# THE EFFECTIVENESS OF LEARNING MATHEMATICS AT ISLAMIC BOARDING SCHOOLS IN SIAK HULU DISTRICT DURING THE COVID-19 PANDEMIC

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**Abstract.** This study aims to describe quantitatively the learning of mathematics that was carried out online and offline at Islamic Boarding Schools in the Kampar Regency. This research is quantitative research with an ex-post fact approach. The population of this research was all students in Islamic boarding schools in Kampar Regency. The sample was students at al-Ikhsan boarding schools in the Siak Hulu sub-district, Kampar district. The data collection technique used is the documentation of student learning outcomes from offline and online mathematics learning. Data analysis used quantitative descriptive and T-test. The results of the analysis show that of the 27 students who take online or online learning, 78% of students pass minimum passing criteria with a score above 75. Of 27 students who take online learning, 61.71% pass the minimum passing criteria with a score of 75. The results of the t-test analysis show that there are differences in learning that were carried out online and offline where offline learning is more effective at al-Ikhsan Islamic Boarding School, Siak Hulu District.
*Keywords*: *Learning Effectiveness, Mathematics, COVID-19 Pandemics.*

## 1. INTRODUCTION

The effectiveness of education is determined by bad or good learning. Learning carried out in the classroom has a huge impact on the quality of education. The interactions that occur between students and teachers will shape students' personalities. Good learning will produce a good student personality, otherwise, bad learning will produce a bad student personality. Therefore, the government and every element of education must pay attention to learning by evaluating learning processes and outcomes

The environment or condition of the country determines learning quality. Now, Indonesia is one of the counties that get the pandemic covid-19 so the Indonesian government makes regulations a social distancing and this regulation for interaction between teachers and students too. This regulation forces every school in Indonesia must make a social distancing policy. Every school in Indonesia makes a learning alternative by using the learning online. Every school can use online tools or software to implement the teaching and learning process such as zoom meeting, google meet, google classroom, and others.

Islamic boarding schools at Kampar District use two models to implement the teaching and learning process namely online and offline learning. This policy is done by schools of Islamic boarding schools at Kampar District because some of students parents are afraid their children to schools on the other hand the parent are happy their children learn at schools because their children can focus on learning. This policy makes schools give a choice to parents for following the offline learning in the schools or online from their home. This condition makes it difficult for teachers in teaching students because teachers don't control students maximally so that students' abilities don't the same between students who get offline learning and online learning. Therefore, this research is very important to know the quality of the teaching and learning process between two conditions (offline and online teaching).

## 2. RESEARCH METHOD

This research was quantitative research with an ex post facto approach. The population in this research was students at Islamic boarding schools in the Kampar district while the sample was students at Al-Ihsan Boarding Schools at Siak Hulu City. The selection Al-Ihsan Boarding school became a sample in this research because Al-Ihsan Islamic Boarding Schools had uniqueness in classroom management during the COVID-19 pandemic era. The data collecting technique was documentation from the evaluation process of teaching and learning in the classroom in one semester. Data analysis used in this study was descriptive quantitative and t-test. The evaluation result of the teaching and learning process in the form score will be compared between online learning and offline learning. The score got from the evaluation will be checked who passes the maximal passing criteria and who does not.

## 3. RESULTS

**Table 1.** Descriptive of Evaluation Results That Passed The Maximal Passing Criteria

| No | Online learning | Conclusion | Offline Learning | Conclusion |
|---|---|---|---|---|
| 1 | 88 | Pass | 88 | Pass |
| 2 | 71 | not pass | 90 | Pass |
| 3 | 86 | Pass | 74 | not pass |
| 4 | 65 | not pass | 89 | Pass |
| 5 | 65 | not pass | 81 | Pass |
| 6 | 81 | Pass | 86 | Pass |
| 7 | 69 | not pass | 87 | Pass |
| 8 | 60 | not pass | 80 | Pass |
| 9 | 83 | Pass | 83 | Pass |
| 10 | 78 | Pass | 84 | Pass |
| 11 | 71 | not pass | 87 | Pass |
| 12 | 79 | Pass | 79 | Pass |

