



## EFFECT OF STUDENTS' LEARNING INTERESTS, ATTITUDES, AND PERCEPTION ABOUT TEACHER'S TEACHING TECHNIQUE TOWARD MATH LEARNING OUTCOMES IN CLASS VIII SMP NEGERI IN THE DISTRICT BULUKUMBA

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### Abstract

The influence of students' learning interest, attitude, and perception on teacher's teaching technique toward math learning outcome of the Eight Grade Students at State Secondary Schools in Bulukumba. Mathematics learning outcomes one of measuring tools to know the quality of a mathematics learning outcomes; however; this research is limited into learning interest, attitude, and student's perception on teaching method. It aims to reveal the influences of learning interest and student's perception on teaching method toward students' mathematics learning outcomes both directly and indirectly through attitude to mathematics subject of the eight grade students at state secondary schools in Bulukumba. Population of this research was 235 students at class VIII of 34 state secondary schools in Bulukumba, in academic year of 2013/2014 which included in A, B, and C accreditation. The sample was taken though proportional stratified random sampling. Moreover, the instruments used in this research were: 1) scale of learning interest, 2) scale of student's perception on teaching method, 3) scale of attitude in mathematics as well as mathematics learning outcome test. Data analysis applied a descriptive statistics and SEM (Structural Equation Modeling) analysis. The result shows that: 1) most of eight grade students of state secondary school in Bulukumba have 84% students with a good learning interest, 76.5% of them have a good perception on teaching method, and 77% of them have a good attitude to the mathematics subject; 2) learning interest and student's perception have a significant positive influence to the attitude in mathematics learning; 3) learning interest, students perception on teaching method, and attitude toward mathematics subject has a significant positive influence toward mathematics learning outcomes; 4) learning interest has a significant positive influence to the student's perception on teaching method; 5) learning interest has a significant positive influence indirectly though the attitude toward mathematics learning outcomes; and 6) students' perception on teaching method has a significant positive influences indirectly through the attitude toward mathematics learning outcomes.

**Key Words :** *Learning Outcomes of Mathematics, learning interest, attitude, students perception on teaching method of teacher*

### A. Introduction

Mathematics is a science that is very useful in solving the problems of life and in an effort to understand the other sciences. In each level of education, learning mathematics for students is not easy, because math is abstract. Especially for students who are still in junior high school, especially the eighth grade students are required to think abstractly and understand verbal symbols, are still experiencing difficulties.

Huzzah (2008) suggests, according to the research team Program of International Student Assessment (PISA) in 2001 showed that Indonesia was ranked 9th out of 41 countries in

mathematical literature category. Meanwhile, according to the study Trends in International Mathematics and Science Study (TIMSS) in 1999, mathematics in Indonesia is ranked 34th out of 38 countries (data UNESCO).

Given the considerable number of variables that come from inside and outside the student that affects the outcome of learning mathematics, as well as the limited number of researchers in a variety of things such as cost, time, and abilities, the researchers limit themselves to the study, which only pay attention to variable interest in learning, attitudes the math, and perceptions of students about how teachers teach for learning outcomes, especially mathematics. The results that will be obtained are expected to be useful information in an effort to improve mathematics learning outcomes at every level of education, particularly at secondary school.

The formulation of the problem in this study as follows.

1. How is description of interest in learning math, attitudes toward math, perceptions of students on the teachers' teaching technique, and the results of students' mathematics learning in class VIII SMP Negeri in Bulukumba?
2. How does learning and perceptions of students on the teachers' teaching technique at the eighth grade at Junior High Schools in Bulukumba?
3. How much influence on attitudes, the interest in learning, students' perceptions on the teachers' teaching technique in math at class VIII students at Junior High School in Bulukumba?
4. How much influence on the interest in learning, attitudes toward math, and perceptions of students on the teachers' teaching technique in mathematics for learning outcomes for the eighth grade students at SMP Negeri in Bulukumba.
5. How much influence on the indirect interest in learning and students' perception on the teachers' teaching technique in mathematics for learning outcomes through attitude toward math at class VIII students at Junior High School in Bulukumba?

## **B. Literature Review**

### **1. Mathematic Learning Outcome**

The result of learning is the ability of the students after receiving their learning experience. The process of assessment of learning outcomes can provide information to teachers about student progress in achieving the goals of learning through learning activities. According to (Hamalik, 2009: 20) The results of learning a thing that can be viewed from two sides of the side of the students and teachers.

### **2. Learning interest**

According to Elizabeth B.Hurlock in Murtafiah (2013: 26) writes about the function of interest for the life of a child as follows: (1) interest affecting the shape of the intensity of aspiration, (2) interest as a strong driving force, (3) the results are always influenced by the type and intensity, (4) interest formed since childhood often carry over lifetime due to interest bring satisfaction.

### **3. Attitude toward Math Lesson**

Slameto (2010: 188) states that the attitude involves three components, namely the cognitive component, affective component, and component behavior. The attitude is always concerned with an object, and the attitude is accompanied by positive or negative feelings. Thus a student will be positive if they see something of value in his view, on the contrary to be negative if you see a worthless or harmful.

