THE RELATIONSHIP BETWEEN LEARNING DISCIPLINE, PEER INTERACTION, AND STUDENT PERCEPTION OF TEACHER MATHEMATICS SUBJECTS WITH LEARNING RESULTS OF MATHEMATICS GRADE VII SMP NEGERI 1 PLAYEN

Intan Wahyuni[a], Nur Arina Hidayati[b]
Program Studi Pendidikan Matematika Universitas Ahmad Dahlan
Jalan Ring Road Selatan, Tamanan, Banguntapan, Bantul Yogyakarta
[a]wahyuniintan84@gmail.com, [b]nurarinahidayati@gmail.com

ABSTRACT

Several factors can lead to a less optimal learning process: discipline learning, peer interaction, and students' perception of a math teacher. The purpose of this study is to determine whether there is a positive and significant relationship between learning discipline, peer interaction, and students' perceptions of mathematics teachers with the results of learning mathematics students grade VII SMP Negeri 1 Playen Gunungkidul Academic Year 2016/2017. This study population is all students of class VII second Semester SMP Negeri 1 Playen Gunungkidul Academic Year 2016/2017, as amounted to 192 students in 6 classes. The sample was taken by a random sampling technique and obtained class VII A consisting of 32 students. Data retrieval technique obtained by questionnaire to know students' discipline, peer interaction, and perception of the student to teacher of mathematics and test method to know the result of student learning. The instrument test used validity tests, tests of different power, and reliability tests. Test prerequisite analyses were a test of normality, independent test, and linearity test. Data analysis for hypothesis test used correlation analysis and linear regression analysis. The results showed that there was a positive and significant correlation between learning discipline, peer interaction and student perception of mathematics teacher with mathematics learning result, obtained F_{count} = 8,564853231 and F_{table} (3,29) = 2,9467 with correlation coefficient double equal to 0,691760002 and double linear regression equation is three variables that is $\hat{Y}$ = -80,10301 + 0,0469447 X_1 + 0,4650801X2 + 1,2582694X3 big relative donation (X_1) = 2,136238336%, (X_2) = 14 , 28507186, (X_3) = 83,5786898 and effective contribution (X_1) = 1,02226%, (X_2) = 6,83586, (X_3) = 39,9951.

Keywords: Learning Discipline, Peer Interaction, Student Perception Of Mathematics Teacher, Mathematics Learning Result

INTRODUCTION

Schools are a place for students to be able to get educated. The education of students can develop their potential actively to have self-control, intelligence, skills in society, religious, spiritual strength, personality, and noble morality. Students will also be intelligent and responsible in the national education objective that aims to develop learners to become human beings who believe and fear the Lord Almighty. The noble morality is healthy, knowledgeable, capable, creative, independent, and becomes a democratic citizen and responsible for the intellectual life of the Banga. To realize the success of national goals, the students must conduct learning activities. One of them is math learning. Mathematics learning is given to learners to train students with logical, critical, creative, and analytical thinking skills. With the learning of mathematics, expected learners can have the ability and courage to deal with problems in everyday life, for example, can count, calculate the content and weight, collect, cultivate, Present and interpret data, use calculators, and computers.

Optimal learning is well-prepared learning, and while the results of learning are obtained as expected. Based on the observation result in SMP Negeri 1 Playen on 7 November 2016 School mathematics learning process is less optimal. Several factors can cause the learning process to become less optimal. One of the factors of the less optimal learning process experienced by learners is the learning discipline of students. Discipline is needed in the learning process, according to one of the

mathematics teachers in SMP Negeri 1 Playen Ibu Muryani, with the curriculum 2013 students are required to solve the problem to find the answer, the time of mathematics lessons In the school is 2 hours of study, to achieve the learning objectives, we must be orderly. However, the observation shows that students in class VII SMP Negeri 1 Playen Gunungkidul are less orderly; for example, there are still students who make rowdy with their friends. Some students do not pay attention to what the teacher has presented.

The factors of the learning process that is less optimal next are peer interaction. In interacting with peers students have a reaction that differs between friends who are one with another friend, this can be seen when the research is that several students can foster a good relationship with peers there Also students who are less able to foster a relationship with peers with an irritable attitude when interacting with their peers. The observation shows some problems that arise in the process of interaction between peers. The problems found in the research include students who like to be alone, children who are selfish when playing together, easily give up when faced with tasks, often make rowdy, interfere with other friends when the learning process, easy Upset when offended.

