

# BEST FACTORS INFLUENCING THE LEARNING RESULT OF MATHEMATICS IN JUNIOR HIGH SCHOOL IN THE DIGITAL ERA

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**Received:** 03-09-2022 ; **Accepted:**01-10-2022 ; **Published:** 31-10-2022

**Abstract.** This study aims to describe or examine the best factors influencing students' interest in learning mathematics in junior high school. This research is quantitative research with a correlation approach. The population of this study was all high school students in Riau Province. The sample comprises selected students with a cluster random sampling approach. The instrument used is a questionnaire designed and validated in terms of content and constructs. The research variables used were environment, parental support, and students' motivation in learning. Data analysis using multiple regression analysis. The analysis results show that the three variables, environment, parent support, and motivation, affect learning results in the Digital Era with a significantly smaller value of 0.05. The best effect is the environment variable, with a 51% contribution. This environment gives the best variable needed to consider by education stakeholders. Fixing the environmental variables is the best way can be done by the teacher, principal, or head of the education department.

**Keywords:** *Best Factors, learning outcomes, the digital era*

## 1. INTRODUCTION

Learning is a process of setting or organizing the environment contained in students so as to encourage them to carry out the learning process [1]. Learning is an effort to provide teaching and learning process facilities for students in class [2]. Learning is an interaction process that runs between teachers and students in class to carry out learning objectives [3]. Learning is an attempt to provide learning facilities that relieve through teacher interaction so as to create an effective and efficient learning environment. [4]. So in school, learning is the most important activity and one of the important lessons is learning mathematics in classroom.

Indonesia is one country that got COVID-19 Pandemic like others in the world. The high rate of transmission of COVID in Indonesia affects education. Learning only runs optimally in the education sector because it involves online learning. Some students were sleepy when studying and had low interest and motivation in learning. This condition made bad student learning results [5] The COVID-19 pandemic made the learning process is not conducive because the learning condition cannot control maximally [6], [7]. The interaction between students and teachers can not run well because teachers don't know

whether students understand or not the taught material [8]. Every process of learning during COVID-19 not run conducive.

The education sector is a sector that must get serious attention because every level of Indonesia schools (all primary, secondary and tertiary schools) run online [9], [10][11]. The online learning effectiveness became a serious question from society because many shortcomings of online learning have found such as; network, the absence of computers or online learning support tools, student learning interests are so low where students sleep when studying, do not open rooms when online learning and many problems. others[11]. However, learning activity needs to be done optimally because learning online is one the best way to transferring the material to students.

Educational institutions have various strategies to maximize mathematics learning in every condition, pandemic or not pandemic because the learning activity must run maximally and the learning results well. For this reason, the learning activity must be set maximally so that every activity can contribute in transferring the mathematics material and can be accepted by student. Therefore, this research so important to do so every stakeholder of education can make the best strategy to maximal the learning process in the classroom. This research uses three variables, learning environment, parent support and student motivation.

## 2. RESEARCH METHOD

This research is quantitative research in the process or procedure; it collects data in the form of a number from measurement. The population of this study was every elementary school in Pekanbaru. The sample in this study was schools that were selected purposively. Data collection are used measurements from surveys and tests. The research procedure was to document mathematics learning results from schools. Data from the environment, parent support, and students' motivation were acquired from a survey with a questionnaire instrument. Data analysis are used a quantitative approach with multiple linear regression if it is assumed data the normally distributed and linear correlation.

## 3. RESULTS AND DISCUSSION

Before the linear regression analysis is continued, a pre-requisite test for normality needs to be found to know whether the data are in a normal distribution. Kolmogorov-Smirnov proposed to find the normality data from the environment, parent support, motivation, and learning outcome variables. Table 1 shows the results analysis of normality data.

