

**PENGARUH JADWAL PELAJARAN MATEMATIKA TERHADAP
PRESTASI BELAJAR SISWA KELAS VII SEMESTER GENAP
SMP AL-ISLAM 1 SURAKARTA
TAHUN AJARAN 2012/2013**

NASKAH PUBLIKASI

**Untuk Memenuhi Sebagian Persyaratan
Guna Mencapai Derajat Sarjana S-1**

Program Pendidikan Matematika



Diajukan Oleh:

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A 410 090 070

**PROGRAM STUDI PENDIDIKAN MATEMATIKA
FAKULTAS KEGURUAN DAN ILMU PENDIDIKAN
2013**



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Judul Skripsi : PENGARUH JADWAL PELAJARAN MATEMATIKA
TERHADAP PRESTASI BELAJAR SISWA KELAS VII
SEMESTER GENAP SMP AL-ISLAM 1 SURAKARTA TAHUN
AJARAN 2012/2013

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Surakarta, Juni 2013

Pembimbing


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**THE INFLUENCE OF MATHEMATICS LEARNING SCHEDULE TO
STUDENTS ACHIEVEMENT GRADE VII EVEN SEMESTER SMP AL-
ISLAM 1 SURAKARTA FOR 2012/2013 ACADEMIC YEAR**

By

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ABSTRACT

The purpose of this research is to know there any influence of mathematics learning schedule to student's achievement. The populations are all students of grade VII of 2012/2013 academic year in SMP Al-Islam 1 Surakarta. While the sample was taken as many as two classes, consist of VII G as class that obtain a schedule of morning and VII H as class that obtain a schedule of afternoon. The sampling technique used in this research is purposive sampling. Data collection method used is documentation method. The technique of prerequisite analysis by using the Barlett method to homogeneity test that is continued by test analysis data that is analysis Chi Square. The result of this research with 5% of significant level show that $\chi^2_{obs} = 6,379 > \chi^2_{table} = 5,991$ such that H_0 is rejected, it means that there any influence of mathematics learning schedule to student's achievement.

Keyword: mathematics-learning schedule; student's achievement

1. INTRODUCTION

Many of the problems now faced by the nation of Indonesia. One of the nation's problems on how to improve the quality of education, which is generally associated with high and low learning outcomes. Learning outcomes is basically last achievement after learning. Learning outcomes is often also referred to as the achievement can usually be measured by giving tests to students.

One of the branches of science which plays an important role in the life is mathematics. According to Uno (2007: 4) mathematics is the science which is a tool thought, communication, tools to solve practical problems, there are Unsure-element logic and intuition, analysis and construction, generality and individuality, as well as aspired include arithmetic, algebra , geometrid an analysis.

Also based on the provisions of Department of Education (1994: 1) the role of mathematics in the purpose of education is to prepare students to be able to face the ever-evolving state changes through exercise to act on the basis of critical thinking, rational and careful, and be able to use mathematical thinking in both science and studying various in everyday life.

In the implementation of the National Examination (UN) are held every year, the UN continues to demonstrate Mathematics low absorptive capacity. This is corroborated by Mohammad Nuh, Minister of Education and Culture, which states that by 2012, the average value of only 7.74 while the UN purely for the academic year 2011, the average value reached 7.88 UN. ([Http://koran-jakarta.com](http://koran-jakarta.com))

Based on data from the Trends in International Mathematics and Science Study (TIMSS) in 2011 showed that the average mathematics achievement scores Indonesian junior level is still below the international average. A study conducted by the International Association for the Evaluation of Educational Achievement (IEA) Indonesia was ranked 38 of 42 countries for mathematics. Indonesian junior high students only get an average value of 386 points for math scores. Whereas the world average is 500 points.

The factors that affect the process and learning outcomes among internal and external factors. Among them is often the case in this problem is the placement timetable. Often the class hours have not been

implemented by schools seem effective in particular, in mathematics lessons.

According J. Biggers (1980) studied in the morning is more effective than learning at other times. Lessons at the beginning of the condition of the body is still fresh, still learning spirit high and the concentration of students still focused on the subject matter so that the learning process can be run well. This is because mathematics is a subject that in understanding it requires high concentration. Slameto (2003: 68) states at the end of the lesson students look exhausted condition, both physically and spiritually, thinking reduced power, low enthusiasm for learning and concentration are not fully focused on the lesson. Based on existing problems, researchers interested in studying the influence of mathematics timetable for class VII student achievement SMP Al Islam Surakarta academic year 2012/2013.

This study is limited to issues that address factors that affect student achievement is limited to math schedule. Formulation of the problem in this research is "whether there is an influence of the schedule math class VII student achievement SMP Al-Islam 1 Surakarta? ". The objectives of this research is to determine whether or not the influence of math class schedule on student achievement.

2. RESEARCH METHOD

This study includes quantitative research methods Ex post facto research is intended to measure the effect of independent variables on the dependent variable (Nana Sudjana and Ibrahim, 1989: 56). The independent variable in this study is the schedule of lessons categorized into morning and afternoon schedule. The dependent variable in this study was student achievement.

