigate how much the perception of students in mathematics directly or indirectly to the learning outcomes of association material through learning motivation Semester students of class VII SMP Negeri at Kecamatan Kolaka?
4. To investigate how much learning motivation to the learning outcomes of association material Semester students of class VII SMP Negeri at Kecamatan Kolaka?
5. To investigate how much the classroom climate, attitudes, and perceptions of students of association material directly or indirectly through the students' motivation Semester class VII SMP Negeri in district Kolaka?

B. Literature Review

1. Learning Outcomes

According to Hamalik (2009: 30) that the learning outcomes are changes in a person's behavior from not knowing to knowing, of not understand being understood. Changes in question is changes in knowledge, understanding, habits, skills, appreciation, emotional, social relationships, physical, ethical or moral character, and attitude. Ratumanan (2004: 5) argues that the cognitive learning is the learning outcomes related to thinking, knowing, and solve problems.

So it can be concluded that the cognitive learning is the result obtained after the students learn the material presented in the learning process. Math means learning outcomes (cognitive domain) is the result of the learning process of mathematics, which can be expressed in value or semester exam math test scores

2. Classroom Climate

Classroom climate is a broad concept, which includes mood (feeling) or the atmosphere created by the class teacher with the rules set forth, the way teachers interact with students, and how the physical environment is managed (Freiberg and Stein, 1999; Creemers & Reezit 1999 in Muijs Daniel & David Reynolds, 2008: 165). A crucial aspect of classroom climate is the relationship between teachers and students and among students.

According to Moos (Widoyoko, 2012: 193), classroom climate has three general dimensions that can be used to measure psychological and social environment. The third dimension is the dimension of the relationship (relationship), the dimension of personal growth and development (personal growth / development), and the dimensions of change and improvement of the system (system maintenance and change). The relationship dimension measure the extent of the involvement of students in the classroom, the extent to which learners mutually supportive and helpful, and the extent to which they can express their abilities freely and openly. These dimensions include affective aspects of interaction between students and between students and teachers. Scales classroom climate that is included in this dimension is the compactness (cohesiveness), satisfaction (satisfaction) and engagement (involvement). Compactness (cohesiveness) measures the extent to which students identify, help and support each other.

3. Students' Attitude toward Math

Attitude is the internal dimension affective symptoms such as a tendency to react or respond (response tendencies) in a relatively fixed to the object of people, goods, and so forth (Muhibbin Shah, 2007: 149). Dimiyati & Mudjiono (2006: 239) argue that the attitude is the ability to pass judgment on something that brings in accordance to assessment. Their judgments about things resulted in the attitude to accept, reject, or ignore. Students have the opportunity to learn, but students can accept, reject, or ignore the opportunity to learn it. The structure consists of three components attitude of mutual support the cognitive component (cognitive), the affective component (affective), and conative component (conative).

4. Students' Attitude toward Association Materials

Branca in Bimo Walgito (2010: 100) suggests that the perception of an organization, with the interpretation of the stimulus on the senses that is a good thing, and an integrated response within the individual. Therefore, in sensing people will associate with the object. With perceptions of individuals will be aware of his surroundings and also the state itself. Because perception is an activity that is integrated within the individual, then what inside people will participate actively in perception is. Based on this, the perception can be put forward for feeling, thinking skills, individual experiences are not the same, then in perceiving something stimulus, the result might have been different perceptions between one individual with another individual.

Based on these discussions, the researcher concluded that the perception is the response of a picture or image of an object obtained by the individual through the senses, then organized, interpretation, and evaluated, so as obtain the meaning (sense) of an object.

5. Learning Motivation

In learning activities, motivation can be considered as the overall driving force within the students who lead learning activities, which ensures continuity of learning activities, so that the desired destination by a subject of study that can be achieved (Sardiman, 2011: 75). According to Uno (2012: 23) motivation to learn is internal and external encouragement to students who are learning to hold a change of behavior in general.

6. Research Hypotheses

The following are the hypotheses that are used in this study:

1. Classroom climate positively and significantly impacts on learning outcomes of mathematics either directly or indirectly through the motivation to learn.
2. The attitude of the students on the mathematics positively and significantly impacts on learning outcomes of mathematics either directly or indirectly through the motivation to learn.
3. Perception of students on the mathematics positively and significantly impacts on learning outcomes of mathematics either directly or indirectly through the motivation to learn.
4. Motivation to learn positively and significantly impacts on learning outcomes in mathematics.
5. Attitudes and Perceptions of students on mathematics together positively and significantly impact on learning outcomes of mathematics either directly or indirectly through the motivation to learn.