**Table 1.** Normality Data Result

Schools' Name	Kolmogorov-Smirnov	Sig	Decision
Environment	0.617	0.237	Normal
Parent Support	0.513	0.691	Normal

Motivation	0.637	0.082	Normal
Learning outcome	0.315	0.143	Normal

From the results of table 1, the significant value of Kolmogorov-Smirnov of environment variables is 0.707, the significant value of parent support is 0.691, the significant value of the motivation variable is 0.082, and the significant value of the learning outcome variable is 0.143. The significant value of Kolmogorov-Smirnov indicates that every variable has a significant value greater than 0.05, so the data is concluded to be normally distributed. The linear regression can be continued to determine whether three variables have the linear correlation between learning result variable. The results of the analysis can be seen in Table 2.

**Table 2.** Linearity Analysis

Variables	F	Sig	Conclusion
Environment to Learning Result	1.481	0.057	Linear
Parent Support to Learning Result	2.531	0.079	Linear
Students' Motivation to Learning Result	1.178	0.371	Linear

From Table 1, it can be concluded that environment has linear correlation with learning results with F value of 1.481 and Sig of 0.057. Parent support has linear correlation with learning support with F value of 2.531 and Sig value of 0.079. Students' motivation has linear correlation with learning results variable with F value of 1.178 and Sig value of 0.371. Based on the result, it can be concluded that three variables have linear correlation with the learning results variable so the multiple linear regression can be continued to get information whether every variable affected the learning results. The regression linear result can be seen Table 3.

**Table 3.** Regression Analysis Result

Variables	F	Sig	R <sup>2</sup>	Conclusion
Environment to Learning Result	9.218	0.000	0.51	Ho Rejected
Parent Support to Learning Result	23.915	0.007	0.316	Ho Rejected
Students' Motivation to Learning Result	13.172	0.000	0.291	Ho Rejected

Table 3 showed that there is effect environment variable to learning result with sig value of 0.00 and contribution environment variable to learning result is 0.51 or 51%. There is significant effect the variable parent support to learning result variable with sig value 0.007 and the contribution of parent support to learning result variable is 0.316 or 31.6%. There is significant effect the variable students' motivation to learning variable with sig value of 0.000 and contribution of students' motivation to learning result variable is 0.291 or 29.1%. From the table above, it can be concluded that every variable has a difference contribution and for this case, environment have higher contribution from parent support and learning motivation.

## DISCUSSION

The results analysis show that there is a significant effect environment, parent support, and students' motivation variables to learning result variable. These results indicate that three variables should be attention by every education element or education stakeholder because there variables can increase education quality [12]–[14]. The success of students studying at school or at home is also determined by the involvement of parents in assisting students to study at home [15], [16]. Environment is the important part in education that make education can result the student with the best character and this character will help students in getting the high score in when passing the test [17], [18]. Environment is every condition that make student can learn and understand easily at every material of subject [19].

The three variables' results indicate that learning success is largely determined by motivation, parental participation, and student learning interest. Without motivation, parental participation, and interest in learning, a student's success can't be achieved optimally [20]. Parents, motivation, and interests have a strong relationship in increasing student success in learning [21]. Parents sensitive to their child's achievements will always advise students to study diligently for the future. The advice can trigger high interest and motivation for student learning in class. [22], [23]. Therefore, learning in the classroom will be maximally successful when motivation, parental attention, and conducive environment. [24], [25].

Learning achievement that achieved by students because there is a process of maximum learning outcomes. The learning process is meaningful if there is sincerity, namely interest in learning, and interest and seriousness are born from a learning motivation that can be found in the outside environment, namely parents' attention [26], [27]. Thus, student learning outcomes will get satisfactory results if these three variables can be put together and applied in ongoing learning [28], [29]. The best activities of learning in the classroom will be achieved when the conducive environment, parent support and students motivation can be control together by schools because the learning result can not get maximally without these variables [30]–[32]. So, integration of three variables were important to improve the students' experience so students can interest to maximal their learning.

#### **4. CONCLUSION**

Result showed that environment, parent support, and students' motivation have significant effect to learning result. The environment has the best contribution to learning results so the conducive environment is needed to create by teachers or principal. Every element of education at a regency is needed to participate in fixing or improving the education quality. Parent support to their children must be increased by giving the best attention to them at every condition. Father and mother are needed to give the special attention to their children because this variable can give a motivation to learn hard for achieving their goal.

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