THE EFFECT OF PARENTAL ROLE, LEARNING DISCIPLINE, AND ACHIEVEMENT MOTIVATION ON LEARNING OUTCOMES OF ELEMENTARY MATHEMATICS

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ABSTRACT

This study aims to determine the influence of the role of parents, learning discipline and achievement motivation on the learning outcomes of students in grade 4 elementary school. The population in this study were 59 students. The research sample consisted of 51 students who were determined by proportional random sampling technique, namely taking samples from members of the population randomly and proportionally stratified. Data on the role of parents, learning discipline and student achievement motivation were collected using a questionnaire while data on mathematics learning outcomes were collected from document records. Data were analyzed using simple correlation test and multiple correlation. with the help of the SPSS 25.0 for Windows program. The results showed that: (1) there was a significant effect between the role of parents on students' mathematics learning outcomes as indicated by a Sig value of 0.00 <0.05. (2) there is a significant effect between learning discipline on students' mathematics learning outcomes indicated by the value of sig = 0.000 <0.05. (3) There is a significant effect between achievement motivation on students' mathematics learning outcomes as indicated by the sig = 0.000 <0.05. (4) Simultaneously, there is an effect between the role of parents, learning discipline and achievement motivation on the learning outcomes of elementary mathematics with a significance result of 0.000 <0.05. So, it can be concluded that there is an effect between the role of parents, learning discipline and achievement motivation on learning outcomes in elementary school mathematics.
Keywords: The Role of Parents, Learning Discipline, Achievement Motivation, Mathematics Learning Outcomes

PRELIMINARY

Mathematics can develop logic and reasoning abilities (Widana et al., 2022). Therefore, it needs to be taught from elementary school to higher education. Mathematics is a foundation for the development of other sciences so that good mathematical skills can encourage students' creativity in studying other sciences (Susmariani et al., 2022). Mathematics learning needs to be fun, inspiring, interactive, and provide space for students to develop thinking and reasoning skills through contextual learning (Astawayasa et al., 2022).

Mathematics subjects are also able to support students' abilities and skills that will be needed in the world of work, such as concepts, theories and applications needed to solve problems in the everyday world of work (Widana et al., 2023). Mathematics is a collection of abstract ideas with deductive structures, has an important role in the development of science and technology so that it helps to think systematically, through regular and certain sequences in understanding empirical phenomena encountered in everyday life day (Sumandya et al., 2023).

Good teaching and learning activities are expected to improve student learning outcomes, especially mathematics in Cluster 1, West Selemadeg sub-district. However, in reality there are still many low student mathematics learning outcomes under the minimum completeness criteria. Based on the initial research conducted on December 15, 2021, data were obtained on the average grade IV mathematics subject in Cluster 1 on the results of the Final Semester I Assessment of West Selemadeg District in the 2021/2022 Academic Year. The data is presented in table 1.

Table 1. Average Semester I Score for Class IV Elementary School Mathematics in Cluster I West Selemadeg Academic Year 2021/2022

No.	School name	Number of Students (people)	KKM	Amount Achievement of KKM Students		Percentage Achieveent of KKM (%)	
				Complete	Not yet	Complete	Not yet
1	SD N 1 Lalanglinggah	20	62	6	14	30,00	70,00
2	SD N 2 Lalanglinggah	4	60	1	3	25,00	75,00
3	SD N 3 Lalanglinggah	13	62	5	8	38,46	61,54
4	SD N 1 Selabih	11	60	3	8	27, 27	72,73
5	SD N 2 Selabih	11	60	4	7	36, 36	63,64
	Amount	59	-	19	40	157,09	342,91
	Average					26,63	58,12

(Source: School Administration in West Selemadeg Cluster I)

Table 1. shows that the number of students who achieved the KKM was 19 students and those who had not reached the KKM were 40 students out of a total of 59 students. If seen from the average percentage of achieving KKM, as much as 58.12% have not reached

KKM and only 26.63% have achieved KKM. Based on these data, it can be concluded that the mathematics learning outcomes of students in the Cluster are still low.

Regarding the phenomenon that occurred in class IV SD in Cluster 1, West Selemadeg sub-district, the researchers conducted in-depth interviews with several parents of students. The findings from the interviews are that there are still many parents who pay less attention to their children. Regarding the learning activities carried out by students at home, it was found that some students did not have a regular study schedule. In accordance with the results of observations of five teachers, some students were less enthusiastic in answering each question given by the teacher, the students' attention was not focused on the lesson being conveyed.

