



Self-Efficacy and Study Habits on Mathematics Knowledge of Fifth Grade Elementary School Students

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ABSTRAK

Capaian pengetahuan matematika siswa kelas V yang tergolong rendah. Faktor internal dan faktor eksternal menjadi penyebab rendahnya hasil belajar siswa. Penelitian ini bertujuan untuk menganalisis efikasi diri dan kebiasaan belajar terhadap pengetahuan Matematika siswa kelas V SD. Penelitian ini menggunakan rancangan penelitian *ex post facto* dengan studi pendekatan korelasional. Populasi dalam penelitian ini adalah seluruh siswa kelas V SD sebanyak 197 siswa. Sampel dalam penelitian ini ditentukan menggunakan teknik *proportional random sampling* dengan jumlah sampel yakni 132 orang. Metode dalam penelitian ini menggunakan metode non tes yaitu angket dan pencatatan dokumen. Analisis data penelitian menggunakan analisis regresi linear sederhana dan analisis regresi linear ganda. Hasil analisis penelitian menunjukkan bahwa berdasarkan uji koefisien korelasi pada taraf signifikansi 5% dengan $dk = 130$ diperoleh $r_{tabel} = 0,171$ dengan demikian $r_{hitung} = 0,831 > r_{tabel} = 0,171$ yang berarti nilai koefisien tersebut signifikan. Selanjutnya Koefisien determinasi yang diperoleh adalah $R^2 = 0,691$ dan kontribusinya sebesar 69,1% variasi nilai pengetahuan Matematika ditentukan oleh efikasi diri dan kebiasaan belajar. Berdasarkan hasil tersebut maka dapat disimpulkan bahwa terdapat pengaruh yang signifikan secara bersama-sama efikasi diri dan kebiasaan belajar terhadap pengetahuan Matematika.

ABSTRACT

The achievement of the fifth grade students' mathematical knowledge is relatively low. Internal factors and external factors are the causes of low student learning outcomes. This study aims to analyze self-efficacy and study habits on the Mathematics knowledge of fifth grade elementary school students. This study uses an *ex post facto* research design with a correlational study approach. The population in this study were all 197 students of class V elementary school. The sample in this study was determined using a *proportional random sampling* technique with a total sample of 132 people. The method in this study uses non-test methods, namely questionnaires and document recording. Analysis of research data using simple linear regression analysis and multiple linear regression analysis. The results of the research analysis show that based on the correlation coefficient test at a significance level of 5% with $dk = 130$, $r_{table} = 0.171$, thus $r_{count} = 0.831 > r_{table} = 0.171$, which means the coefficient value is significant. Furthermore, the coefficient of determination obtained was $R^2 = 0.691$ and its contribution was 69.1% of the variation in Mathematics knowledge scores determined by self-efficacy and study habits. Based on these results, it can be concluded that there is a significant joint influence of self-efficacy and study habits on Mathematics knowledge. 1% of the variation in Mathematics knowledge scores is determined by self-efficacy and study habits. Based on these results, it can be concluded that there is a significant joint influence of self-efficacy and study habits on Mathematics knowledge. 1% of the variation in Mathematics knowledge scores is determined by self-efficacy and study habits. Based on these results, it can be concluded that there is a significant joint influence of self-efficacy and study habits on Mathematics knowledge.

1. INTRODUCTION

Education is an effort in the form of guidance carried out to develop students' potential including knowledge, attitudes and skills (Aryani et al., 2022; Semadi, 2019). The education obtained by each individual certainly cannot be separated from the learning and learning activities from educators to students. Learning is a permanent change that occurs in a person as a result of an experience gained,

