Yuliyanti, I., Nurimani, N., Warti, E.
The Relationship Between Learning Styles and Student's …
DOI 10.37640/ice.02.663
In *Proceeding of International Conference on Education-02*, pages 120-122
ISSN 2964-7479
Copyright © 2023 Ismi Yuliyanti, Nurimani, Erlis Warti

The Relationship Between Learning Styles and Student's Mathematics Learning Outcomes

Ismi Yuliyanti*, Nurimani, Erlis Warti
Mathematics Education, STKIP Kusuma Negara, Indonesia
*ismiyulianti1996@gmail.com

Abstract

This research aims to determine whether there is a significant relationship to mathematics learning outcomes between what is taught and the learning style in the Flat-Side Room Building material in class VIII of Mutiara Islami Plus Middle School. The research method used in this research is a quantitative approach survey method with correlation techniques, a general approach to research that focuses on estimating the relationship between variables. The research variables are learning style as the independent variable (X) and mathematics learning outcomes as the dependent variable (Y). The regression equation obtained is $\hat{Y}$=-28.4+1.18X. Product Moment Correlation, used to find the level of correlation. After carrying out the calculations, the value of r_{xy}=0.941 is obtained, which means the correlation level is very high and the level of Determination Coefficient is 0.885, which means that if converted into 88.5% of mathematics learning outcomes are determined by learning style, the remaining 0.115 or 11.5% is determined by other factors. The hypothesis test was accepted because t_{count}=14.65>1.701= t_{table} proved that there was a significant correlation between learning style and mathematics learning outcomes in flat-sided geometric material in class VIII of Mutiara Islami Plus Middle School, Bekasi City.

Keywords: Correlation, Learning styles, Mathematics learning outcomes.

1 INTRODUCTION

Learning style as a means of achieving student mathematics learning outcomes (Noervadila, 2020), so that students have reasoning power as a sense of self-confidence in the learning process which determines student learning outcomes (El Fiah & Purbaya, 2017; Netriwati, 2015).

It was also obtained through observation that many students in solving mathematical problems only did what their teacher gave them. This can be seen when they work on the questions. When the problem they face is somewhat different in presentation, they find it difficult to solve it. Apart from that, each student's way of solving mathematical problems looks homogeneous and no one works on problems using a solution method other than the one taught by the teacher because they are afraid of making mistakes (Winiarsih, Hakim, & Sari, 2021). This is because their way of thinking is still convergent (Ma'rif, 2022). Therefore, learning style skills are needed so that students can choose and apply the right way/method to solve the problems they face correctly (Ramadani & Idris, 2017; Budiarti & Jabar, 2016). In the end, learning outcomes are expected to be optimal.

There are several factors that influence high and low student learning outcomes, including internal factors and external factors. These factors often become obstacles and supporters of student success. Learning style is an internal factor within students that can support and also hinder mathematics learning outcomes (Fatimah & Puspaningtyas, 2022; Simamora, Harapan, & Kesumawati, 2020). The learning style chosen as the variable studied is because the object of study studied in mathematics is abstract (facts, concepts, operations, principles), there is problem solving, and there is still weak and not meaningful

understanding in understanding mathematical concepts. So students still have difficulty learning mathematics.

Therefore, this research is expected to be able to reveal the relationship between student learning styles and student mathematics learning outcomes. This is intended to obtain information regarding learning styles in relation to students' mathematics learning outcomes SMP Mutiara Islami Plus Bekasi.

2 RESEARCH METHODS

This research took place at SMP Mutiara Islami Plus Bekasi with mathematics as a subject with flat-sided geometric shapes in class VIII in the 2021/2022 academic year, using a quantitative approach survey method with correlation techniques, a general approach for research that focuses on estimating the relationship between variables . By carrying out a test using a questionnaire that is distributed to each child, this procedure is carried out using a sampling technique or sampling technique is a way of taking a representative sample (truly able to represent) from the population and can describe the actual situation of the population. The sampling technique used in this research is cluster random sampling or Cluster Random Sampling. This technique is used if a heterogeneous population is found because a subpopulation is a group (cluster) that has heterogeneous characteristics, whereas in simple statistics, each subpopulation is homogeneous.

The research correlation techniques, a general approach to research that focuses on estimating the relationship between variables. The research variables are learning style as the independent variable and mathematics learning outcomes as the dependent variable.

The data collection method uses a questionnaire method to search for learning style data (X) and the form of questions is used to obtain data on student learning outcomes (Y). The data analysis technique uses simple linear regression analysis to determine the direction of the relationship between the independent variable and the dependent variable, whether positive or negative and to predict the value of the dependent variable, if the value of the independent variable increases or decreases. The data used is usually on an interval or ratio scale. The simple linear regression formula is $\hat{Y}=a+bX$.