Students also have a variety of different perceptions of teacher mathematics subjects. Djohar (2006:35) argues, "The teacher must serve education, especially in schools, through teaching, educating and training to educate the nation's life and prepare the generation of our nation to live in the world." Often students judge a teacher of mathematical subjects poorly due to a given way of teaching or strategy because of the notion that math lessons are painful so that students have different perceptions toward their teachers. Teachers in learning activities will be observed, cared for, heard, and imitated and even judged by students how their appearance in class, personality, ability to master the subject matter, teaching skills, attention to the students, the relationship between Students with their teachers, attitudes, and behaviors during the learning activities.

The results of learning mathematics every child is different; it is seen that there are only a few students who learn the math maximum or the results of the mathematical study complete. It can be shown in table 1 below:

Table 1. The number of students by the student mathematics value of class VII SMP Negeri 1 Playen Gunungkidul academic Year 2016/2017

CCM	Criteria	Class						Percentage
		A	B	C	D	E	F	
75,00	Complete	17	13	10	4	7	1	27,083%
	No complete	15	19	22	28	25	31	72,91%
Total students		32	32	32	32	32	32	192

(Source: SMP Negeri 1 Playen Gunungkidul)

The table above shows that the mathematics learning results of Grade VII SMP Negeri 1 Playen Gunungkidul are not optimal, meaning that student learning results are still low. The student's mathematical learning results are determined by the school's prescribed CCM of 75.00. It is shown that the results of the mathematics learning of Grade VII students SMP Negeri 1 Plaayen is still said to below, with a total percentage of students who are not completed by 72.917%. Thus, the results were seen that there were still students who learned the mathematical low.

The goal to be achieved from the research results is to know whether or not:

1. A positive and significant relationship between learning discipline and learning math result of grade VII students SMP Negeri 1 Playen Gunungkidul Semester even 2016/2017?
2. A positive and significant relationship between peer interaction and mathematics learning results of grade VII students SMP Negeri 1 Playen Gunungkidul Semester of the even school year 2016/2017.
3. A positive and significant relationship between students ' perception towards mathematics teacher with learning outcome of mathematics class VII SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017.

4. A positive and significant relationship between learning discipline and peer interaction with learning math result of grade VII students SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017.

5. A positive and significant relationship between learning discipline and student perception of a mathematics teacher with student mathematics learning to result of grade VII SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017.

6. A positive and significant relationship between peer interaction and student perception towards mathematics teacher with student mathematics learning results in grade VII students SMP Negeri 1 Playen Gunungkidul, even Semester 2016/2017.

7. A positive and significant relationship between learning discipline, peer interaction, and student perception towards mathematics teachers with academic learning results from grade VII students SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/ 2017.

RESEARCH METHODS

This type of research is quantitative research. The design of the research used is as follows:
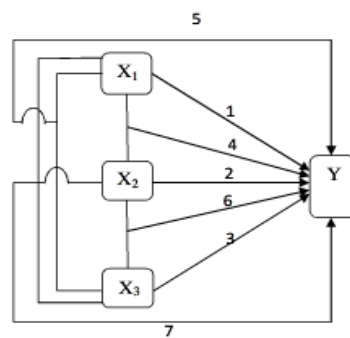
Figure I. Variable interrelationship schemes

Description:

X_1: Learning discipline

X_2: Peer interaction

X_3: Student Perception of mathematics teachers

Y: Learning outcomes

The research was conducted at SMP Negeri 1 Playen Gunungkidul and the subject of research in grade VII students of SMP Negeri 1 Playen Gunungkidul. The study was conducted in the even semester of the 2016/2017 school year in May 2017. In this study, the population was all students of Grade VII SMP Negeri 1 Player of even semester as many as six classes, consisting of classes VII A, VII B, VII C, VII D, VII E and VII F. In this study the samples taken were one class randomly using random sampling techniques against the class. It is said to be random because sampling class is randomly generated from an existing class regardless of the strata due to random class preparation and which is taken as the sample class is a VII-class of 32 students. This study has four variables consisting of 3 free variables, i.e., discipline (X_1), peer interaction (X_2), and student perception of mathematics teacher (X_3) and one variable-bound learning (Y). The technique of data collection in this study is to use non-test methods and test methods. Simultaneously, the data collection instrument in this research is a poll, and a problem test result in mathematics learning. In this study, the class that was taken as a trial class was class VII E. The instrument test used in this study was a validity test.