giving rise to changes in behavior (Chita & Harahap, 2019; Septikasari & Nugraha, 2020). Learning is a design of activities that supports the learning process. The learning carried out must provide a change within the students through the experience gained. These changes include changes in aspects of knowledge, attitudes and skills. The level of success during learning can be seen in student learning outcomes, one of which is knowledge achievement. Learning outcomes are changes in behavior that occur in individuals after following the learning process, one of which is the knowledge aspect (Budiana et al., 2021; Hartati et al., 2021). Knowledge attainment takes the form of mastery of cognitive processes (thinking skills), namely remembering, understanding, applying, analyzing and evaluating. These abilities can be developed in education through subjects taught at school, namely Mathematics. Mathematics is an interconnected subject with many concepts that involve not only memorizing formulas but also learning how to think critically and solve mathematical problems in everyday life. (Nugroho & Warmi, 2022; Taufik & Komar, 2022; Wulandari & Agustika, 2018). Learning mathematics requires students to think critically and creatively to solve various problems that exist in everyday life (Devisafitri & Pramonoadi, 2019; Herzamzam, 2021). It's just that students with a good understanding of mathematics do not necessarily have good learning confidence, which causes students to feel less confident in their abilities. This can cause feelings of anxiety about mathematics lessons and indirectly instill in students the belief that mathematics is a difficult and boring subject. The results of observations carried out in class V of SD Gugus VII, Mengwi District; show that the mathematics knowledge attainment of class V students is still relatively low. Internal factors and external factors are the causes of low student learning outcomes in aspects of mathematical knowledge. Internal factors are factors that are formed within students; internal factors that influence the achievement of Mathematics knowledge include self-efficacy and study habits. Meanwhile, external factors are factors that come from outside the student, including the family environment, school environment, community and surrounding environment. The facts found in schools are the low learning achievement of students, especially in the knowledge aspect of mathematics lessons, which is thought to be due to internal factors in students, namely self-efficacy and study habits.

Self-efficacy is a student's belief or belief in carrying out an action in the situation at hand (Nur, 2022; Zagoto, 2019). Self-efficacy has a big influence in determining the actions taken to achieve a goal (Hartati et al., 2021; Linggi et al., 2021). Someone who has high self-confidence and is able to carry out something without hesitation is said to have high efficacy, while students who have low efficacy tend to feel like they give up easily, avoid tasks that they feel are challenging and difficult to learn, which results in low self-confidence. also (Ariana et al., 2018; Arsyad et al., 2020; Tuaputimain, 2021; Yasa et al., 2020). Another internal factor that influences student learning outcomes is study habits, where study habits are a student's permanent way of learning (Andrie et al., 2019; Budiana et al., 2021). Study habits are also defined as a way that students do repeatedly when they are receiving lessons, reading books, doing assignments and managing time to complete assignments. (Agustiningtyas & Surjanti, 2021; Hardimansyah et al., 2021). Students with good study habits are able to organize their learning activities well, such as being able to complete assignments, receive learning well, manage their time when studying and students are ready to take part in learning. (Nainggolan et al., 2022; Widiati et al., 2022). A person with good study habits can have a good impact on the development of his or her learning achievements. Several studies that have been conducted previously revealed that study habits simultaneously have a significant effect on student learning achievement (Andrie et al., 2019). Other research results reveal that self-efficacy, study habits and school environment influence vocational school students' mathematics learning outcomes (Hardimansyah et al., 2021). The results of further research also revealed that there was an influence on students' self-efficacy and mathematics learning outcomes (Hartati et al., 2021). Based on several research results, it can be said that self-efficacy and study habits have a significant effect on improving student mathematics learning outcomes. It's just that in previous research, there have been no studies that specifically discuss the influence of self-efficacy and study habits on the mathematics learning outcomes of fifth grade elementary school students. So this research is focused on this study with the aim of: find out whether the influence of self-efficacy and study habits on Mathematics knowledge is significant or not.

2. METHOD

This research is classified as an ex post facto type of research with a correlational approach study. Ex post facto research is research carried out by observing the independent variables and dependent variables that have already occurred. The correlation approach is an approach that connects elements with each other to create new shapes and forms that are different from the previous ones. The relationship between each variable is described as a configuration in Figure 1.