3 RESULT AND DISCUSSION

Research data on learning styles was taken using a questionnaire instrument. The test consisted of 30 statements, but after being tested, there were 5 statements that were invalid out of the 30 statements so they had to be discarded, namely instrument numbers (7, 8, 9, 10, and 21). Thus, the total number of statements that are ready to be used as scoring material is 25 statements.

The calculation of student learning style questionnaire scores uses the Alpha Cronbatch method which shows that the reliability value obtained is 0.656 in the high category so that the reliability criteria for this research instrument are included in the "reliable or consistent" category.

Table 1. Frequency Distribution of Data Learning Styles and Learning Outcomes

Interval	F	Midpoint	Real Boundaries	Interval	F	Midpoint	Real Boundaries
Learning Styles				Learning Outcomes			
64 – 70	4	67	63.5 – 70.5	13 – 26	2	19.5	12.5 – 26.5
71 – 77	12	74	70.5 – 77.5	27 – 40	7	33.5	26.5 – 40.5
78 – 84	9	81	77.5 – 84.5	41 – 54	4	47.5	40.5 – 54.5
85 – 91	3	88	84.5 – 91.5	55 – 68	1	61.5	54.5 – 68.5
92 – 98	1	95	91.5 – 98.5	69 – 82	4	75.5	68.5 – 82.5
99 – 105	1	102	98.5 – 105.5	83 – 96	12	89.5	82.5 – 96.5

4 CONCLUSION

Based on the results of Product Moment correlation calculations, r_{xy}=0.941. To determine whether the correlation is significant or not, the correlation coefficient obtained is compared with the correlation coefficient interpretation table. The large contribution of Variable This shows that there is a relationship between Learning Style and Mathematics Learning Outcomes in the Flat Side Building material, but apart from that there is a factor of 11.5% that influences both learning outcomes.

5 REFERENCES

Budiarti, I., & Jabar, A. (2016). Pengaruh gaya belajar terhadap hasil belajar matematika siswa kelas VIII SMPN 2 Banjarmasin tahun ajaran 2015/2016. *Math Didactic: Jurnal Pendidikan Matematika*, *2*(3), 142-147.

El Fiah, R., & Purbaya, A. P. (2017). Penerapan Bimbingan Belajar dalam Meningkatkan Hasil Belajar Peserta Didik di SMP Negeri 12 Kota Bandar Lampung Tahun Pelajaran 2015/2016. *KONSELI: Jurnal Bimbingan dan Konseling (E-Journal)*, *3*(2), 171-184.

Fatimah, C., & Puspaningtyas, N. D. (2022). Studi Literatur: Kejenuhan Belajar Pada Pembelajaran Daring Selama Pandemi Covid-19. *Jurnal Ilmiah Matematika Realistik*, *3*(1), 42-49.

Ma'rif, S. (2022). Hubungan Antara Kreatifitas dan Gaya Belajar Terhadap Hasil Belajar Matematika Peserta Didik. *Jurnal Bhara Petro Energi*, *1*(3), 53-64.

Netriwati, N. (2015). Meningkatkan Kemampuan Berfikir Logis Matematis Mahasiswa dengan Menggunakan Rangkaian Listrik pada Materi Logika di IAIN Raden Intan Lampung. *Al-Jabar: Jurnal Pendidikan Matematika*, *6*(1), 75-80.

Noervadila, I. (2020). Pengaruh Gaya Belajar dan Motivasi Belajar terhadap Hasil Belajar Siswa Pada Mata Pelajaran Matematika Kelas X IPS Semester Genap di MA Fathus Salafi Tahun Pelajaran 2019/2020. *Jurnal Ika PGSD (Ikatan Alumni PGSD) UNARS*, *8*(1), 48-56.

Ramadani, R., & Idris, R. (2017). Hubungan antara kreativitas guru dan gaya belajar siswa dengan hasil belajar matematika siswa kelas x sma negeri 1 bontomarannu kabupaten gowa. *MaPan: Jurnal matematika dan Pembelajaran*, *5*(1), 82-95.

Simamora, T., Harapan, E., & Kesumawati, N. (2020). Faktor-faktor determinan yang mempengaruhi prestasi belajar siswa. *JMKSP (Jurnal Manajemen, Kepemimpinan, Dan Supervisi Pendidikan)*, *5*(2), 191-205.

Winiarsih, I., Hakim, A. R., & Sari, N. I. (2021). Analisis Kemampuan Berpikir Kreatif Matematis dalam Menyelesaikan Soal Matriks Ditinjau dari Gaya Belajar. *JPT: Jurnal Pendidikan Tematik*, *2*(1), 139-146.