



## The Influence of Types of Extracurriculars and Discipline on Calculating Skills of Madrasah Tsanawiyah Almaarif 02 Singosari Students

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### Abstract

This research originated from the problem of weak counting skills which affected the learning outcomes of MTs Almaarif 02 Singosari Malang students after the Covid-19 pandemic. The purpose of the research is to find out how much influence the type of extracurricular activities and discipline have on the counting skills of MTs. Almaarif 02 Singosari Malang students for the 2021/2022 academic year. The method used in data analysis with logit regression with 50 students as respondents and counting skills as the main indicators. The results of the research of Model Logistic Regression obtained that the influence of extracurricular type and discipline is in the complete category which is mathematically modeled as follows:  $[Y_1 = 3] = 38.945 + 1.867X_1 + 0.329X_2$ . To conclude the study resulted in a significant influence of extracurricular type on students' calculation skills by 0.08 smaller than the error rate of 5% while the disciplinary variable did not have a significant influence on the counting skills of MTs. Almaarif 02 students Singosari Malang.

**Keywords:** Types of Extracurriculars, Discipline, Calculating Skills

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## INTRODUCTION

The decline in the quality of education in Indonesia (Aswat, Fitriani, Sari, & Muliati, 2021). Changes in learning models from face-to-face to online (distance learning) have an impact on changes in the learning atmosphere that affect lost learning and decrease student motivation to return to school. In fact, the phenomenon that is happening right now is that many students experience dyscalculia (difficulty in counting which makes offline learning unattractive and feels torturous for students).

The implementation of the independent curriculum which is the government's solution in managing education also still makes it difficult for schools to adjust to the 2013 curriculum that was implemented previously. In the 2013 curriculum it has been emphasized that the teacher-centered learning paradigm must be changed into student-centered learning. The emphasis on this learning approach has been stated in Permendikbud No. 81A concerning the implementation of the 2013 Curriculum. The current learning pattern should place more emphasis on the activeness of students using the inquiry learning model with a scientific approach and based on technology and multi-media, meaning not monotonous with a single tool (books or student worksheets). Not only that, the method given by the teacher in the process of understanding and solving problems that is able to arouse students' interest also needs attention. The chosen method should be able to foster constructive and creative thinking, as well as give students the freedom to develop their own concepts, making it easier for students to remember the concepts being taught (Khotimah, 2023).

The current pattern of learning is also sought to be integrated and collaborative so that when students study in groups it is more meaningful than studying alone. In addition, the pattern of learning a single science (monodicipline) can be changed to learning a plural science (multidicipline), so that a more critical learning pattern is obtained (Kemendikbud, 2013). Extracurricular activities are an additional activity at school which is generally carried out outside of class hours and this activity aims to make students more mastery and develop what is learned during the learning process in class and can develop students' interests and talents (Pratiwi, 2020). Extracurricular activities are also considered as the practice of communication skills, and the internalization of character values. In general, there are five benefits that can be obtained from extracurricular activities, namely (1) training responsibility and independence, (2) a place to hone the talents, interests or potential of students, (3) a means for learning to organize and socialize, (4) training cooperation and (5) practicing discipline and commitment (Depdiknas, 2014).

Student discipline in participating in the learning process and activities held by the school is very necessary as one of the motivations of students to return to school. This is because the character of discipline is one of the very important values given to students as the basis for the formation of other good character values that exist within each student (Permatasari, Setiawan, & Kironoratri, 2021). Students who have a high level of compliance will certainly be observed when participating in the teaching and learning process in their class. This means that these students are able to follow well and respond to the learning delivered by the teacher in class. This is also indicated by student achievement with the results of assignments or tests which can be seen from the scores of daily tests or midterm tests in the complete category.

Weak calculation skills called "dyscalculia" are currently also one of the obstacles in the implementation of student cognitive assessments which cover two aspects, namely: literacy and numeracy. According to Dyscalculia is a "condition of being unable to count in a child/student caused by a disturbance in the central nervous system (Suharmini, 2015). Students are often weak in describing social perceptions, weak in the concepts of direction and time, and impaired memory. Another symptom experienced by students is that students have difficulty distinguishing geometric shapes, symbols, number concepts, difficulty memorizing addition, subtraction, multiplication and division quickly. Dyscalculia is a condition that can affect the expertise of a child or student to acquire good numeracy skills (Emerson & et al., 2010). This means that children/students are in a condition where they are unable or have difficulty calculating when facing a problem or calculation problem given by the teacher. This is possible because of the emergence of disturbances or dysfunction in the central nervous system. Dyscalculia can occur regardless of the ability to understand mathematical concepts or abstractions needed in general calculation material, whether mathematics, physics, chemistry or accounting.

Refer to research related to the relationship between enthusiasm in extracurricular activities and student learning achievement in the classroom which shows that there is a significant influence between students' activeness in participating in extracurricular activities on the behavior and learning achievement of students of SMA Negeri 1 Prambon Nganjuk (Nofianti, 2018). The results achieved by students after participating in extracurricular lessons and having an impact on learning outcomes in the classroom, namely in certain subjects that are related to extracurricular activities, are shown by obtaining good grades in that lesson. In addition, in general students who are active in extracurricular activities are better at organizing, managing and solving

problems according to the characteristics of the extracurriculars they are involved in.