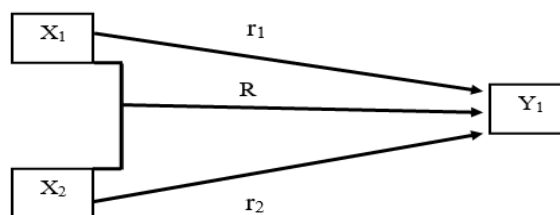


Figure 1. Dual Paradigm with Two Independent Variables

The configuration in [Figure 1](#) is used to determine the influence of self-efficacy on Mathematics knowledge, determine the influence of study habits on Mathematics knowledge, and to determine the influence of self-efficacy and study habits on Mathematics knowledge. The population in the study was all class V students at Gugus VII Elementary School, Mengwi District, 2022/2023 academic year, totaling 197 students. Sampling in this research was carried out using proportional random sampling techniques with a final sample size of 132 students. Data collection in this research was carried out using non-test methods. The non-test method is a way of collecting data using non-test techniques, namely not using standard tools so that it does not produce numbers in the measurement results. This research uses a non-test method by recording documents and questionnaires. The non-test method is document recording, which is a method used to collect data by collecting various documents needed in research and then recording them systematically. Meanwhile, a questionnaire is a data collection technique by asking several questions or written statements for respondents to answer. Data collection on students' self-efficacy and study habits was provided using a closed questionnaire, meaning that all questions or questions given were limited for the respondent to answer. The scale for measuring self-efficacy questionnaire data and study habits uses a modified Likert scale with four answer choices, namely strongly agree (SS), agree (S), disagree (TS), and strongly disagree (STS).

Before using the questionnaire, first test the feasibility of the instrument used to measure self-efficacy and study habits, including theoretical validation tests and empirical validation tests. The theoretical validation carried out in this research is construct validity, namely an instrument that has been constructed and measured based on a certain theory and then consulted with the opinion of an expert or supervisor. Meanwhile, empirical validation includes item validity and reliability testing. Based on the results of the questionnaire item validity test, 30 items were tested against 55 respondents. Using the Product Moment Correlation formula on self-efficacy data, 27 valid items and 3 invalid items were obtained. Meanwhile, data on study habits obtained 26 valid items and 4 invalid items. The results of the reliability test using the Alpha Cronbach formula, the reliability of the self-efficacy questionnaire has a correlation coefficient of 0.688 so it is classified as high. Meanwhile, the reliability of the study habits questionnaire has a correlation coefficient of 0.680, so it is relatively high. The next step is to analyze the data that has been obtained, both self-efficacy questionnaire data, study habits and recording documents on Mathematics knowledge using statistical analysis. The statistical analysis method used to process the data that has been obtained is inferential statistical analysis because the data used in this research is in the form of numbers or quantitative on an interval scale. Data analysis techniques were carried out to test the hypothesis, namely using simple linear regression and multiple linear regression.

Before testing the hypothesis, first carry out the analysis prerequisite tests which include normality test, linearity test, multicollinearity test, heteroscedasticity test and autocorrelation test. The residual normality test used is the Kolmogorov-Smirnov test with criteria. The test is that if the maximum value is \leq the Kolmogorov-Smirnov table value, then the data is normally distributed. Meanwhile, if the maximum value $>$ the Kolmogorov-Smirnov table value, then the data is not normally distributed. This research uses the F test to carry out a linearity test with criteria, namely as follows (a) linearity test, in the Deviation From Linearity column, if $F_{\text{count}} < F_{\text{table}}$ with $p > 0.05$ then it is stated that the form of regression is linear and (b) direction significance test regression, in the linearity column, if $F_{\text{linearity}}$ is $p < 0.05$ then the regression coefficient obtained is significant. Apart from that, linearity testing was carried out using the SPSS 16.0 for Windows program. The multicollinearity test was carried out using the SPSS 16.0 for Windows program with criteria if the Tol value ≤ 0.1 or VIF value ≥ 10 , then multicollinearity occurs. The heteroscedasticity test was carried out using the SPSS 16.0 for Windows program using the Glejser test. Testing criteria, viz if the Glejser test value is ≥ 0.05 then heteroscedasticity does not occur, conversely if the Glejser test value is ≤ 0.05 then heteroscedasticity occurs. This research uses a simple linear regression test and a multiple linear regression test to test the hypothesis, namely the null hypothesis (H_0) as follows: 1) there is no significant influence of self-efficacy on Mathematics knowledge in class V

students at SD Gugus VII, Mengwi District. 2) There is no significant influence of study habits on Mathematics knowledge in class V students at Gugus VII Elementary School, Mengwi District. 3) There is no significant influence of self-efficacy and study habits on Mathematics knowledge in class V students at Gugus VII Elementary School, Mengwi District.