The effect of the role of parents in this case the readiness of parents to pay attention in taking the time to give directions, advice or provide time in accompanying their children in solving problems encountered during the learning process, the readiness of parents to provide the facilities needed, prepare in terms of finance to pay for all the necessities that support the success of children in achieving optimal learning outcomes (Yasmini, 2020). By fulfilling all the needs needed by children, it will greatly support the achievement of their children's learning outcomes. Hasbullah (2006) says that the family is the first environment whose job is to lay the foundation for children's educational development. Therefore it can be understood how important the role of parents in educating and raising children in the development of their children.

In addition to the role of parents, learning discipline also influences the results of learning mathematics. The attitude of discipline possessed by an individual must be instilled in the learning interaction process. This is in line with the opinion of James (2004) which states that children really need to discipline themselves and behave responsibly. "Discipline in this teaching-learning interaction is defined as a pattern of behavior that is regulated in such a way according to provisions that have been consciously obeyed by all parties, both the teacher and the students" (Sardiman, 2011). "*Motivation is a psychological condition that encourages a person to do something or the power contained in an organism that encourages it to act*" (Kosasih, 2013). According to Sudana (2021) achievement motivation is a drive from within to always achieve achievements. If the motivation is high, the success will be even greater to achieve.

In accordance with the results of research conducted by Pusparina (2021). With the results of the study there is a significant relationship between the role of parents and their learning outcomes. Furthermore, research conducted by Sri Wahyuni (2021), with the

results of the study that achievement motivation, interest in learning mathematics and learning attitudes mathematics together has a significant effect on the mathematics learning outcomes of class X students. And according to the results of research conducted by (Mia et al., 2019) with the title "*The Contribution of Learning Discipline and Achievement Motivation to Mathematics Learning Outcomes*" there is a significant relationship between learning discipline and achievement motivation on mathematics learning outcomes of fifth grade elementary school students in cluster III Sawan District in the 2017/2018 academic year.

As well as research conducted by Dwijayanti et al. (2022) whose research title is "*Relationship of Learning Discipline, Achievement Motivation and Self-Efficacy with Mathematics Study Results for Class V Elementary School Students in Cluster II Pekutatan District*" there is a significant relationship between learning discipline, achievement motivation and efficacy themselves to learning outcomes. Related to previous research, researchers have not found research that combines the variables of the role of parents, learning discipline and achievement motivation to influence the results of learning mathematics in class IV SD.

However, the extent to which the role of parents, learning discipline and achievement motivation affect mathematics learning outcomes cannot be known. This presentation indicates the need to know the influence of parental factors, learning discipline and achievement motivation on mathematics learning outcomes so that it can be used as an important consideration for determining the success of learning in the classroom and achieving educational goals. Therefore, this problem needs to be raised through research entitled "*The Effect of Parental Role, Learning Discipline and Achievement Motivation on Learning Outcomes in Elementary Mathematics*"

METHODS

This research uses a quantitative correlational approach, namely research using statistical methods that measure the influence between two or more variables, the data of which is in the form of numbers. To analyze the data that has been collected using simple linear correlation analysis and multiple correlation analysis. This research was to explore information or facts in Cluster 1, Selemadeg Barat sub-district, using data collection techniques in the form of questionnaires and documentation. Data collection using a questionnaire was carried out by distributing questionnaire sheets containing statements to be filled out by students. data collection with documentation, namely documents from the

list of PAS scores from the student learning outcomes of five grade IV elementary school teachers in Cluster 1, West Selemadeg sub-district. As for data analysis using quantitative data analysis using multiple linear regression analysis.

The sample studied, the results can be applied to the population. For this reason, samples taken from the population must be truly representative (Sugiyono 2017). Determination of the sample in this study was carried out through a proportional random sampling technique. The proportional random sampling technique is a technique for determining a random and stratified sample proportionally by taking into account the number of proportions in each school, which in this case is in each class IV of elementary schools belonging to Cluster I of West Selemadeg District. The proportional random sampling technique was used in this study because in one cluster each school the number of students in grade IV was different (heterogeneous) so that the proportions of each school had to be considered.

