

# Private and State Differences of Elementary Schools in Implementing Mathematics Learning at Covid-19 Era

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**Abstract.** This study aims to qualitatively and quantitatively describe the effectiveness of learning mathematics in the covid era in private and public elementary schools. The population of this research is elementary school students in Pekanbaru. The research sample was two Pekanbaru elementary schools selected purposively according to the problems studied based on the school's style or strategy in improving learning outcomes. The research instrument is in the form of documentation of student learning outcomes and in-depth interviews with the principals of each school—analysis of research data using independent t-test and descriptive qualitative data analysis. The results showed a significant difference between elementary school mathematics learning in private and public schools in implementing mathematics learning. These results can be seen from the results of the descriptive test and the independent t-test with a significance of 0.00, where the private mathematics learning outcomes are better than the public ones. The results of interviews obtained information that private schools provide additional lessons to students by coming to students' homes.

**Keywords:** *Differences Implementation, learning outcomes, Covid Era*

## 1. INTRODUCTION

Learning is a process of regulating or organizing the environment in students to encourage them to carry out the learning process [1]. Learning is an activity that facilitates students' teaching and learning process [2]. Learning is a communication process carried out between teachers and students or vice versa [3]. Learning is a deliberate effort to provide learning materials by teaching staff, with the hope of creating an effective and efficient learning environment [4]. So in school, learning is an essential activity. And one of the important lessons is learning mathematics.

The high rate of transmission of COVID in Indonesia affects various sectors in Indonesia. Education, economics, and social sectors are most affected by the rapid transmission of the COVID-19 virus in Indonesia. Education, the economy, and the social community influence each other to prevent setbacks in this aspect. Many micro-businesses run by the people in Indonesia have to close in the economic sector because there is no community to buy something they sell. This is because people are afraid of a higher transmission rate due to direct contact between the community and the seller of goods. In the social aspect of society, many people do not care about each other. People do not want to help others when an accident occurs for fear of contagion. Learning does not run optimally in the education sector because it has to do online learning.

The education sector is a sector that is getting attention because all primary, secondary and tertiary schools run online education [5], [6][7]. The effectiveness of online learning is a question for the community because of the many shortcomings of online learning that starts from the network, the absence of computers or online learning support tools, and student learning interests are so low that students sleep when studying, do not open rooms when online learning and many problems. Others found [7]. However, education needs to be done optimally so that the process of educating and transferring knowledge can run optimally as well.

In managing education during the COVID-19 pandemic, educational institutions have various strategies to maximize mathematics learning even though they are not offline. Private and public schools have significant differences in the management of mathematics learning in schools. In schools that have strong finances, these schools will provide maximum service to transfer knowledge; on the other hand, schools with low finances cannot do much to develop learning during the pandemic because of the lack of operational costs for education that have [8] The difference in the quality of schools is in accordance with the price paid and will have an impact on the quality of learning. Expensive schools tend to have good learning quality [9]. Therefore, this study tries to capture the effectiveness of mathematics learning qualitatively and quantitatively.

## 2. RESEARCH METHOD

This research is mixed-method research wherein the research process or procedure combines two research approaches, namely qualitative and quantitative. The population of this study was all private and public elementary schools in Pekanbaru. The sample in this study was two private and public schools that were selected purposely. Data collection techniques using documentation and interviews. The research procedure was to document mathematics learning outcomes from two schools during the pandemic and interview schools and mathematics teachers regarding the implementation of mathematics learning during the COVID-19 pandemic. Quantitative data analysis used descriptive and inferential, namely independent t-test, while qualitative analysis used Miles and Huberman analysis, namely data reduction, display data, and conclusion data.

## 3. RESULTS AND DISCUSSION

### Quantitative Results

Before the analysis of the independent sample t-test is continued, a pre-requisite test for normality needs to be carried out to see whether the data are in a normal distribution or vice versa. Analysis using Kolmogorov-Smirnov. The results of the analysis can be seen in Table 1.

**Table 1.** Normality Data Result

Schools' Name	N	Kolmogorov-Smirnov	Sig	Decision
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State school	35	0.707	0.72	Normal
Private school	25	0.115	0.96	Normal

From the results of table 1, the statistical value of Kolmogorov-Smirnov is 0.707 public schools and 0.115 private schools with a significant value of 0.72 public schools and 0.96 private schools. These results indicate that the significant value is greater than 0.05 so that the data is concluded to be normally distributed. The independent sample T-Test test can be continued to determine whether there are differences in the mathematics learning outcomes of private and public schools during the COVID-19 pandemic. The results of the analysis can be seen in Table 2.

**Table 2.** Independent Sample T-Test

Schools		Average Differences	Standard Deviation	t	Sig	Decision
State	Private	-22.321	3.415	-33.29	0.000	Significant

Based on Table 1, the average difference is 22,321 with  $t = -33.29$  and a significant difference of 0.000. These results indicate a significant difference indicated by the sig value being smaller than the alpha value of 0.05. These results indicate that private schools have higher scores than public schools.

### Qualitative Results

The results of quantitative analysis using the Independent sample T-Test show differences in mathematics learning outcomes in private and public schools. Where one of the factors that cause it is the effectiveness of the strategies used in teaching mathematics to students in private and public schools. Private schools with high tuition fees provide maximum facilities for transferring knowledge to students. For example, private schools provide additional private directly to the homes of students who are still having difficulty understanding mathematical material. The teachers took turns coming to the homes of students who had difficulty understanding math material during online learning. The teacher ensures that all students understand the material taught online even though they have to go home one by one to provide a complete understanding of mathematics. Public schools tend to only rely on online learning through Google Meet or Zoom Meetings. However, it is difficult to control the learning that is carried out during the COVID-19 pandemic. Some of the limitations they have include the small operational funds for education and the high teaching burden. Even though they cannot do private activities like private schools, public schools still provide services to students who do not understand and ask the teacher directly. This service also does not run optimally because many students who come to school can transmit COVID-19 to teachers at school.

## Discussion

The results of qualitative and quantitative analysis show that there is a significant difference in the effectiveness of learning in public and private schools. These results indicate that education management in private schools tends to be better than in public schools. This is due to the education financing factor and the workload of each school, making it difficult to make learning effective during the pandemic. Effective or ineffective learning at school depends on the school's ability to manage it during the COVID-19 period [7]. Operational costs are also an important factor in the success of learning management schools during the COVID-19 period [10]. The hard work of teachers, teachers' ability in technology, is also an important factor in improving learning during the COVID-19 pandemic [11]. The success of students studying at school or home is also determined by the involvement of parents in assisting students in studying at home [12], [13].

## 4. CONCLUSION

Private and state elementary schools had a strategy in implementing the teaching and learning in Pandemic COVID-19. Private schools were more effective because private schools had many sources to develop a new strategy or way to improve students' ability, while state schools didn't have many sources to develop teaching practice in the classroom like private schools.

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