3. RESULT AND DISCUSSION

Result

This research includes Mathematics knowledge data, self-efficacy data and study habits data. Determining Mathematics knowledge data obtained by recording documents. The average score obtained by class V students was 80.55. The score is adjusted to the PAP classification which shows that a score of 80.55 is a high qualification. Self-efficacy data was obtained by distributing a questionnaire to 132 respondents and providing 27 statement items with 4 answer choices. The maximum student score obtained was 108 and the minimum student score was 71. Based on the Five Theoretical Scale scores, self-efficacy data was obtained with an average (mean) of 88.77 in the range 87.75 - 108. So it can be concluded that the self-efficacy data The fifth grade students at Gugus VII Elementary School, Mengwi District, are in the very good category.

Data on study habits was obtained by distributing questionnaires to 132 respondents and giving 26 statement items with 4 answer choices. The maximum student score obtained was 104 and the minimum student score was 63. Based on the Five Theoretical Scale scores, the study habits data was obtained with an average (mean) of 84.74 in the range 84.5 - 104. So it can be concluded that the study habits data on Class V students at Gugus VII Elementary School, Mengwi District, are in the very good category. Analysis prerequisite tests are carried out to test assumptions. The prerequisite analysis tests carried out include the normality test, linearity test, multicollinearity test, heteroscedasticity test and autocorrelation test. The normality test in the study used the Kolmogorov-Smirnov test. To find out whether the data is normally distributed or not, $\frac{1,36}{\sqrt{N}} = \frac{1,36}{\sqrt{132}}$ Obtained Ks table = 0.118 at a significance level of 5%. A good regression model is one that has normally distributed residual values. The residual normality test was analyzed using the Microsoft Excel program so the normality test calculation results were obtained using the Kolmogorov-Smirnov formula as in Table 1.

Table 1. Residual Normality Test Results of Self-Efficacy Data and Study Habits on Mathematics Knowledge

Variable	Maximum Value FT - FS	Kolmogorov-Smirnov Table Values	Information
Self-Efficacy of Mathematics Knowledge	0.059	0.118	Normally distributed
Study Habits on Mathematics Knowledge	0.055	0.118	Normally distributed
Self-Efficacy and Study Habits on Mathematics Knowledge	0.057	0.118	Normally distributed

Based on the data in Table 1, the maximum value is obtained | FT - FS | from residual self-efficacy data on Mathematics knowledge = 0.059 < table value *Kolmogorov-Smirnov* = 0.118 which means the residual data is normally distributed. Maximum value | FT - FS | from residual data on study habits on Mathematics knowledge = 0.055 < table value *Kolmogorov-Smirnov* = 0.118 which means the residual data is normally distributed. Maximum value | FT - FS | from residual data on self-efficacy and study habits on Mathematics knowledge = 0.057 < table value *Kolmogorov-Smirnov* = 0.118 which means the residual data is normally distributed. Next, a linearity test was carried out to determine the form of relationship between the dependent variable and each independent variable. The linearity test aims to find out whether the relationship between variables can be said to be linear or not. Linearity test calculations are presented in Table 2.

Table 2. Linearity Test Results of Self-Efficacy Data and Study Habits on Mathematics Knowledge

Variable	F _{count}	F _{table}	Information
Self-Efficacy of Mathematics Knowledge	5.20	3.91	Significant
Study Habits on Mathematics Knowledge	5.21	3.91	Significant

Based on the calculation results in Table 2, self-efficacy data on Mathematics knowledge can be seen with the results $F_{\text{count}} = 5.20 > F_{\text{table}} = 3.91$ at a significance level of 5%, so the F regression is said to be significant. Results of data calculations on study habitstowards Mathematics knowledge with results $F_{\text{count}} = 5.21 > F_{\text{table}} = 3.91$ at a significance level of 5%, so the F regression is said to be significant. Furthermore, the results of the linearity test of self-efficacy data and study habits regarding mathematical knowledge can be seen in Table 3.