Data analysis technique

1. Descriptive Data analysis
2. Testing Prerequisite Analysis
    a. Normality Test
    b. Linearity Test
    c. Independent Test
3. Hypothesis Test

RESEARCH RESULT

1. Description of Research Results
    a. Learning Discipline
        Disciplinary Learning class VII A SMP Negeri 1 Playen Gunungkidul school year 2016/2017 is included in the medium category because the highest frequency is located at intervals of $79.0628003 \leq X \leq 90.8121997$, which is as much as 24 students or 75%.
    b. Peer interaction
        Peer interaction class VII A SMP Negeri 1 Playen Gunungkidul, even Semester 2016/2017 school year, is included in the moderate category because the most current frequency is at intervals of $80.0975675 \leq x \leq 91.9024325$, which is as many as 21 students or 65.625%.
    c. Student perception of teacher mathematics subjects
        Student's perception of the mathematics teacher of class VII A SMP Negeri 1 Playen Gunungkidul of the school year even Semester 2016/2017 belongs to the category of the medium because the highest frequency is located at intervals of $80.06748 \leq x \leq 92.18252$ that is as much as 20 students or 62.5%.
    d. Mathematics Learning Results
        The result of mathematics learned in grade VII A SMP Negeri 1 Playen Gunungkidul, even Semester 2016/2017, is included in the high category because the most significant frequency is at intervals of $X \geq 75$ as much as 20 students or 62.5%.

2. Test Result Normality
    Based on the normality test, the learning discipline variables, peer interaction, student perception of mathematics teachers and mathematics learning variables are normally distributed. The test results of the four normality variables can be seen in table 2.

Table 2. Test result normality

Variable	χ^2_{count}	χ^2_{table}	Dk	Conclusion
Learning Discipline (X_1)	0,8595	5,991	2	Normal
Peer interaction (X_2)	1,3745	5,991	2	Normal
Student perception of teacher mathematics subjects (X_3)	2,8354	7,8147	3	Normal
Mathematics Learning Results (Y)	7,0379	7,8147	2	Normal

3. Test Results Linearity
    Based on the test of linearity gained that variable discipline learning, peer interaction variables, students ' perceptual variables toward mathematics teachers, and the results variable of linear mathematics learning. The test result of the four normality variables can be seen in table 3.

Table 3. Results of linearity Test

Variable	F_{count}	F_{table}	Conclusion
X_1 to Y	0,83007513	2,49867213	Linear
X_2 to Y	1,486891786	2,373318232	Linear
X_3 to Y	1,838748986	2,44461323	Linear

4. Test Results Independent

Table. 4 Results of Independent Test

Variable	χ^2_{count}	χ^2_{table}	Dk	Conclusion
X_1 and X_2	16,373	26,296	16	Independent
X_1 and X_3	15,204	26,296	16	Independent
X_2 and X_3	11,769	26,296	16	Independent

5. Hypothesis test Results

$T_{count} = 2,473661461 > t_{table} = 1,6973$, then $H_{0,1}$ rejected, and $H_{1,1}$ accepted, so there is a positive and significant relationship between learning discipline and learning mathematics from grade VII students SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017.

$T_{count} = 1.716207939 > t_{table} = 1.6973$, then $H_{0,2}$ rejected and $H_{1,2}$ accepted, so there is a positive and significant relationship between peer interaction with students math Learning Results SMP Negeri 1 Playen Gunungkidul Semester even school year 2016 /2017.

$T_{count} = 4,682875886 > t_{table} = 1,6973$, then $H_{0,3}$ rejected and $H_{1,3}$ accepted, so there is a positive and significant difference between students' perception of mathematics teachers with learning results of mathematics grade VII students SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017.

$F_{count} = 3,422527325 > F_{table} = 3,3276544986$, $H_{0,4}$ rejected, and $H_{1,4}$ accepted, so there is a positive and significant difference between learning discipline and peer interaction with learning math results of Grade VII students SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017.

$F_{count} = 11,172736120 > F_{table} = 3,3276544986$, $H_{0,5}$ rejected, and $H_{1,5}$ accepted, so there is a positive and significant difference among students ' learning discipline perception of mathematics teachers with learning math results of Grade VII students SMP Negeri 1 Playen Gunungkidul even Semester 2016/2017.