The research was conducted in SMP Al-Islam 1 Surakarta is located on the road Mr. Yamin No. Muh. 125, typhoid, Serengan, Surakarta. The population in this study were all students of SMP Al-Islam 1 Surakarta which consists of eight classes with an average of 35 students total. In this study samples were taken two classes of seventh grade class to obtain G as a morning schedule and class VII H as a class schedule that obtained afternoon.

The sampling technique used in this study was purposive sampling technique in the sample which taking by adjusted on the research objectives (Nana Sukmadinata, 2010: 254).

Data collection methods used are dokumentation method used to determine a list of names, numbers and student absences and grades timetable mathematics lesson in class VII in 2012/2013.

Techniques of data analysis using Chi Square analysis, which previously performed the prerequisite test to test the homogeneity of the test method Bartlell.

3. RESULTS AND DISCUSSION

In this research study mathematics student achievement data obtained from the tests of daily tests semester. Based on sample data obtained from G VII class consisting of 36 students earned the highest score of 80, a low of 60 and range = 20. The data obtained are presented in frequency distribution tables using Struges rules. The number of classes derived from $1 + 3.3 \log n$, while the class interval obtained from the range \div many classes. So that the obtained results are much class 7 to class interval is 3.

Table 1

Frequency Distribution of Morning Class Data Achievement

| INTERVAL | Xi | f | presentase |
|--------------|-----------|----------|------------|
| 60 – 62 | 61 | 8 | 22,22% |
| 63 – 65 | 64 | 8 | 22,22% |
| 66 – 68 | 67 | 0 | 0% |
| 69 – 71 | 70 | 12 | 33,33% |
| 72 – 74 | 73 | 0 | 0% |
| 75 – 77 | 76 | 7 | 19,45% |
| 78 – 80 | 79 | 1 | 2,78% |
| TOTAL | | 36 | 100% |

Based on the data obtained that the highest achievement in the interval 69-71 and the lowest frequency at intervals of 66-68 and 72-74.

The maximum score is 80 and the minimum score is 60 with an average of 68.08 and a standard deviation of 194.81.

Of the data samples obtained from H VII class consists of 35 students who obtained the highest score 75, the lowest value of 45 and range = 30. The data obtained are presented with a frequency distribution table using Struges rules. The number of classes derived from $1 + 3.3 \log n$, while the class interval obtained from the range \div number of classes. So obtained results with the number of grade 7 class interval is 5. Calculations can be seen in the attachment.

Table 2

Frequency Distribution of Afternoon Class Data Achievement

| INTERVAL | Xi | f | presentase |
|-----------------|-----------|----------|-------------------|
| 45 – 49 | 47 | 3 | 8,57% |
| 50 – 54 | 52 | 2 | 5,71% |
| 55 – 59 | 57 | 0 | 0% |
| 60 – 64 | 62 | 14 | 40% |
| 65 – 69 | 67 | 6 | 17,14% |
| 70 – 74 | 72 | 9 | 25,71% |
| 75 – 79 | 76 | 1 | 2,86% |
| TOTAL | | 35 | 100% |

Of Table 2 shows that the highest achievement in the interval 60-64 and the lowest frequency in the interval 55-59. The maximum score is 75 and the minimum is 45 with an average of 62.86 and a standard deviation of

Based on the standard deviation of the class in the morning and afternoon classes, student achievement can be grouped into categories of

high, medium, low. Criteria used to limit the group in the morning and afternoon classes are as follows:

Table 3

Student's Data Achievement Based On Criterion

| Learning Scheduled | Learning Achievement of Criterion | | | | | |
|--------------------|-----------------------------------|--------|--------|--------|------|--------|
| | Low | % | Medium | % | High | % |
| Morning | 8 | 22,22% | 8 | 22,22% | 20 | 55,55% |
| Afternoon | 20 | 57,14% | 5 | 14,29% | 10 | 28,57% |

From table 3 the gain obtained in class lessons morning schedule has a high level of academic achievement as many as 20 students, academic achievement are as many as 8 students and low learning achievement by 8 students. In the classroom during the lesson schedule obtained has a high level of academic achievement as many as 10 students, academic achievement are as many as 5 students and low learning achievement by 10 students.

Table 4

The Result of Analysis of Homogenates Test

| Factor | $\chi^2_{\text{calculate}}$ | χ^2_{table} | Decision | conclusion |
|--|-----------------------------|-------------------------|---|------------|
| Learning scheduled (morning & afternoon) | 3,082 | 3,841 | $\chi^2_{\text{calculate}} < \chi^2_{\text{table}}$ | Homogen |

From Table 4 above, with a significance level of 0.05 is obtained $\chi^2_{\text{calculate}}$ value of 3.082, while the value of χ^2_{table} is 3,841. Thus, we can conclude that $\chi^2_{\text{calculate}} < \chi^2_{\text{table}}$ which means that the independent variables have the same variance or analyzed data derived from a homogeneous population variance.