### **4. Students' Perception of How Teachers Teach**

Miftah Toha in Arisana, Arga Iacopa & Ismani (2012) says that perception is a cognitive process experienced by everyone in understanding the information about the environment, whether through sight, hearing, appreciation, feeling and smell. Students' Perceptions of Teaching Quality of Good teacher will give a sense of comfort in following the lessons and will facilitate students in the material presented by the teacher so that the learning achievement will be able to achieve optimal results.

### **5. Research hypothesis**

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

1. Hypotheses regarded direct prediction

Hypothesis 1; Interest in learning positively effects on the students' perception on the teachers' teaching technique

Hypothesis 2; Interest in learning positively effects on the attitude of the math  
 Hypothesis 3; Students' perception on the teachers' teaching technique positively influences on the attitude to the math

Hypothesis 4; Interest in learning positively influences on mathematics learning outcomes

Hypothesis 5 teachers' perception on the teachers' teaching technique positively influences on mathematics learning outcomes

Hypothesis 6; Attitude to the math instruction positively influences on mathematics learning outcomes

Hypothesis 7; Interest in learning positively effects on students' perception on the teachers' teaching technique

## 2. Hypothesis regarded indirect prediction

Hypothesis 7; Interest in learning positively influences on mathematics learning outcomes through attitude in math

Hypothesis 8; Students' perception on the teachers' teaching technique positively influences on mathematics learning outcomes through attitude to math instruction.

## C. Methodology

This study was classified as ex-post facto design which is causality. Ex-post facto here means to explain the causal relationship between the variables and to test hypotheses that had been formulated before namely the interest in learning, attitudes toward math, and perceptions of students on the teachers' teaching technique in math to the learning outcomes of three (3) teaching materials that had been taught before.

The population in this study was all students in class VIII SMP Negeri in Bulukumba the academic year 2013/2014 as many as 34 schools. The sampling method used to obtain a random sample to represent the characteristics of the population is using the technique of random sampling strata proportional (proportional stratified random sampling) with the amount of sample is 235 students.

The data collection is done by using a Likert scale with 4 possible answers consisted of A Great Fit/Strongly Agree (SA), Under/Accept (A), Unsuitable/Disagree (D), Very Inappropriate/Strongly Disagree (SD) (Sugiyono, 2011: 93). 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 SA = 4, A = 3, D = 2, SD = 1. For items that are unfavorable score answers SA = 1, A = 2, D = 3, SD = 4.

Analysis of the data used in this study consisted of two stages. The first was the analysis of the data for the item that the statement in the instrument, the second was the analysis of data to answer the research problem. Data analysis technique used is 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 for the purpose of analysis and validation of the proposed model and hypothesis testing. Therefore, analytical techniques SEM using AMOS program package (Analysis Of Moment Structure) IBM IBM SPSS version 20.0 and version 20.0.

### 1. Item Instrument Analysis

To assess the accuracy of measurement of an item instrument used to measure the construct validation grain constructs reliability. Terms used to analyze the validity and reliability of the construct is that each indicator has a uni-dimensionality nature of the construct (Wong, 2007). In this study each item statement in the instrument is seen as an indicator of the construct. To that end, the statistical test used is Confirmatory Factor Analysis (CFA). Uni-dimensionality test (test the suitability of the model); b) Test Significance Coefficient Weight Factor: Validity and Reliability of indicators; c) Evaluation of reliability of the construct.

### 2. Statistical Analysis Requirements

In using SEM analysis, there are some assumptions that need to be met as follows (Kusnendi, 2008: 46): a) Sample Size; b) Linearity c) Normality endogenous latent variables; d) Detection of outliers (outliers); and e) Multicollinearity.

## D. Finding and Discussion

### 1. Findings

Based on the results of descriptive analysis show that mathematics learning outcomes Junior High School eighth grade students in Bulukumba classified in the high category. Interest in learning with a score of 16 635 gives a value 84% of students with a

good learning interest. Perceptions about how to teach students with a score of 18 699 teachers indicated that 76.5% of students with student perceptions about teaching good teacher. Attitudes toward math with a total score of 19 015 which means 77% of the students attitudes toward math were good.