$F_{count} = 13,284937679 > F_{table} = 3,3276544986$, then $H_{0,6}$ rejected, and $H_{1,6}$ accepted, so there is a positive and significant between peer interaction and student perception of mathematics teacher with student math learning result of grade VII SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017.

$F_{count} = 8,564853231 > F_{table} = 2,9467$, then $H_{0,7}$ rejected, and $H_{1,7}$ accepted, so there is a positive and significant between learning discipline, peer interaction, and student perception of mathematics teacher with student mathematics learning results of Grade VII SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017.

RESULTS AND DISCUSSION

The results of the research are there is a link between learning discipline, peer interaction, and student perception of teacher mathematics subjects with students of learning mathematics from grade VII SMP Negeri 1 Playen Gunungungkidul Semester Even school year 2016/2017. Here is a discussion of research results:
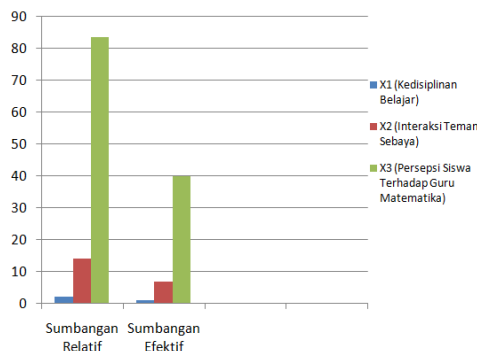
1. The first hypothetical test result is that there is a positive and significant relationship between studying discipline and learning with the mathematics of Grade VII SMP Negeri 1 Playen Gunungkidul in the even semester of the school year 2016/2017. From the analysis of the simple correlation obtained, the value of a simple correlation coefficient (r) between learning discipline with the results of learning Mathematics of 0,4115971869 at a significant level of 5% and V = 30. In this study also obtained coefficient of determination $(r^2) = 0.1694122443$ means a variety of measurable learning outcomes (Y) that can be explained by learning discipline (X_1) through the linear line $\hat{Y} = 5,906470847 + 0,777084178 X_1$ of 77.7084178%, this means an increase in one unit X_1 resulting in 0.777084178 increase in Y. It shows that the higher the discipline of learning is the higher the results of mathematics learning. Instead, the lower the discipline of learning, the lower the results of learning mathematics.

2. The second hypothesis is that there is a positive and significant relationship between peer interaction and mathematics learning Results of class VII SMP Negeri 1 Playen Gunungkidul, even semester 2016/2017. From the analysis of the simple correlation obtained, the value of a simple correlation coefficient (r) between peer interaction with mathematical learning results of 0,2990010503 at a significant level of 5% and V = 30. In this study also obtained coefficient of determination $(r^2) = 0,08940162808$ means a variety of learning results Mathematics (Y) that can

be explained by peer interaction (X_2) through the linear line $\hat{Y} = 19{,}74352951 + 0{,}60824684\ X_2$ by 60.824684%, this means the increment of one unit X_2 resulted in 0.60824684 increase in Y. It shows that the higher the interaction of peers then the higher the results of learning mathematics. Instead, the lower the interaction of peers, then the lower the results of learning mathematics.

3. The third hypothesis test result is that there is a positive and significant relationship between students ' perception of mathematics teacher with student mathematics learning result of grade VII SMP Negeri 1 Playen Gunungkidul even semester 2016/2017. From the analysis of the simple correlation obtained, the value of a simple correlation coefficient (r) between student's perception of mathematics teachers with mathematical learning results of 0,6498397935 at a significant level of 5% and V = 30. In this study also obtained coefficient of determination (r^2) = 0,4222917572 means a variety of learning results Mathematics (Y) which can be explained by students ' perception of mathematics teacher (X_3) through the linear line $\hat{Y} = -42{,}17204525 + 4{,}6828555759\ X_3$ of 46.828555759%, this means the increment of one unit X_2 increased 4,6828555759 Y. It shows that the better the student's perception of math teachers, the better their math learning results. Instead, the ugly perception of students towards mathematics teachers is getting worse math learning results.

