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Blended learning in learning mathematics in class V elementary school

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Abstract

This research is motivated by the low learning outcomes of students in mathematics learning. This study aims to improve student learning outcomes in class V SD Negeri 1 durian Payung Kota Bandar Lampung by using a blended learning model. The researcher's research method was classroom action research in collaboration with fifth-grade teachers of SD Negeri 1 durian umbrella, with 20 students in class V

consisting of 11 female students and 9 female students. This research took place in 3 cycles, each cycle consisting of 3 actions. The techniques used in data collection are observation, tests, interviews, documentation, and field notes. The results showed that the blended learning model can improve student learning outcomes in mathematics learning in class V SD Negeri 1 durian payung.

Keywords: blended learning, learning model, learning outcomes

1. Introduction

The PISA test results and survey in 2018, the students' reading, mathematics, and science scores 371, 379, and 396 put Indonesia in 75th position out of 80 countries that took the test and survey (OECD, 2019) ^[9]. Furthermore, TIMSS shows that the average score on mathematics and science of Indonesian students is 397 with a position for mathematics at level 45 out of 50 countries participating in the assessment and survey (TIMSS and PIRLS, 2015) ^[5,6]. This shows that the condition of Indonesian students in the fields of mathematics and science is in the lowest position compared to Singapore, which occupies the first level in TIMSS, this needs special attention from all elements related to the field of education in Indonesia.

The rapid development of science and technology, which is very rapid, requires educators to always be able to apply learning methods using the latest technology. It can be understood that both educators and prospective educators must master technology to carry out their duties properly. Internet technology is growing rapidly nowadays. The availability of greater bandwidth, resulting in faster and cheaper internet access. This provides opportunities for all fields, including education and learning.

It is further argued that demands and civilization have experienced a shift from an analog world to a digital dimension through the rapid advancement of information technology, at the same time teachers are challenged to combine traditional learning models and advances in information technology to balance the diverse learning styles of students (Syarif; 2012) ^[16], (Sandi; 2012) ^[10], (Sutisna; 2016) ^[14].

Based on the above problems, there is a need for discussion in the learning process. One alternative that can be used is by using a blended learning model. Several researchers have proven this by including research conducted by Syarif (2012) ^[16] on the effect of the blended learning model on motivation and learning achievement of vocational students, showing that there is a significant difference between student motivation and learning achievement. Furthermore, research that has been conducted by Khoiroh (2017) ^[7] on the effect of the blended learning model and learning motivation on learning outcomes of class VIII students of SMPN 1 Gumukmas shows that student learning outcomes using the blended learning model are higher than student learning outcomes using the direct learning model. Research that has been conducted by Abdullah (2018) regarding the Blended Learning Model in Improving Learning Effectiveness shows that blended learning has a high effect on results. Furthermore, research that has been conducted by Sudiarta, Sadra (2016) ^[13] on the effect of the animated video-assisted blended learning model on students' problem-solving abilities and conceptual understanding shows that the field findings show that students who take animated video-assisted blended learning become more active, more trained in the discussion, more motivated, and more enthusiastic in learning mathematics than students who took conventional learning.

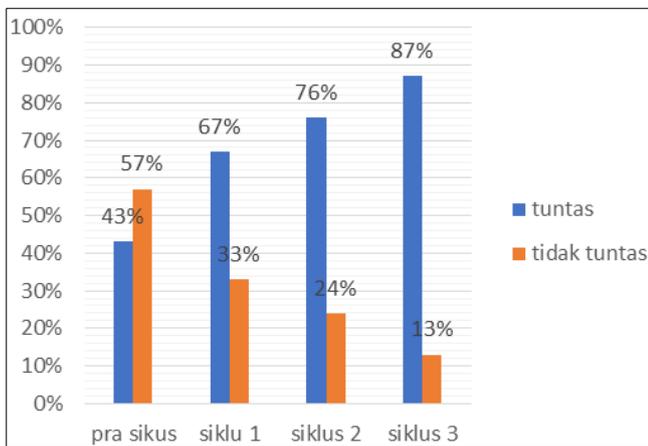
Based on the explanation above, researchers need to conduct a scientific study of blended learning in mathematics learning in Class V Elementary School.

2. Methodology

This study uses a classroom action research method by observing elements of activities, actions that aim to fix problems in the learning process, and the same class receives lessons from a teacher (MG E, 2011), (Saputra. Et al; 2019) ^[11], (Saputra, Susilo; 2019) ^[12]. Data collection was carried out through observation, interviews, documentation, and student learning outcomes as many as 20 people. Data analysis techniques were carried out through data reduction, tabulation of data from observations, data analysis, and data exposure. The criterion for success in this study is if the student's mathematics learning result score reaches a minimum of 76.19% or 16 people from the minimum completeness criteria. This research was conducted through four phases of the cycle including planning, implementing the action, observing, and reflecting. The classroom action research model used is the John Elliot model.

3. Results and Discussion

This study uses a classroom action research approach where the research will discuss the results of each given action cycle. The following diagram shows the results of this study:



Picture 1: Increased completeness of student learning outcomes

The results of this study indicate that there is an increase in each cycle. In the pre-cycle, there were 43% students who had completed and 57% who had not completed, while in the first cycle there were 67% students who had completed and 33% who had not completed with an average score of 71.52. Cycle II has increased, students who have completed to be 76% and those who have not completed 24% with an average score of 77.05. While the third cycle of students who had completed was 87% and 13% who had not completed with an average score of 75.7. It can be understood that a blended learning model is a learning approach that involves students actively seeking their knowledge through meaningful experiences.

The results of the above research are in line with the opinion that blended learning is learning that combines or combines face-to-face learning with ICT media, such as computers (online and offline), multimedia, virtual classes, the internet, and so on (Gawande, Virendra; 2015) ^[2], (Gecera, Aynur; 2013) ^[3], (Hamad, Mona; 2015) ^[3].

4. Conclusion

Based on the research results that have been described, it can be concluded that the blended learning model can improve student learning outcomes in mathematics learning in fifth-grade elementary schools. The increase in the value of learning outcomes is influenced by the activities of students and teachers in the learning process in the classroom. The blended learning model has a positive impact on students' enthusiasm for learning, especially in mathematics learning by formulating learning techniques that are very enjoyable so that students do not feel bored while studying the material.

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