C. Methodology

1. Research Design

This research was ex-post facto nature of causality. The researcher will explore the causal relationship (causal) and test hypotheses that have been formulated previously, namely: climate class, attitudes and perceptions of students in mathematics and motivation to learn the mathematics learning outcomes.

2. Population and Sample

The population in this study were all students of class VII SMP Negeri in District Kolaka 2013/2014 academic year, as many as three schools namely SMP Negeri 1 Kolaka, SMP Negeri 2 Kolaka, SMP Negeri 3 Kolaka by the total number of students from each school are especially class VII is 571 students. The sampling method used to obtain a random sample and can represent the characteristics of the population to the purpose of this research is to use the technique of proportional cluster random sampling with a sample size of this study was 227 students.

3. Collection and Data Technique Analysis

The data collection is done by using achievement test and questionnaire. Achievement test made by material indicators set, while the questionnaire prepared by the scale of measurement consisting of classroom climate scale, a scale of student attitudes on Mathematics, scale perceptions of students in math, and learning motivation scale. An alternative answer on a scale that is used consists of Strongly Agree (SS), Agree (S), Ragu-Ragu (RG), Disagree (TS), Strongly Disagree (STS) (Widoyoko, 2012: 106). The scoring on this scale ranging from 1-4 based on the items that are favorable and unfavorable. For items that are favorable score answers SS = 5, S = 4, RG = 3, TS = 2, STS = 1. For items that are unfavorable score answers SS = 1, C = 2, RG = 3, TS = 4, STS = 5. Analysis of the data used in the study was descriptive and inferential statistics. Descriptive statistics is required to describe the data of the variables of the proposed research includes the mean, median, variance, skewness, kurtosis, minimum, maximum, and percentage analysis. Inferential statistics was for the purpose of analysis and validation of the proposed model and hypothesis testing. Therefore, the technique was used path analysis using the program package AMOS (Analysis Of Moment Structure) IBM IBM SPSS version 20.0 and version 20.0.

D. Finding and Discussion

1. Findings

Based on the results of descriptive statistical analysis showed that in general the average score obtained by the students of class VII Junior High School in the district of Kolaka are: for the class amounted to 53.74 climatic variables that are in the category of "high", the average score of students' attitude on amounting to 67.17 that are in the category of "good", the average score on the math student perception of 65.07 that are in the category of "good", and the average score of 68.68 learning motivation that are in the category of "high" and an average score of 75.57 mathematics learning outcomes that are in the category of "high".

Based on the calculation results of path analysis using SPSS 20, then the path diagram for the analysis of decomposition model, as follows:

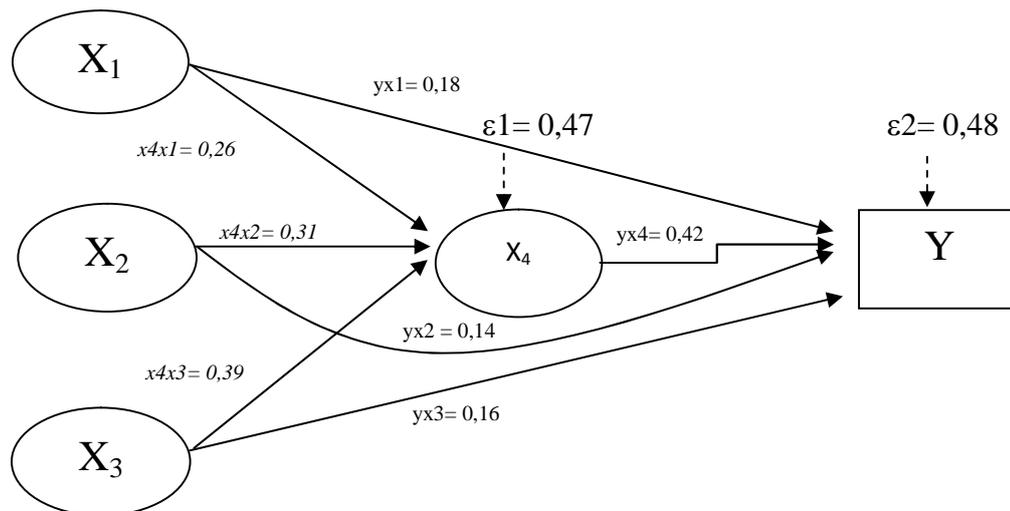


Figure: Paradigm of the Relationship among Variables

2. Discussion

Based on the results of testing the first hypothesis suggests that climate class positive and significant impact directly on learning outcomes of mathematics with path coefficient value of 0.18, $p = 0.001 < \alpha = 0.005$ or a contribution of 9%, and indirectly (through motivation learning) with a path coefficient value of 0.11, $p = 0.001 < \alpha = 0.005$ or a contribution of 21%, these results are supported by the results of research conducted by Wahyudi (2003) proved that there is strong correlation between student achievement in a class with moods or social environment created in the class. This is in line with the opinion of Hadiyanto and Subianto (Widoyoko, 2012: 191) states that the classroom climate that is conducive to be able to create fruitful interaction among learners, foster the spirit which enables activities in the classroom is going well and support the understanding between teachers and participants learners.