4. The fourth hypothesis test result is that there is a positive and significant relationship between learning discipline and peer interaction with the math learning results of grade VII students SMP Negeri 1 Playen Gunungkidul, even semester 2016/2017. The analysis of the simple correlation obtained, the value of the second correlation coefficient (R) between learning discipline and peer interaction with mathematical learning results of 0,4369923523. In this study also obtained coefficient of determination (R^2) = 0.190962316 means a variation of mathematics (Y) learning results that can be explained by learning discipline (X_1) and peer interaction (X_2) through linear lines $\hat{Y} = -11{,}81279086 + 0{,}657072839\ X_1 + 0{,}32574956\ X_2$ amounted to 46.828555759%, this means an increase in one unit X_1 resulted in 0.657072839 Y increase and an increase in one unit X_2 increased 0.32574956 Y. It shows that the higher the discipline of learning and the higher Peer interaction, the higher the results of mathematics learning, as for the relative donation of X_1 of 74.92726376% and X_2 of 25.07273624% as well as a useful donation of X_1 of 14.30828381% and an active donation of X_2 of 4.78794778%.

5. The fifth hypothesis is that there is a positive and significant relationship between learning discipline and student perception of the mathematics teacher with student mathematics of class VII SMP Negeri 1 Playen Gunungkidul in the even semester of the school year. 2016/2017. From the analysis of the simple correlation obtained, the value of the second correlation coefficient (R) between learning discipline and student perception of mathematics teacher with mathematical learning results of 0,6596957594. In this study also obtained coefficient of determination (R^2) = 0.435198495 means a variation of mathematics (Y) learning results that can be explained by learning discipline (X_1) and student perception of mathematics teacher (X_3) through direct line $\hat{Y} = -52{,}06407345 + 0{,}244781431\ X_1 + 1{,}201466314\ X_3$ by 46.828555759%, this means the increment of one unit of X_1 resulted in a Y increase of 0.244781431 and an increment of one X_3 unit resulted in a 1.201466314 Y increase. It shows that the higher the discipline of learning And the better the student's perception of mathematics teachers, the higher the results of mathematics learning, as for the relative donations of X_1 of 12.24799824% and X_3 by 87.75200176% as well as the useful donation of X1 by 5.330310398% and the active donation of X3 it has amounted to 38.18953909%.

6. The sixth hypothesis of the hypotheses is a positive and significant relationship between peer interaction and student perception of mathematics teacher with student math learning result of grade VII SMP Negeri 1 Playen Gunungkidul even semester of the school year. 2016/2017. The analysis of the simple correlation derived the value of the second correlation coefficient (R) of peer interaction and student perception of mathematics teachers with the results of mathematical learning by 0,6914727140. In this study also acquired coefficient of determination (R^2) =

0.478134514 means a variation of mathematics (Y) learning results that can be explained by peer interaction (X_2) and student perception of mathematics teacher (X_3) through linear lines $\hat{Y}$ = -79,59851836 + 0,483054342 X_2 + 1,280868493 X_3 amounted to 47.8134514%, this means the increment of one unit X_2 resulted in a 0.483054342 Y increase and an increase of one X_3 unit resulted in a 14.84948742 Y increase. It shows that the better the interaction Peers and the better the student's perception of mathematics teachers, the better the math learning outcomes. As for X_2 relative donations of 14.84948742% and X_3 by 85.15051258% and a useful donation of X_2 by 7.100052454% and an active contribution of X_3 by 40.71339897%.

7. The seventh hypothesis test result is a positive and significant relationship between learning discipline, peer interaction, and student perception of mathematics teacher with student math learning result of grade VII SMP Negeri 1 Playen Gunungkidul Even semester 2016/2017. From the analysis of the simple correlation obtained, a second correlation coefficient (R) value of 0.691760002. In this study also obtained coefficient of determination (R^2) = 0.4785319 means a variation of mathematics (Y) learning results that can be explained by learning discipline (X_1), peer interaction (X_2) and student perception of mathematics teacher (X3) through Linear line $\hat{Y}$ = -80,10301 + 0,0469447 X_1 + 0,4650801 X_2 + 1,2582694 X_3 of 47.85319%, this means the increment of one unit of X_1 resulted in 0.0469447 Y increase, the increment of one unit X_2 resulted in 0.4650801 Y increase and an increment of one X_3 unit resulted in 1.2582694 increase in Y. It shows that the higher the discipline of learning, the higher the interaction of peers, and the better the student's perception of mathematics teachers, the better math learning results. As for the relative donation of X_1 by 2.136238336%, the relative X_2 donation amounted to 14.28507186% and X_3 by 83.5786898% as well as a useful donation of $X_1$of 1.02226%, the active donation of X_2 is 6.83586% and the useful contribution of X_3 amounted to 39.9951%.