In determining the sample can be seen in the table Issac and Michel. The table describes the size of the sample taken from the population with an error rate of 1%, 5% and 10%. According to this table, the total population in the Issac and Michel table is close to the total population of class IV in Cluster I, West Selemadeg District, which is 59 people, so the number of samples taken with an error rate of 5% is 51 people which can represent the target population in cluster I West Selemadeg sub-district carried out stratified random sampling by calculating the number of students proportionally from the 5 schools. The distribution is based on the number of members from each school by proportional random sampling with the formula:

$$n_i = \frac{N_i}{N} \cdot n$$

(Riduwan, 2020)

Information:

n_i	= the number of samples according to the table *Issac and Michel*
n	= the total number of samples
N_i	= the number of population according to the table *Issac and Michel*
N	= the total population

Table 2. Population and Sample at Each School

SD Cluster I, West Selemadeg District	Population	Sample
SD N 1 Lalanglinggah	20 People	17 People
SD N 2 Lalanglinggah	4 People	3 People
SD N 3 Lalanglinggah	13 People	11 People
SD N 1 Selabih	11 People	10 People
SD N 2 Selabih	11 People	10 People
Amount	59 People	51 People

As for data collection in this study using a Questionnaire/Questionnaire. The scale used in this study is the Likert scale, which is a scale used to measure attitudes, opinions, and perceptions of a person or group about social phenomena. With a Likert scale, the variables to be measured are translated into variable indicators. Then these indicators are used as a starting point for compiling instrument items which can be in the form of questions. The answers to each item of the instrument using the Likert scale have gradations from very positive to negative and to find out about mathematics learning outcomes can use the document recording method, the document is a list of teacher values which includes the value of the End of Year Assessment in mathematics for fourth grade elementary school students in Cluster I West Selemadeg District.

Before the instruments made were distributed to respondents, the instruments made were tested first to determine the feasibility of the instruments used as a data collection tool. Tests on the role of parents, learning discipline and achievement motivation were conducted on fourth grade students. After the instrument is tested, then the instrument will be tested. In this study, tests were carried out, namely: 1) validity test (test the validity of the contents and items) and 2) test reliability test.

RESULT AND DISCUSSION

The description of the data from this study describes the role of parents, learning discipline, and achievement motivation as variables X1, X2, and X3, as independent variables, and Mathematics learning outcomes as the dependent variable. In this case the mean, median, standard deviation mode, as well as the minimum and maximum scores are displayed, which can be seen in the following table.

Table 3. Statistical Data Distribution Table

		X1	X2	X3	Y
N	Valid	51	51	51	51
	Missing	0	0	0	0
Mean		57.3529	57.5686	56.9804	57.1765
Median		58.0000	58.0000	56.0000	56.0000
Mode		51.00[a]	51.00[a]	56.00	56.00
Std. Deviation		10.31082	9.93631	12.08551	11.80967
Minimum		35.00	36.00	32.00	34.00
Maximum		75.00	75.00	78.00	78.00

[a]Multiple modes exist. The smallest value is shown

Description of the role of parents. Data on the role of parents of fourth grade elementary school students in Cluster I, Selemadeg Barat District obtained through questionnaires obtained an average of 57.3529, median 58.000, with a minimum score of 35.00 and a maximum score of 75.00 with a standard deviation value of 10, 31082. Description of Learning Discipline. Discipline data for class IV SD in Cluster I, Selemadeg Barat District obtained through questionnaires obtained an average of 57.5686, median 58.000, with a minimum score of 36.00 and a maximum score of 75.00 with a standard deviation value of 9.93631. Description of achievement motivation. Data on achievement motivation of fourth grade elementary school students in Cluster I in Selemadeg Barat District obtained through questionnaires obtained an average of 56.9804, median 56.000, with a minimum score of 32.00 and a maximum score of 78.00 with a standard deviation value of 12. 08551. Description of Mathematics Learning Outcomes. Data on achievement motivation of fourth grade elementary school students in Cluster I in West Selemadeg District obtained through questionnaires obtained an average of 57.1765, median 56.000, with a minimum score of 34.00 and a maximum score of 78.00 with a standard deviation value of 11. 80967.

Partially the hypothesis test is carried out by using the T test by looking at the significant value of the correlation between the x and y variables, while calculating the correlation simultaneously is carried out by the F test, this can be proven as shown in the following table.

Table 4. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.159	.693		-.230	.819		
	x1	-.747	.077	-.0652	-9.656	.000	0.15	67.773
	x2	.765	.066	.643	11.634	.000	.022	45.450
	x3	.985	.041	1.008	23.808	.000	.037	26.669

a. Dependent Variable y

From the coefficients table above it can be explained as follows: (1) The role of parents has a significant effect on the mathematics learning outcomes of fourth grade elementary school students in Cluster I West Selemadeg in 2022, this can be seen from the sig value of 0.00 <0.05, this states that H0 is rejected and H1 is accepted. (2) Study discipline has a significant effect on the mathematics learning outcomes of fourth grade elementary school students in Cluster I West Selemadeg in 2022, this can be seen from the sig value of 0.00 <0.05, this states that H0 is rejected and H1 is accepted. (3) Achievement motivation has a significant effect on the mathematics learning outcomes of fourth grade elementary school students in Cluster I West Selemadeg in 2022, this can be seen from the sig value of 0.00 <0.05, this states that H0 is rejected and H1 is accepted. (4) There is a significant influence on the role of parents, learning discipline, and achievement motivation together on the learning outcomes of mathematics in fourth grade elementary school students in Cluster I West Selemadeg in 2022, which can be seen in the following table.