The second hypothesis testing results show that students perform mathematical positive and significant impact directly on learning outcomes of mathematics with path coefficient value of 0.31, $p = 0.001 < \alpha = 0.005$ or contributed by 17%, and indirectly (through motivation to learn) with the path coefficient value of 0.13, $p = 0.001 < \alpha = 0.005$ or a contribution of 23%. This is in line with the opinions expressed Aunurrahman (2009: 179) The attitude of student learning will be realized in the form of feeling happy or not happy, agree or disagree with these things. Feeling happy or not is what will build students 'motivation in learning, so that students who have an attitude of willingness to accept or emotionally to learn the students' motivation will be higher as well. This kind of attitude will affect motivation for learning outcomes are achieved. Something that creates a feeling of pleasure, tend to be repeated.

Based on the results of testing the third hypothesis suggests that the perception of students on the mathematics positive and significant effect directly on the results of students' mathematics learning with path coefficient value of 0.41, $p = 0.001 < \alpha = 0.005$ or a contribution of 23%. and indirectly (through motivational learning) with a path coefficient value of 0.16, $p = 0.001 < \alpha = 0.005$ or contributed by 25%. Also in line with the opinion of Thoha (2002: 155) argues that the motivation that are there in a person will determine how a person's perception in addressing the object or situation is concerned, perception has a great influence on their motivation and vice versa motivation may also affect perception.

Based on the results of the fourth hypothesis testing showed that motivation to learn positive and significant impact on learning outcomes of the mathematics class VII SMP Negeri in District Kolaka with path coefficient value of 0.42, $p = 0.001 < \alpha = 0.005$ or contributed by 29% , In line with the opinion of Travers (Ratumanan, 2004: 85) argues that the motivation can result in a person doing an activity, can push their physical changes, emotional changes, changes in one's perceptual and cognitive changes.

Meanwhile, Ratumanan (2004: 87) argues that in teaching and learning, motivation can function as business drivers of learning and achieving better learning outcomes.

Based on the results of the fifth hypothesis testing showed that the attitudes and perceptions of students on mathematics together positive and significant impact directly on learning outcomes of students' mathematics class VII Negeri in districts Kolaka with path coefficient value of 0.30, $p = <\alpha = 0.005$ or contributed by 15%, and indirectly (through motivational learning) with a path coefficient value of 0.29, $p = <\alpha = 0.005$, or a contribution of 14.5%. this is in line with the opinion of Lindgran (Nurdin, 2006) suggests that the student's behavior (motivation to learn) is determined by the perception within the individual, the behavior will change. Furthermore, Narang (Nurdin, 2006) suggests that learning achievement is the overall behavior of individuals is determined partly by the perception.

E. Conclusion

1. Descriptive analysis showed that the attitude of students in mathematics and perceptions of students in mathematics as well as the motivation to learn to be in the high category of the five categories set. Likewise with math learning outcomes Junior High School seventh grade students in the district of Kolaka are in the high category of the five categories set.
2. Classroom Climate positively and significantly impacts directly on learning outcomes of mathematics with path coefficient value of 0.18, $p = 0.001 < \alpha = 0.005$ or a contribution of 9%, and indirectly (through motivational learning) with coefficient lanes of 0.11, $p = 0.001 < \alpha = 0.005$ or a contribution of 21%.
3. The attitude of the students on the mathematics positive and significant impact directly on learning outcomes of mathematics with path coefficient value of 0.31, $p = 0.001 < \alpha = 0.005$ or contributed by 17%, and indirectly (through motivational learning) with path coefficient value of 0.13, $p = 0.001 < \alpha = 0.005$ Perception of students on the mathematics positive and significant impact on the students motivation in class VII SMP Negeri districts Kolaka. The amount of direct influence on the students' perception on motivation to learn math by 23%.
4. Perceptions of students in mathematics positive and significant effect directly on the results of students' mathematics learning with path coefficient value of 0.41, $p = 0.001 < \alpha = 0.005$ or a contribution of 23%. and indirectly (through motivational learning) with a path coefficient value of 0.16, $p = 0.001 < \alpha = 0.005$ or contributed by 25%.
5. Motivation to learn positive and significant impact on learning outcomes of the mathematics class VII SMP Negeri in District Kolaka with path coefficient value of 0.42, $p = 0.001 < \alpha = 0.005$ or contributed by 29%.

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