Table 3. Linearity Test Results of Self-Efficacy Data and Study Habits on Mathematics Knowledge

Variable	F _{count}	F _{table}	Information
Self-Efficacy of Mathematics Knowledge	1.29	1.57	Linear
Study Habits on Mathematics Knowledge	1.15	1.59	Linear

Based on the Table 3 calculations, self-efficacy data on Mathematics knowledge obtained results F_{count} is $1.29 < F_{\text{table}} = 1.57$ at a significance level of 5%, so the F regression is said to be linear. Calculation of study habits data on Mathematics knowledge produces F_{count} $1.15 < F_{\text{table}} 1.59$ at a significance level of 5%, so the F regression is said to be linear. The next analysis is the linearity test analysis of self-efficacy data and study habits on mathematical knowledge which can be seen in Table 4.

Table 4. Linearity Test Results of Self-Efficacy Data and Study Habits on Mathematics Knowledge Using the SPSS 16.0 for Windows Program

Variable	Test for Linearity	Significant Level	Information
Self-Efficacy of Mathematics Knowledge	0.018	0.05	Significant
Study Habits on Mathematics Knowledge	0.022	0.05	Significant

The results of the linearity test analysis using the SPSS 16.0 for Windows program show that Sig.Test for Linearity self-efficacy for Mathematics knowledge = 0.018 < 0.05 significant level, which means the data is linear. Study habits data on Mathematics knowledge shows that the Sig.Test for Linearity of study habits data = 0.022 < significant level = 0.05, which means the data is linear. Next, a multicollinearity test was carried out to determine whether in the regression model there was a correlation between the independent variables, which was done by testing the VIF (Variance Inflation Factor) value and Tolerance value. Good regression requires that there is no multicollinearity. Multicollinearity test is presented in Table 5.

Table 5. Multicollinearity Test Results of Self-Efficacy Data and Study Habits on Mathematics Knowledge Using the SPSS 16.0 for Windows Program

Variable	Tolerance	VIF	Information
Self-Efficacy	0.564	1.773	Multicollinearity does not occur
Study Habits	0.564	1.773	Multicollinearity does not occur

Based on the data in the Table 5, the Tolerance value = 0.564 is obtained, which means that all independent variables are close to the value 1 and the VIF value = 1.773, which means less than 10. So it can be concluded that there is no multicollinearity between the independent variables. Next, a heteroscedasticity test is carried out to determine whether or not there is inequality in the variance of the residuals in the regression model. The prerequisite that must be met is the absence of heteroscedasticity problems. If the Glejser test is greater than the significance level = 0.05 or the Glejser value > 0.05, it means that there is no heteroscedasticity problem. Heteroscedasticity Test Results are presented in Table 6.

Table 6. Heteroscedasticity Test Results of Self-Efficacy Data and Study Habits on Mathematics Knowledge Using the SPSS 16.0 for Windows Program

Variable	Sig.	Information
Self-Efficacy	0.604	Heteroscedasticity does not occur
Study Habits	0.682	Heteroscedasticity does not occur

Based on the data in Table 6, the significant value of the independent variable self-efficacy is = 0.604 > 0.05 and study habits = 0.682 > 0.05. It can be concluded that there is no heteroscedasticity

problem in the regression model. Next, an autocorrelation test is carried out to find out whether there are errors in the regression model in period t or the period before t . To find out whether there is an autocorrelation problem or not, the Durbin-Watson statistical test is carried out using the SPSS 16.0 for Windows program. The prerequisite that must be met in the regression model is the absence of autocorrelation problems. If the Durbin-Watson value is close to 2 or $dU < d < 4 - dU$, it means there is no autocorrelation. Autocorrelation Test Results are presented in Table 7. Based on the data in Table 7, the Durbin-Watson value = 1.787 or close to 2. So it can be concluded that there are no symptoms of autocorrelation in the regression model. After testing the assumptions, hypothesis testing is then carried out, namely the first and second hypotheses using simple linear regression analysis and the third hypothesis using multiple linear regression analysis.