Table 5. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6951.363	3	2317.121	4939.234	.000[b]
	Residual	22.049	47	.469		
	Total	6973.412	50			

a. Dependent Variable: y

b. Predictors: (Constant), x3, x2, x1

From the presentation of the data above, it can be explained that there has been a correlation between X1, X2, and X3 simultaneously with Y, this can be seen from the sig value of 0.000 <0.05, this indicates that H0 is rejected and H1 is accepted.

The results of this research are in accordance with the concept of the role of parents put forward by Winarti (2020) which states that "the role of parents in education is as

educators, motivators, facilitators and guides." The role of parents really determines the child's learning level. The role of parents in education and the attitudes that need to be considered in children's moral development are mutually sustainable. Parents' attitudes must be in accordance with what is taught to children. When studying, sometimes children will experience difficulties and their enthusiasm will decrease. Parents must provide encouragement so that children are more enthusiastic about learning and are able to overcome their difficulties. Students who receive high attention from the role of parents who carry out their obligations and responsibilities tend to get more optimal mathematics learning outcomes.

The results of this research are in accordance with the concept of learning discipline put forward by Sinurat (2021) learning discipline aims to shape behavior in such a way that it will be in accordance with the roles determined by the cultural group. The aim of learning discipline in general is to shape the behavior of each individual so that it is in accordance with the applicable rules, so that the individual will comply with the applicable regulations and achieve the expected goals. Research revealed by Hortensi (2020) learning discipline has a significant contribution to mathematics learning outcomes in class V elementary school. The same thing was also expressed by Arsani (2023) that learning discipline has a significant relationship with mathematics learning outcomes in class V elementary school.

Students who have high learning discipline tend to be active and disciplined in learning activities. Discipline is no longer something that comes from outside and provides certain limitations, but discipline is a rule that comes from within as a normal thing to do in everyday life. To form disciplined students, educational assistance is needed at school, at home and in society, so that humans are formed as complete social creatures. Thus, the higher the student's learning discipline, the higher their mathematics learning outcomes. Conversely, the lower the student's learning discipline, the lower the student's mathematics learning outcomes.

The results of this research are in accordance with the concept of achievement motivation put forward by Widarta (2020), stating that "Achievement motivation is the encouragement or motive that exists within each student to direct his behavior in order to achieve success in learning and education." Research revealed by Krismawati (2022) achievement motivation has a significant contribution to mathematics learning outcomes in class V elementary school.

Achievement motivation is a motive or drive within oneself that can direct student behavior so as to cause increased activity in ability, in order to compete with the superiority of others and oneself to achieve success in achieving goals including learning outcomes. The higher the student's achievement motivation, the higher the student's mathematics learning outcomes. Conversely, the lower the student's achievement motivation, the lower the student's mathematics learning outcomes. Thus, it can be concluded that there is a significant influence of achievement motivation on the mathematics learning outcomes of fourth grade elementary school students in Gugus I West Selemadeg District.

The role of parents, learning discipline, and achievement motivation possessed by each student apparently has an influence on student learning outcomes. The role of parents, learning discipline and high achievement motivation will improve the learning outcomes achieved by students. The role of parents, learning discipline, and high achievement motivation that students have in participating in the learning process will have a positive impact on achieving student learning outcomes.

It can be concluded that there is a significant relationship between the role of parents, student learning discipline and achievement motivation together on the mathematics learning outcomes of fourth grade elementary school students in Gugus I West Selemadeg District.

CONCLUSION

Based on the description above, the following conclusions can be drawn: (1) there is a significant influence between the role of parents on students' mathematics learning outcomes. So it can be said that the role of parents has a significant influence on the mathematics learning outcomes of students in grade IV elementary school; (2) there is a significant influence between learning disciplines on students' mathematics learning outcomes; (3) there is a significant influence between achievement motivation on students' mathematics learning outcomes; and (4) there is a significant influence between the role of parents, learning discipline, and achievement motivation together on students' mathematics learning outcomes.

Mathematics learning outcomes in elementary schools can be influenced by many factors that have not been examined in this research. Therefore, other factors that are thought to influence mathematics learning outcomes are highly recommended to be studied

by other researchers. Of course, the results of this research will enrich scientific insight into the factors that can influence mathematics learning outcomes.

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