From the results of limited research conducted by Herry Widiastono data obtained that out of 4994 elementary school students from 4 provinces, there were 2047 students who had learning difficulties or the equivalent of 41% of the number of students studied (Djokosetyo, 2007). From 41% of the data, 19.1% of children experienced learning difficulties due to difficulty calculating math numbers (dyscalculia). It is generally known that these students who have difficulty calculating actually have a normal IQ and one of them has intelligence above the average. The learning difficulties of students who experience these disorders may be caused by a mild diagnosis of the brain called brain dysfunction (Bahri, 2011). Explained that the weak numeracy skills of most of the alpha generation students were caused by two factors, namely internal and external factors experienced by students (Suyadi, 2020). One of the internal and external factors is compliance/discipline and extracurricular activities that students participate in.

It was found that students using the Schoology-assisted SSCS type Problem Solving learning model were better in terms of the class average and were able to improve their students' critical thinking skills by 30.35% (Sugiarni, 2022). The effect of scout extracurricular activities on student achievement at SMA Negeri 6 Bengkulu City, the results obtained a correlation value of 0.970 (Amri, 2018). This shows that there is a fairly close relationship between self-confidence from scout extracurricular activities on student learning outcomes (Chairani & Juwita, 2019). Examines the effect of student activity in extracurricular activities at SMP Negeri 1 Peusangan on student achievement. The research results show that the more active students are in extracurricular activities, the more student achievement increases.

Based on the background above, this article examines the influence of extracurricular types and student discipline on students' math skills at MTs. Almaarif 02 Singosari after the Covid-19 pandemic. This study aims to obtain a comprehensive picture regarding the effect of types of extracurricular and disciplinary activities on students' numeracy skills and as material for monitoring the evaluation of madrasa principals as an effort to improve teacher pedagogical competence in improving the quality of madrasas after Covid-19.

## **METHOD**

The approach used in this study is quantitative with data analysis using a logistic regression model. Types of extracurricular activities and student

discipline are the independent variables in the research data and the dependent variable is students' math skills. This research was conducted on students of grade 8 MTs. Almaarif 02 Singosari who took part in extracurricular activities for the Science, Mathematics, PMR and Scouting Olympiad classes with 50 students as respondents. The technique used with sampling using cluster analysis (cluster sampling).

## FINDINGS AND DISCUSSION

The categorization in the study was used to measure whether or not students' numeracy skills were based on their completeness in solving problems or questions in learning according to the 2013 Curriculum which was divided into four liket scales, namely incomplete, quite complete, complete and very complete. The results of grouping students' numeracy skills data are classified in Table 1.

**Table 1. Case Processing Summary**

	N	Marginal Percentage
Skilled Count	3	40
	4	10
Valid	50	100.0%
Missing	0	
Total	50	

In Table 1, with a valid number of 50 respondents, it illustrates that the classification of students who are skilled in arithmetic is shown by MTs Almaarif 02 Singosari in the complete category of 40 students and in the very complete category of 10 students.

The model fit test was used to determine whether the logistic regression model used was correct or not in this study.

**Table 2. Model Fitting Information**

Model	-2 Log Likelihoods	Chi-Square	Df	Sig.
Intercept Only	32,852			
Finals	15,604	17,247	2	,000

Link function: Login.

Based on Table 2 above, the data shows that the -2 log likelihood value from the intercept to the final model is impaired with a significance level of 0.000 which is smaller than the error level of 0.1. This shows that the model used for analyzing the effect of extracurricular types and student discipline on students' math skills is appropriate to use.

In the next table is a table showing the magnitude of the coefficient of determination in the logistic regression model indicated by the values of Cox and Snell Nagelkerke R Square and Mc Fadden

**Table 3. Pseudo R-Square**

Cox and Snell	,292
Nagelkerke	,461
McFadden	,345

Link function: Login.

In table 3, the value of Cox and Snell is 0.292, Nagelkerke R Square is 0.461 and Mc Fadden is 0.345. This value can be interpreted that the value obtained is still below 50%, this indicates that the influence of extracurricular types and student discipline is still low used as an indicator in measuring the level of students' numeracy skills at MTs Almaarif 02 Singosari Malang.

The goodness-of-fit test (Table 4) is used to ensure that the ordinal logistic regression model is correct or not as a tool for analyzing data.

**Table 4. Goodness-of-Fit**

	Chi-Square	Df	Sig.
Pearsons	5,783	14	,972
Deviance	7,611	14	,909

Link function: Login.

The results of the goodness-of-fit test of the Pearson correlation model obtained a significance level of 0.972 and a significance deviation of 0.909 which is greater than the 5% error level. The test criterion is if the significance value is greater than the 5% error rate, it can be concluded that the ordinal logistic model obtained is feasible to be used as a tool for data analysis.