Table 7. Autocorrelation Test Results of Self-Efficacy Data and Study Habits on Mathematics Knowledge Using the SPSS 16.0 for Windows Program

Variable	Durbin Watson	Information
Self-Efficacy and Study Habits on Mathematics Knowledge	1.787	There is no autocorrelation

The first hypothesis is to determine the significant influence of self-efficacy on the Mathematics knowledge of fifth grade students at Gugus VII Elementary School, Mengwi District, by calculating the values a and b first to obtain the following equation: $\hat{Y} = 71.31 + 0.10 X_1$. The results of the significance test and linearity test on the first hypothesis are presented in Table 8.

Table 8. Self-Efficacy Linearity Test Results on Mathematics Knowledge

Sources of Variation	JK (SS)	dk (df)	RJK (MS)	F _{count}	F _{table}
Total	858413	132	6503.129	-	-
Coefficient (a)	852520.371	1	-	-	-
Regression (b a)	72.877	1	72.877	5.21	3.91
Remainder (residue)	1819.75	130	13.998	-	-
Tuna Suitable	522.25	31	16.847	-	-
Error (error)	1297.5	99	13.106	1.29	1.57

Based on the data in Table 8, at a significance of 5% with a dk in the numerator of 1 and a dk in the denominator of 130, it can be seen that $F_{table} = 3.91$. The prerequisite used in comparing is if $F_{count} > F_{table}$ then F regression is said to be significant. The results of the table show that $F_{count} = 5.21 > F_{table} = 3.91$, so the F regression is declared significant. The next prerequisite test is a linearity test with the criteria $F_{count} < F_{table}$ with a significance level of 5% and dk in the numerator 31 and dk in the denominator 99 so that the regression of Y on X is linear. The calculation results in the table show that $F_{count} = 1.29 < F_{table} = 1.57$, so the regression is declared linear. Based on the results of the significance test and linearity test that have been carried out, it is known that the regression equation $\hat{Y} = 71.31 + 0.10 X_1$ is significant and linear. This means that every 1 unit increase in self-efficacy causes an increase of 0.10 in the value of Mathematics knowledge with a constant of 71.31. If $X = 50$, then the results obtained are as shown Figure 2.

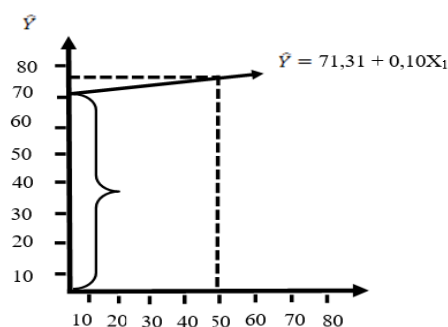


Figure 2. Regression Line $\hat{Y} = 71.31 + 0.10 X_1$

Based on the correlation coefficient test at a significance level of 5% with $dk = 130$, $r_{table} = 0.171$, thus $r_{count} = 0.201 > r_{table} = 0.171$, which means the coefficient value is significant. So, it can be concluded that the correlation between self-efficacy and Mathematics knowledge has a positive relationship. The higher the self-efficacy, the higher the student's Mathematics knowledge results. The coefficient of determination obtained is $R^2 = 0.040$ and the contribution of 4% of the variation in Mathematics knowledge results is determined by self-efficacy. The second hypothesis is to determine the significant influence of study habits on the Mathematics knowledge of fifth grade students at Gugus VII Elementary School, Mengwi District, by calculating the values a and b first to obtain the following equation: $\hat{Y} = 72.04 + 0.10 X_2$. The results of the significance test and linearity test on the second hypothesis are presented in Table 9.