Where relative donations and useful donations between free variables can be seen in picture I, as follows:

Figure 2. Relative donations and useful donations between free variables

This suggests that student's perceptions of mathematics teachers provide the highest constriction compared to learning discipline variables and peer interaction variables.

CONCLUSION

Based on the research results, it can be taken some research conclusions as follows:

1. There is a positive and significant relationship between learning discipline and learning mathematics from grade VII students SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017. A simple correlation coefficient (r) of learning discipline with mathematical learning results of 0,2990010503 with linear regression equations $\hat{Y}$ = 5.906470847 + 0.777984178 X_1.

2. There is a positive and significant relationship between peer interaction and mathematics learning results of grade VII students SMP Negeri 1 Playen Gunungkidul Semester of even school year 2016/2017. A simple correlation coefficient (r) of peer interaction with mathematical learning

results amounting to 0,2990010503 with linear regression equations $\hat{Y}$ = 19.79352951 + 0.60824684 X_2.

3. There is a positive and significant relationship between students ' perception of mathematics teachers with learning outcomes of grade VII students SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017. The simple correlation coefficient (r) of student perception of mathematics teacher with mathematical learning results amounting to 0,6498397935 with linear regression equation $\hat{Y}$ =-42.17204525 + 4,6828555759 X_3.

4. There is a positive and significant relationship between learning discipline and peer interaction with learning math results of Grade VII students SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017. Double correlation coefficient (R) amounting to 0,4369923523 with linear line equation $\hat{Y}$= -11,81279086 + 0,657072839 X_1 + 0,32574956 X_2. The relative donation of X_1 was 74.92726376%, and X_2 amounted to 25.072736376%, as well as a substantial donation of an effective X_1 of 14.30828381% and X_2 amounting to 4.78794778%

5. There is a positive and significant relationship between learning discipline and student perception of mathematics teacher with student mathematics learning result of grade VII SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017. Double correlation coefficient (R) amounting to 0,6596957594 with linear line equation $\hat{Y}$= -52,06407345 + 0,244781431 X_1 + 1,201466314 X_3. A substantial donation of relative X_1 amounted to 12.24799824% and X_3 by 87.75200176%, as well as a substantial donation of effective X_1 of 5.330310398% and X_3 of 38.18953909%

6. There is a positive and significant relationship between peer interaction and student perception of mathematics teacher with student mathematics learning result of grade VII SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017. A double correlation coefficient (R) of 0,6914727140 and with a linear equation of $\hat{Y}$=-79,59851836 + 0,483054342 X_2 +1,280868493 X_3. A substantial contribution of X_2 relative amounted to 14.84948742% and X_3 by 85.15051258% and a substantial contribution of X_2 effective 7.100052454% and X_3 of 40.71339897%

7. There is a positive and significant relationship between learning discipline, peer interaction, and student perception of mathematics teacher with student math learning result of grade VII SMP Negeri 1 Playen Gunungkidul Semester even school year 2016/2017. Double correlation coefficient (R) of 0.691760002 and coefficient of determination (R^2) amounted to 0.4785319 with linear line equation $\hat{Y}$= -80,10301 + 0,0469447 X_1 + 0,4650801 X_2 + 1,2582694 X_3. The huge donation of relative X_1 amounted to 2.136238336% of the relative contribution of X_2 for 14.28507186% and X_3 by 83.5786898%, as well as a substantial donation of an effective X_1 of 1.0223, a big effective donation of X_2 of 6.8359% and X_3 of 39.995%.

Based on the research I have done, there is limited research. There are only three free variables that can affect the company; researchers do not discuss research by involving several other variables that allegedly affect student learning outcomes.

REFERENCES

Arikunto, Suharsimi. 2012. *Dasar-Dasar Evaluasi Pendidikan*. Jakarta: PT Bumi Aksara.

Djohar. (2006). *Guru Pendidikan dan Pembinaannya*. Yogyakarta: CV Gravika Indah.

Hasan, Iqbal. 2003. *Pokok-Pokok Materi Statistik 2 (Statistik Inferensif*. Jakarta: PT. Bumi Aksara.

Riduan dan Sunarto. 2011. *Pengantar Statistika Untuk Penelitian*: *Pendidikan, Sosial,, Komunikasi, Ekonomi, dan Bisnis.* Bandung: Alfabeta.

Sugiyono. 2011. *Statistika Untuk Penelitian*. Bandung: Alfabeta