**Table 5. Parameter Estimates**

Estimate s	std. Error	Wald	Df	Sig.	95% Confidence Intervals	
					LowerBound	Upperbound
38.94	13.78	7,987	1	,005	11,935	65,955
1.86	,70	7,100	1	,008	,494	3,240
,329	,40	,656	1	,418	-,467	1.126

Link function: Login.

After the logistic regression model is feasible to use, the next step is testing the model parameters with the Wald test (Table 5). The Wald test is used to determine how much influence each independent variable has on the dependent variable.



The results of the Wald test (Table 5) show that extracurricular activities (X1) have a significant effect on numeracy skills with a significance value of 0.008 which is less than the 5% error rate. For student discipline, the data obtained has not shown a significant effect on the math skills of grade 8 MTs students. Almaarif 02 Singosari Malang.

In Ordinal Logistic Regression analysis (Ho (Surur, Application of monopoly media to improve readiness for class VI students in facing the national examination of mathematics learning, 2022) (Surur, Thorndike's Learning Theory Application for Improving Creative , 2020) Smer and Lemeshow, 2000) explains that RLO is one of the analyzes used to analyze the relationship between the response variable and the predictor variable, in which the response variable is polychotomous with an ordinal scale. From the results of the Wald Test analysis obtained in accordance with the explanation according to the Wald Test (Ghozali, 2018). The wald test (t) which is carried out basically shows how far the influence of the independent variables is partially in explaining the dependent variable. To find out the value of the Wald test (t test), the significance level is 5%. If  $f_{count} > f_{table}$  and  $(P-Value) < 0.05$  then  $H_0$  is rejected and  $H_1$  is accepted. And if  $f_{count} < f_{table}$  and  $(P-Value) > 0.05$  then  $H_0$  is accepted and  $H_1$  is rejected, meaning that the independent variables simultaneously do not affect the dependent variable.

The logistic regression model of the level of influence of extracurricular and disciplinary types is at the complete and very thorough level.

$$[Y_1 = 3] = 38.945 + 1.867 X_1 + 0.329 X_2$$

The parameter estimation results obtained are returned to the original model by looking for the value of the odds ratio of extracurricular types  $(X_1) = 6.47$  which means that extracurricular type variables will provide skillful mastery in counting in learning by 6.47 times greater than students who do not complete in counting and the odds ratio of the discipline variable  $(X_2) = 1.39$ , which means that the chance for students to acquire math skills in the complete category on the discipline aspect is 1.39 times compared to students who do not complete math.  $\varphi e^{1.867} \varphi e^{0.329}$

From the research results that have been obtained in line with (Mubair, 2011) that the assessment is carried out to find out the extent to which the ability of students who have difficulty calculating can be carried out both formally and informally. Both can give a complete picture of whether or not a student is skilled at calculating. (Djamarah, 2012) also states that students' progress in educational assessments in all aspects that have been obtained while studying at school, both knowledge and skills can be seen from the results of the assessment. This statement reinforces that to measure students' numeracy skills, it can be seen

from the results of the assessment obtained. The results of the assessment can be seen through the daily test scores for mathematics and science in the numeration aspect. Mid Semester Deuteronomy report cards obtained by students consisting of knowledge and skills values are also a reference for obtaining data sources.

Who argue that there are two factors that can affect student achievement, namely factors from within (internal) and factors from outside (external) (Slameto, 2010). The talent factor possessed by students/students can be developed through extracurricular activities that support learning activities at school. The challenge for teachers today is how teachers can help students build and consolidate prerequisite competencies, understand new concepts in depth, and organize concepts and knowledge competencies broadly (Santrock, 2009).

Which says that students can be said to be successful in achieving optimal learning outcomes by paying attention to the factors that influence them (Tu'u, 2004). One of them is the good level of intelligence possessed by children. No less important is the existence of other supporting factors such as the presence of talent in students who are in accordance with the lesson and high interest in learning, good learning motivation, good ways of learning and also learning strategies applied by the teacher in the classroom. Discipline learning that is taught in the family and in an orderly home environment is a driving force in the process of critical thinking and achieving optimal learning outcomes.

The conclusions that have been obtained from the description above, in this research carried out are relevant to the pre-existing theories of educational experts. That the types of extracurricular activities developed at MTs. Almaarif 02 Singosari has a significant influence on students' counting skills even though the percentage is not optimal. Whereas discipline does not yet have a significant effect on students' counting skills, this is possible because the habituation or formation of discipline in the madrasah environment is only in the form of formal written rules or regulations and are not carried out properly in earnest in daily life and also when At home. Therefore madrasas need to cooperate with parents in habituation to form the character of discipline in students. It is hoped that in the future this type of extracurricular and disciplinary activities can provide support, encouragement, and a positive contribution to MTs student learning outcomes. Almaarif 02 Singosari Malang.

## CONCLUSION

The logistic regression model of the level of influence of extracurricular and disciplinary types is at the complete and very thorough level with the following mathematical model:  $[Y_1 = 3] = 38.945 + 1.867 X_1 + 0.329 X_2$



Extracurricular type variables have a significant effect on calculating skills with a significance value of 0.008 less than the 5% error rate and the student discipline variables obtained have not had a significant effect on students' numeracy skills in grade 8 MTs. Almaarif 02 Singosari Malang.

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