Based on the results of inferential statistical analysis showed that (1) there is a positive and significant relationship between interest in learning (X1) and Student Perceptions of How to Teach Teachers (X2) at a significance level of 0.05 with the estimation  $\bar{\beta}_{21} = 0.713$  which is positive with a value of  $p = 0.000 < \alpha = 0,05$  significant; (2) there is a direct positive influence and significant interest in learning (X1) against the attitude of the math (X3) at a significance level of 0.05 with the estimation  $\hat{\gamma}_{11} = 0.336$  which is positive with a value of  $p = 0,000 < \alpha = 0.05$  is significant; (3) there is a direct positive influence and significance of students' perceptions about how to teach teachers (X2) on attitudes in math (X3) at a significance level of 0.05 with the estimation  $\hat{\gamma}_{12} = 0.552$  which is positive with a value of  $p = 0.000 < 0.05$  significant; (4) there is a direct positive influence and significant interest in learning (X1) on the results of learning mathematics (Y) at a significance level of 0.05 with the estimation  $\hat{\gamma}_{21} = 0.536$  which is positive with a value of  $p = 0,000 < \alpha = 0.05$  is significant; (5) there is a direct positive influence and significance of students' perceptions about how to teach teachers (X2) the learning outcomes of mathematics (Y) at a significance level of 0.05 with the estimation  $\hat{\gamma}_{22} = 0.162$  which is positive with a value of  $p = 0,045 < \alpha = 0,05$  significant; (6) there is a direct positive influence and significance of the attitude of the math (X3) of the mathematics learning outcomes (Y) at a significance level of 0.05 with the estimation  $\hat{\gamma}_{23} = 0.169$  which is positive with a value of  $p = 0.037 < \alpha = 0,05$  significant; (7) there are significant indirect positive and significant interest in learning (X1) through the attitude of the math (X3) of the mathematics learning outcomes (Y) at a significance level of 0.05 with the estimation  $\beta_{21}\hat{\gamma}_{11} = 0,057$  yang positive with a value of  $p = 0,041 < \alpha = 0,05$  significant; (8) are the indirect influence positively and significantly on student perceptions about how to teach teachers (X2) through the attitude of the math (X3) of the mathematics learning outcomes (Y) at a significance level of 0.05 with the estimation results  $\beta_{21}\hat{\gamma}_{12}$  Positive = 0,039 with  $p = 0,036 < \alpha = 0.05$ , which is significant.

## 2. Discussion

Based on the results of testing the third hypothesis suggests that the perception of teachers to teach students about how positive and significant impact on the attitude of the math students. It is supported by the results of previous research conducted by (Muhammad & Waheed, 2011), in a journal titled "Secondary Student's Attitude towards Mathematics in a Selected School Maldevis".

Based on the results of the fourth hypothesis testing shows that interest belajar positive and significant impact on learning outcomes in mathematics. The results of this study are supported by several previous studies conducted by Ernawati (2013) with the title of "the influence of emotional intelligence, interest in learning, and cognitive style on students' mathematics learning achievement of class X SMK majoring in fashion in Regency Jenoponto.

Based on the results of the fifth hypothesis testing showed that students' perceptions of how teachers' positive and significant impact on learning outcomes in mathematics. The results of this study are supported by several studies earlier performed by Arisana Arga Lacopa & Ismani (2012) with the title "The Effect of Discipline of Students and Student Perceptions on Quality of Teaching Teachers to Achievement" gives the results of research that there are positive and significant influence on learning achievement rlabel students as indicated by the significant level of 5% to 0.195.

Based on the results of the sixth hypothesis testing showed that the attitude to math instruction positive and significant impact on learning outcomes in mathematics. The results of this study are supported by some previous research results conducted by Leonard and Supardi U.S in 2010 with the title "The Effect of Self-Concept, Attitude Students in Math, and Anxiety Students on Mathematics Learning Outcomes".

Based on the results of the seventh hypothesis testing showed that interest in learning positive and significant impact on learning outcomes in mathematics. The results of this research was supported by the results of the study earlier conducted by Ratna

Wulandari & Sumarsih (2011) in her research menemukan that there is a positive and significant relationship of learning and attitudes towards learning and jointly to learning achievement seen from the correlation coefficient ( R ) 55.5%.

Based on the results of the eighth hypothesis testing showed that students' perceptions on the teachers' teaching technique positively and significantly impact on the learning outcomes in mathematics. The results of this study are supported by the results of previous research carried out by Muhammad & Waheed (2011), in a journal entitled "Secondary Student's Attitude towards Mathematics in a Selected School Maldevis".

## E. Conclusion

Based on the conclusion, the authors suggest a few things to note: (1) descriptive analysis results show that mathematics learning outcomes Junior High School eighth grade students in Bulukumba classified in high category. 84% of students had good learning interest. 76.5% of Students' perception on the teachers' teaching technique stated that the teachers had teaching techniques. 77% of students had good attitudes toward math. (2) Interest in learning had a positive and significant relationship to the perceptions of students about how teachers taught to the magnitude of the effect of 0.713 or 71.3%. (3) Interest in learning positively and significantly impacted on the attitudes on the subject with the influence of 0.245 or 24.5%. (4) The perception of students on the teachers' teaching technique positively and significantly impacted on the attitudes to math instruction with the influence of 0.437 or 43.7%. (5) Interest in learning positively and significantly impacted on learning outcomes of mathematics with the influence of 0.565 or 56.5%. (6) Perceptions of students on the teachers' teaching technique positively and significantly impacted on learning outcomes of mathematics with the influence of 0.536 or 53.6%. (7) The attitude towards math positively and significantly impacted on learning outcomes of mathematics with the influence of 0.116 or 11.6%. (8) Interest in learning positively and significantly affected indirectly through attitude in mathematics lessons to the learning outcomes of mathematics with the influence of 0,019 or 1.9%. (9) Perceptions of students on the teachers' teaching technique positively and significantly impacted indirectly through attitude in mathematics lessons to the learning outcomes of mathematics with the influence of 0.051 or 5.1%.

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