

# IMPROVING SOCIAL STUDIES LEARNING OUTCOMES BY USING COMPARISON CONCEPT

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## Abstract

Mathematics education in elementary and secondary schools intended that students have a high reasoning ability and logical thinking and be able to use mathematics and mathematical thinking patterns in learning various sciences. Basically, in everyday life mathematics is interrelated, mathematics is used to present data information in various ways and improve accuracy. The comparison concept can be found in social studies lessons on map material. In social studies subject map material uses comparison concept. In calculating the scale, actual distance, distance on the map / image uses comparison concept. So, students are expected to understand the concept of comparison in order to easily solve problems related to maps. This study aims to find out how much the relationship between understanding the comparison concept with social studies learning outcomes on map material. Researchers use quantitative research types, namely correlation techniques. Research of correlation (correlation research) is research carried out to find out whether there is any relationship between two or more variables. In this research there is a positive relationship between understanding the comparison concept with social studies learning outcomes on map material so it can be suggested that students better understand the importance of learning mathematics, because mathematics is closely related to other subjects.

**Keywords:** Mathematics education, comparison, maps.

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## PREFACE

Mathematics is a branch of science taught at every level of education, as one of the knowledges that must be studied for all students, both elementary schools (elementary), junior high school (SMP), senior high school (SMA), and even college. Mathematics taught at elementary and secondary school levels is called school mathematics. The goal is to educate students so that they have high reasoning ability and logical thinking.

Mathematics education in elementary and secondary schools in addition to intend students have high reasoning abilities and logical thinking is emphasized that students are able to use mathematics and mathematical thinking patterns in learning various sciences. Basically,

in daily life mathematics is interrelated, which is used to present information data in various ways and improve accuracy.

The low learning outcomes of mathematics are caused by students often learning by memorizing without forming an understanding to the material being studied. It will cause the low activity of students in learning to find their own material concepts so that by memorizing students will be more quickly forgotten. And in general mathematics is considered as a difficult subject that results in students being less interested and quickly bored learning it. This assumption reduces the motivation of students in learning mathematics.

Learning outcomes are changes in behavior obtained by

## Improving Social Studies Learning Outcomes By Using Comparison Concept

students after having learning activities. Student learning outcomes are caused by many factors. One of these factors is the lack of understanding of the concepts given previously so that students cannot master the material well.

The comparison concept can be found in social studies lessons on map material. In social studies subject's map material uses the concept of comparison. In calculating the scale, actual distance, distance on the map / image uses the concept of comparison. So, students are expected to understand the concept of comparison in order to easily solve problems related to maps.

### RESEARCH METHOD

The research method used in this research is a descriptive method with a correlation study that gives a quantitative description about the relationship between the independent variable (X) and the dependent variable (Y). Descriptive method can be interpreted as a problem-solving procedure that is investigated by only describing the condition of the subject or object of research based on the facts as they are. The target population of this research is all students of Al-Barkah Islamic Middle School Sukawangi Sub-District, Bekasi District with 88 students. Affordable population of this research was all students of grade VIII Al-Barkah Islamic Middle School Sukawangi Sub-District, Bekasi District with 34 students.

Samples were taken from grade VII and grade VIII with a total of 67 students. Sampling is done by using proportional sampling.

### RESULT AND DISCUSSION

Based on the test results about understanding the comparison concept, the data obtained as follows:

**Table 1.** Variable Calculation Data X

| No | classification     | Score |
|----|--------------------|-------|
| 1  | Highest score      | 95    |
| 2  | Lowest score       | 42    |
| 3  | Average score      | 67,89 |
| 4  | Median             | 66,25 |
| 5  | Modus              | 64,64 |
| 6  | Standard deviation | 14,10 |

Based on the test results about the map questions, the following data are obtained:

**Table 2.** Variable Calculation Data Y

| No | Classification    | Score |
|----|-------------------|-------|
| 1  | Highest score     | 94    |
| 2  | Lowest Score      | 35    |
| 3  | Average Score     | 65,52 |
| 4  | Median            | 68,25 |
| 5  | Modus             | 76,5  |
| 6  | Standard deviaton | 13,93 |

**Table 3.** Normality Test Results

| Variable | n  | $\chi^2_{count}$ | $\chi^2_{table}$ | Criteria                          | Conclusion |
|----------|----|------------------|------------------|-----------------------------------|------------|
| X        | 34 | 4,103            | 0,11             | $\chi^2_{count} < \chi^2_{table}$ | Normal     |
| Y        | 34 | 9,833            | 0,11             | $\chi^2_{count} < \chi^2_{table}$ | Normal     |