| No | Online learning | Conclusion | Offline Learning | Conclusion |
|----|-----------------|------------|------------------|------------|
| 13 | 75 | Pass | 82 | Pass |
| 14 | 85 | Pass | 79 | Pass |
| 15 | 70 | not pass | 74 | not pass |
| 16 | 76 | Pass | 77 | Pass |
| 17 | 84 | Pass | 74 | not pass |
| 18 | 81 | Pass | 81 | Pass |
| 19 | 89 | Pass | 65 | not pass |
| 20 | 78 | Pass | 80 | Pass |
| 21 | 74 | not pass | 82 | Pass |
| 22 | 88 | Pass | 90 | Pass |
| 23 | 78 | Pass | 88 | Pass |
| 24 | 71 | not pass | 86 | Pass |
| 25 | 71 | not pass | 85 | Pass |
| 26 | 89 | Pass | 70 | not pass |
| 27 | 73 | not pass | 86 | Pass |

From Table 1, it can be concluded that there were 39.28% of students didn't pass the minimum passing criteria limit namely 75. There were 17.85% of students who had offline learning who didn't pass the minimum passing criteria limit. From these results, it concluded that offline learning was more effective than online teaching using zoom meeting, google meets, and google classroom. T-test provided further information on whether there was a significant difference between online learning and offline learning. It can be seen in Tables 2 and 3.

**Table 2.** Descriptive of Online and Offline Score

| Class | | N | Mean | Std. Deviation | Std. Error Mean |
|-------|--------|----|---------|----------------|-----------------|
| Score | Online | 27 | 76.9630 | 7.99751 | 1.53912 |
| | Offline | 27 | 81.7407 | 6.31599 | 1.21551 |

Table 2 explained that the average online learning score was 76.96 and the offline learning score was 81.74. From table 2 it is so clear that offline learning was better than online learning. Significant or no this difference can be seen in Table 3.

**Table 3.** Independent Sample T-Test

| | F | Sig. | t | df | Sig. (2-tailed) |
|---|------|-------|--------|--------|-----------------|
| Equal variances assumed | 2.32 | 0.134 | -2.436 | 52 | 0.018 |
| Equal variances not assumed | | | -2.436 | 49.349 | 0.018 |

From the table of Independent sample T-Test, it acquired the t value was -2.436 with a significant value was 0.018 (<0.05). From this result, it can be concluded that there was a significant difference between offline learning and online learning. Table 3 showed there was a negative t value. This means offline learning in the classroom in one semester was better than online learning that used an online software platform.

## 4. DISCUSSION

Results analysis showed that there was a significant difference in the learning and teaching process between two policy were made by schools namely; offline learning in the classroom and online learning using the online software platform (Google Meet, Zoom Meeting, and Google Classroom). Offline learning was better than online learning because teachers can effectively control the teaching and learning process in the classroom. Teachers' control will help students to focus and be serious in learning [1], [2]. Offline learning in the classroom makes an interesting interaction between teachers and students where students can motivate students directly. Teachers can support students who have problems or broken homes [3]. Teachers and students can work together to make an effective relationship where teachers and students shared their experiences so that this relationship will increase students' interest and motivation in learning [4]. Teachers and students can build effective communication in the classroom so that all of the problems about teaching and learning can be overcome [5]. Offline learning gave the best learning result than online learning at COVID-19 Pandemic Era.

## 5. CONCLUSION

There was a significant difference between offline learning and online learning. Offline learning gave a better impact on the learning results because the teachers can give direct instruction to students if there were students who didn't understand the topic of mathematics. Students can ask teachers if found some difficulties in understanding the mathematics material have been tough by a teacher.

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