After testing prerequisite analysis, and it was concluded that the homogeneity test is met, then the hypothesis can be tested. The analysis used was a Chi Square analysis. From the calculated Chi Square analysis χ^2 obtained summary as follows:

Table 5
The Result of Analysis Chi Square

| Learning Scheduled | Learning Achievement | | |
|--------------------|----------------------|--------|-------|
| | Low | Medium | High |
| Pagi | 9,63 | 11,16 | 15,21 |
| Siang | 9,37 | 10,85 | 14,79 |

Based on the results of Chi Square calculation can be known magnitude (χ^2_{obs}) of 6.379. To determine χ^2_{table} is taken at 0.05 significance level. The amount of degrees of freedom (db) is obtained through the formula $db = (B-1) (K-1)$. Where B is the row and column K is. So that the Chi Square table above have $db = (2-1) (3-1) = 2$, so $db = 2$.

Based $db = 2$ and a significance level of 0.05 at the Chi Square table shows the value of 5.991. This shows that the value of $\chi^2_{\text{obs}} = 6.379$ over $\chi^2_{\text{table}} = 5.991$, so it can be concluded that there is significant influence between mathematics timetable for mathematics achievement of students of class VII 1 SMP Al Islam Surakarta. The steps are as follows:

a. Hypotheses

H_0 : No influence significant mathematics study schedule to students learned achievement.

H_1 : There is influence significant mathematics study schedule to student learned achievement

b. Significant level = 0.05

c. Test Statistic

$$\chi^2 = \sum_{i=1}^B \sum_{j=1}^K \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

Note:

χ^2 : value of Chi Square

: many of happening watch because level i^{th} , factor B ($i = 1, 2, \dots, B$)

: many of happening watch because level j^{th} , factor K ($j = 1, 2, \dots, K$)

O : frequency of observation

E : data frequency of expected

d. Calculate f_o

$$E_{ij} = (n_{i0} \times n_{0j}) \div N$$

n_{i0} = row number i^{th}

n_{0j} = column number j^{th}

e. Degree of freedom (dk)

$$dk = (B - 1) (K - 1)$$

f. Decision Rule

Reject H_0 if $\chi^2 > \chi^2_{(1-\alpha); \{(B-1)(K-1)\}}$ and the others is accepted.

(Sudjana, 2005: 279-280)

Success or failure of a learning process depends on the factors that influence it. As these factors, among others, internal factors and external factors. Internal factor is a factor that comes from the students themselves, while external factors are factors related to the factors derived from the environment.

Based on the results of the hypothesis test Chi Square $\chi^2_{\text{obs}} = 6.379 > \chi^2_{\text{table}} = 5.991$, this means that the hypothesis stating that there are significant math timetable for class VII student achievement SMP Al-Islam 1 Surakarta with confidence level of 95% is acceptable.

The difference in the average achievement gain class lessons morning schedule is greater than that obtained class timetable during which $67.92 > 62$ indicates that the placement timetable may affect student achievement.

According to J. Biggers (1980) studied in the morning is more effective than learning other time. Lessons at the beginning of the condition of the body is still fresh, still learning spirit high and the concentration of students still focused on the subject matter so that the learning process can be run well. This is because mathematics is a subject that in understanding it requires high concentration.

In line with the statement (Ahmadi, 1975: 75) states for each subject should look for the best time. This means placing the right time enables students to follow the lessons well so as to obtain the maximum comprehension and students can achieve the best possible learning achievement.

4. CONCLUSION

Based on the analysis and discussion that has been described in previous chapters with a significance level of 5%, it can be concluded that the influence of mathematics learning schedule on student achievement VII class 1 SMP AL-Islam Surakarta academic year 2012/2013.

5. BIBLIOGRAPHY

Depdikbud, 1994. *Kurikulum Pendidikan Dasar Garis-garis Besar Program Pengajaran Sekolah Lanjutan Tingkat Pertama*. Jakarta: Depdikbud.

Napitupulu, Ester L. 2012. “*Prestasi Sains dan Matematika Indonesia Menurun*”. (online), (<http://edukasi.kompas.com/read/2012/12/14/09005434>, diakses tanggal 18 April 2013).

Muhibbin, Syah M. 2010. *Psikologi Pendidikan dengan Pendekatan Baru*. Bandung: PT Remaja Rosdakarya.

Satri, Yudhistira. 2012. “*Nilai Rata-rata UN SMP Merosot*” (online), (<http://www.koran-jakarta.com/index.php/detail/view01/92373>, diakses tanggal 18 April 2013).

Slameto, 2003. *Belajar dan Faktor-Faktor yang Mempengaruhinya*. Jakarta: Rineka Cipta.

Sudjana, Nana dan Ibrahim, 1989. *Penelitian dan Pendidikan*. Bandung: Sinar Baru.

Sukmadinata, Nana S. 2010. *Metode Penelitian Pendidikan*. Bandung: PT Remaja Rosdakarya.