**Table 4.** Linear Regression Using Anava

| Source of variance | JK        | Dk | MK      | F <sub>count</sub> | F <sub>table</sub> |
|--------------------|-----------|----|---------|--------------------|--------------------|
| Total              | 152410    | 34 | 4482,64 |                    |                    |
| Regression (a)     | 145999,52 | 1  | -       | 65,85              | 4,15               |
| Regression (b)     | 4314,15   | 1  | 4314,15 |                    |                    |
| Residue            | 2096,33   | 32 | 65,51   |                    |                    |
| Deviation          | -1690,87  | 9  | -187,87 | -1,14              | 2,23               |
| Error              | 3787,2    | 23 | 164,66  |                    |                    |

**Table 5.** Normality Test Results

| Variable | n  | $\chi^2_{count}$ | $\chi^2_{table}$ | Criteria                          | Conclusion |
|----------|----|------------------|------------------|-----------------------------------|------------|
| X        | 34 | 4,103            | 0,11             | $\chi^2_{count} < \chi^2_{table}$ | Normal     |
| Y        | 34 | 9,833            | 0,11             | $\chi^2_{count} < \chi^2_{table}$ | Normal     |

From the table it can be seen that the value of  $\chi^2_{table}$  is at a significant level  $\alpha = 0.05$  for  $n = 34$  is 0.11 because  $\chi^2_{count}$  in the research results is smaller than  $\chi^2_{table}$  it can be concluded that the variable data X is normally distributed (4.103 < 11.1) and the Y variable also has a normal distribution (9.833 < 11.1).

**Table 6.** Linear Regression Using Anava

| Source of Variance | JK        | Dk | MK      | F <sub>count</sub> | F <sub>table</sub> |
|--------------------|-----------|----|---------|--------------------|--------------------|
| Total              | 152410    | 34 | 4482,64 |                    |                    |
| Regression (a)     | 145999,52 | 1  | -       | 65,85              | 4,15               |
| Regression (b)     | 4314,15   | 1  | 4314,15 |                    |                    |
| Residue            | 2096,33   | 32 | 65,51   |                    |                    |
| Deviation          | -1690,87  | 9  | -187,87 | -1,14              | 2,23               |
| Error              | 3787,2    | 23 | 164,66  |                    |                    |

Based on the calculation results of the linearity test in the table shows  $F_{count} = -1,14$  and  $F_{table} = 2.23$ . Because  $F_{count} < F_{table}$  (-1,14 < 2.23) so it can be concluded that the regression is declared linear.

After doing research so that the correlation number obtained through hypothesis testing using product

moment correlation of 0.820, then continued with the significance test of the correlation coefficient obtained  $T_{count}$  of 8.106 whose value is greater than the  $T_{table}$  of 1.693. So that the results of this research can prove that there is a positive relationship between understanding the comparison concept with social studies learning

outcomes on map material at grade VIII Islamic Middle School Al-Barkah Sukawangi Sub-District, Bekasi District. Understanding the comparison concepts in mathematics significantly influences social studies learning outcomes on map material. This is logical, because in determining calculations on map material, it uses the concept of comparison. So, in doing calculations on map material, a good understanding of concepts is needed.

Besides, understanding of mathematical comparison concept also gives contribution to the social studies learning outcomes on the map material of 67.2%. So, it can be said that 67.2% of the results of social studies on the map material is influenced by understanding the comparison concept in mathematics subjects. The rest is influenced by other factors that support it.

Thus, the understanding of the comparison concept in mathematics subjects can be linked to the map material in social studies subjects, because there is a positive relationship between understanding the comparison concept with social studies learning outcomes on map material at grade VIII Islamic Middle School Al-Barkah Sukawangi Sub-District, Bekasi District.

### CONCLUSION

Based on the results of the research it can be concluded that there is a positive relationship between understanding the comparison concept with social studies learning outcomes on map material at grade VIII Islamic Middle School Al-Barkah Sukawangi Sub-District, Bekasi District. This can be seen from the results of the calculation of product moment correlation of  $r_{xy} = 0.820$ . A positive relationship between understanding the comparison concept with social studies learning outcomes on map material can also be seen from the calculation of the hypothesis test using Ttest with the results of  $T_{count} > T_{table}$  ie  $8.106 > 1.693$ . In other words, if the level of understanding of comparative concepts is high, it will be followed by the high social studies learning outcomes on map material, and vice versa.

The magnitude of the variable X (understanding the comparison concept) against the variable Y (social studies learning outcomes on the map material) can be seen from the magnitude of the coefficient of determination of 67.2%. Although this research has successfully tested, the existence of a positive relationship between understanding the comparison concept with social studies learning outcomes on map material, it does not mean that only understanding of comparison concepts can affect social learning outcomes on map material, but there are also other factors.

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*Improving Social Studies Learning Outcomes By Using Comparison Concept*

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