Table 9. Linearity Test Results of Study Habits on Mathematics Knowledge

Sources of Variation	JK (SS)	dk (df)	RJK (MS)	F _{count}	F _{table}
Total	858413	132	6503.129	-	-
Coefficient (a)	856520,371	1	-	-	-
Regression (b a)	72,980	1	72,980	5.21	3.91
Remainder (residue)	1819.65	130	13,977	-	-
Tuna Suitable	435.65	28	15,559	-	-
Error (error)	1384	102	13,569	1.15	1.59

Based on Table 9, at a significance of 5% with a dk in the numerator of 1 and a dk in the denominator of 130, it can be seen that $F_{table} = 3.91$. The prerequisite used in comparing is if $F_{count} > F_{table}$ then F regression is said to be significant. In the table, $F_{count} = 5.21 > F_{table} = 3.91$, so the F regression is declared significant. The next prerequisite test is a linearity test with the criteria $F_{count} < F_{table}$ with a significance level of 5% and dk in the numerator 31 and dk in the denominator 102 so that the regression of Y on X is linear. The calculation results in the table show that $F_{count} = 1.15 < F_{table} = 1.59$, so the regression is declared linear. Based on the results of the significance test and linearity test, it is known that the regression equation $\hat{Y} = 72.04 + 0.10 X_2$ is significant and linear. This means that every 1 unit increase in study habits causes an increase of 0.10 in the value of Mathematics knowledge with a constant of 72.04. If $X = 50$, then the result is obtained at Figure 3.

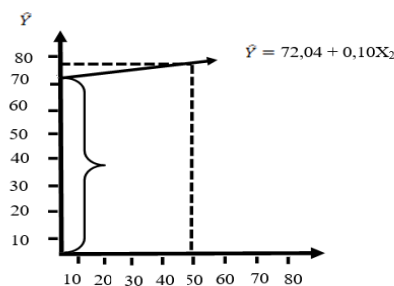


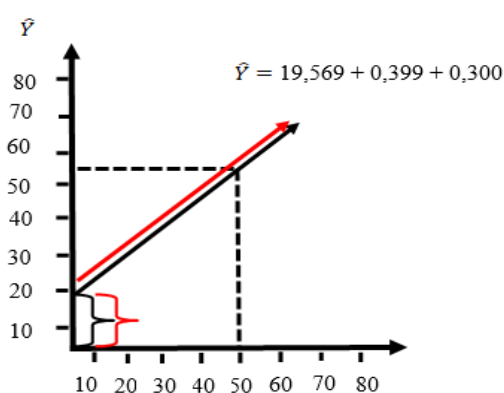
Figure 3. Regression Line $\hat{Y} = 72.04 + 0.10X_2$

Based on the correlation coefficient test at a significance level of 5% with $dk = 130$, $r_{table} = 0.171$, so $r_{count} = 0.197 > r_{table} = 0.171$, which means the coefficient value is significant. So, it can be concluded that the correlation between study habits and Mathematics knowledge has a positive relationship. The higher the study habits, the higher the Mathematics knowledge results obtained by students. The coefficient of determination obtained is $R^2 = 0.039$ and its contribution is 3.9% of the variation in Mathematics knowledge results determined by study habits. The third hypothesis is to determine the joint significant influence of self-efficacy and study habits on the Mathematics knowledge of fifth grade students at Gugus VII Elementary School, Mengwi District by calculating the values a, b1, and b2 first to obtain the following equation: $19.569 + 0.399 X_1 + 0.300 X_2$. The results of the significance test on the third hypothesis are presented in $\hat{Y} =$ Table 10.

Table 10. Linearity Test Results of Self-Efficacy and Study Habits on Mathematics Knowledge

Sources of Variation	JK (SS)	dk (df)	RJK (MS)	F _{count}	F _{table}
Total	14611.72	131	-	-	-
Regression (b a)	10091.517	2	5045.759		
Remainder (Residue)	4520.203	129	35.040	143.99	3.07

Based on Table 10, at a significance of 5% with a dk in the numerator of 2 and a dk in the denominator of 129, it can be seen that $F_{table} = 3.07$. The criteria used to fulfill the requirements for comparing are if $F_{count} > F_{table}$ then F regression is significant. In the table, it is found that $F_{count} = 143.99 > F_{table} = 3.07$, so the F regression is declared significant. Based on the results of the significance test and linearity test, it is known that the regression equation $19.569 + 0.399 X_1 + 0.300 X_2$ is declared significant. This means that every increase of 1 unit of self-efficacy and 1 unit of study habits causes an increase in self-efficacy of 0.399 and study habits of 0.300 and the value of Mathematics knowledge at a constant of 19.569. If $X = 50$ then, the result is obtained at $\hat{Y} =$ Figure 4.

**Figure 4.** Regression Line $\hat{Y} = 19.569 + 0.399 + 0.300$

Based on the correlation coefficient test at a significance level of 5% with $dk = 130$, $r_{table} = 0.171$, thus $r_{count} = 0.831 > r_{table} = 0.171$, which means the coefficient value is significant. So, it can be concluded that the correlation between self-efficacy and study habits together with Mathematics knowledge has a positive relationship. The coefficient of determination obtained is $R^2 = 0.691$ and its contribution is 69.1% of the variation in Mathematics knowledge scores determined by self-efficacy and study habits.

Discussion

Based on the results of the analysis that has been carried out, 3 main findings were obtained in this research. The first finding shows that self-efficacy has a positive and significant effect on Mathematics learning achievement with a significance level of 0.05 and the regression coefficient value of the self-efficacy variable is 0.240 and the magnitude of the influence of self-efficacy on Mathematics learning achievement is 18.6%. This means that self-efficacy has a positive effect on Mathematics learning achievement, so that self-efficacy is very important for students to achieve better learning outcomes. (Hartati et al., 2021; Nur, 2022; Zagoto, 2019). Students with high self-efficacy are able to carry out activities with full confidence and self-confidence without any doubt (Linggi et al., 2021; Tuaputimain, 2021). The higher the level of student self-efficacy and study habits, the better the influence on Mathematics knowledge to achieve maximum results. (Ariana et al., 2018; Arsyad et al., 2020; Yasa et al., 2020). Before having learning achievements, of course students receive learning achievements, one of which is the knowledge aspect which shows student learning achievements. So self-efficacy has a significant influence on mathematics knowledge and also mathematics learning achievement because basically the higher the self-efficacy, the higher the student's learning achievement and knowledge attainment.

Second findings shows that the path coefficient (r_{xy}) is 0.335 and the regression equation = $43.85 + 0.236$ Based on research conducted, there is a positive influence between study habits on Mathematics learning outcomes \hat{Y} (Budiana et al., 2021; Sripatmi et al., 2019). Study habits are students' ways of

learning that are done consistently and repeatedly (Mahmudah et al., 2021; Nainggolan et al., 2022; Widiati et al., 2022). Students with good study habits are able to accept the learning given by the teacher, are able to do their assignments diligently, are able to manage their time when studying, are responsible for their assignments, and always try to do their assignments well. (Agustiningtyas & Surjanti, 2021; Hardimansyah et al., 2021). The third finding shows that at a significance level of 5% with $dk = 130$, $r_{table} = 0.171$, thus $r_{count} = 0.831 > r_{table} = 0.171$, which means that the coefficient value is significant, which means that the correlation between self-efficacy and study habits together on Mathematics knowledge has positive relationship. These results show that self-efficacy and study habits are able to improve student learning outcomes, where these two aspects can form positive attitudes in students. The results obtained in this study are in line with the results of previous research, which also revealed that study habits simultaneously have a significant effect on student learning achievement (Andrie et al., 2019). Other research results reveal that self-efficacy, study habits and school environment influence vocational school students' mathematics learning outcomes (Hardimansyah et al., 2021). The results of further research also revealed that there was an influence on students' self-efficacy and mathematics learning outcomes (Hartati et al., 2021). So based on several research results, it can be said that self-efficacy and study habits have a significant influence on improving student mathematics learning outcomes.

4. CONCLUSION

Based on the results of the analysis that has been carried out, it can be concluded that there is a significant joint influence of self-efficacy and study habits on Mathematics knowledge as evidenced by the value of $F_{count} = 143.99 > F_{table} = 3.07$ and the contribution is 69.1%.

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