

**Improving Student Learning Outcomes By Using Blended Learning Assisted  
Pizzaku Media**

**Yusmawati**

SD Negeri Bujanggadung

Corresponding Author E-mail: [yusmawati80@gmail.com](mailto:yusmawati80@gmail.com)

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**Abstract:** The purpose of this classroom action research was to determine the success of blended learning using pizzaku media. The key data sources in this study were 17 male and 15 female students from class VIA SD Negeri Bujanggadung, Grogol District, Cilegon City, Banten. According to the study's findings, using face-to-face and online synchronous blended learning methods using the Google Meet application and pizzaku media might boost the learning interest of class VIA students at SDN Bujanggadung in studying mathematics, particularly in the circle content.

**Keywords:** Blended Learning, Google Meet, Learning Outcomes, Students

## **1. Introduction**

The order of life has shifted dramatically as a result of the Covid-19 epidemic. According to Kompas statistics on March 28, 2020, the effect of the Covid-19 virus includes social, economic, tourism, and education since all indoor and outdoor activities in all sectors were temporarily canceled in order to minimize the spread of the corona virus, particularly in the education sector. On March 24, 2020, the Minister of Education and Culture of the Republic of Indonesia issued Circular Letter Number 4 of 2020 concerning the Implementation of Education Policies in the Emergency Period for the Spread of Covid, which explained that the learning process was carried out at home via online/distance learning.

The Distance Learning (PJJ) system is used by all educational organizations, from primary school to postsecondary institutions. PJJ is carried out in order for learning activities to continue in accordance with the agenda on the educational calendar. It is critical to provide relevant learning opportunities for all students at all levels of schooling. In Indonesia, the online PJJ system has established a new paradigm in education. In the current situation, this is the greatest approach for kids' learning rights. However, it was shown that this PJJ was less effective when applied in SD Negeri Bujanggadung. This is due to a drop in pupils' understanding of their learning materials, as well as a modest decrease in the character values that should be possessed. This may be observed in the pupils' discipline, honesty, and accountability in carrying out the responsibilities assigned to them. Many kids completely rely on their parents to do the duties assigned to them, resulting in pupils who do not comprehend the meaning and do not learn the topic.

As the Covid-19 pandemic recedes, the government issued a Joint Decree of the Ministers of Education and Culture, Religion, Health, and Home Affairs on Guidelines for the Implementation of Learning in Even Semesters of the Academic Year and Academic Year 2020/2021 During the Covid-19 Pandemic Period. 19. The central and local governments' policies include a directive to apply the new normal learning paradigm known as Limited Face-to-Face Learning (PTM).

This PTM implementation guide offers indicators for PTM implementation, beginning with the idea and progressing through limited implementation, the role of school administrators, parents, and the role of the Education Office. Face-to-face learning is carried out in accordance with the health protocol, with the conditions of limiting the number of students to a maximum of 18 from the initial standard of 28-36 students/class.

The SD Negeri Bujanggadung determines the implementation of the learning schedule, the number of days and hours of study with a study group rotation system through a stakeholder meeting. Mandatory behaviors that must be implemented at SD Negeri Bujanggadung are of great concern, such as the use of cloth masks or disposable masks/surgical masks, hand washing with soap and running water or hand sanitizer, maintaining distance and not making physical contact, and cough and sneeze.

Policies enforcing limited face-to-face learning by central and local governments contribute to a lack of learning objectives to be met. With limited time, the teacher must devise the best solution for achieving the learning

objectives while adhering to the policies in place regarding study hours. Similarly, with the restrictions on students participating 50 percent PTM and 50 percent at home, it is necessary to have a strategy that can facilitate students' learning rights by using models and media, so that learning objectives can be properly achieved.

Mathematics is a subject that students find less appealing, as evidenced by the lack of enthusiasm for class VI students at SD Negeri Bujanggadung in participating in the online learning process, as well as the large number of students who do not master the lessons given. This occurs because online learning is only provided for a few hours due to limited learning time and the ability of parents to obtain learning quotas (Diana, 2018).

Several diversity issues were discovered based on field observations, including students' lack of interest in mathematics lessons and lack of mastery of the subject matter presented by the teacher in the learning process due to a lack of lesson hours. The teacher should understand how to provide a stimulus for students during the implementation of the learning process so that students feel excited and love mathematics. One of the supporters of the success of learning mathematics is the use of appropriate learning models and real teaching aids, so that students can succeed in improving student learning outcomes.

To anticipate problem conditions based on some of the above findings, it is necessary to have a strategy that can facilitate students' learning rights by using models and media, so that learning objectives can be properly achieved. A Blended Learning model with real teaching aids is one solution that can be implemented to achieve this goal (Driscoll, 2002).

## **2. Methods**

This is a classroom action research, and the location is SD Negeri Bujanggadung, which is located at Jl. Serangan, Bujanggadung RT2/3 Kelurahan Rawa Arum, District Grogol, Postal code 42438 Cilegon City. The total number of educators and education personnel is 25, the total number of male students is 207, the total number of female students is 196, and there are 15 study groups. The primary data sources in this study were 17 male students and 15 female students from class VIA SD Negeri Bujanggadung. This data source is a consideration of the extent to which students are interested in mathematics lessons, as well as the extent to which blended learning with pizzaku media has been successful. The data source here employs a method of gathering materials in the form of theories derived from the literature that are relevant to the problem

under study. This information is obtained from scientific journals, books, or previous research in order to complete the primary data in the field (Sumarni et al, 2016; Barnawi et al, 2020).

In terms of the problem under study, the techniques and tools used in data collection are Library Research to find and collect data from the literature related to the problem under study. This information is obtained from scientific journals, books, or previous research in order to complete the primary data in the field. As a research sample, a questionnaire will be used to find and collect data directly from each student. The instrument of student interest in learning mathematics is used to categorize students who are interested in learning mathematics. The learning outcomes test is used to determine the learning outcomes of students. The test is administered to students at the end of the lesson after they have received treatment using the blended learning model. The test is administered in the form of description test questions in writing.

The Audit Trail data is used to validate the data in this study. To validate the data, check the correctness of the procedures, data collection methods, and the researcher's notes. The data used is information derived from the questionnaire results and student learning outcomes. Indicators of future success can be seen in the fact that 75% of students are interested in learning mathematics, and in the results of average test scores of students with a range of 75. This research procedure employs Kurt Lewin's research methodology, which consists of two cycles, cycle 1 and cycle 2. Each cycle consists of four steps: planning, action implementation, observation, and reflection (Kunlasomboon et al, 2015).

### **3. Results and Discussion**

This Classroom Action Research was conducted because the students were less interested in learning mathematics, as evidenced by the lack of enthusiasm of the class VIA students at SD Negeri Bujanggadung in participating in the online learning process; many students did not master the lessons provided, resulting in poor learning outcomes. insufficient This occurs because online learning is only provided for a few hours due to limited learning time and is entirely dependent on the tasks assigned to parents.

According to the initial data, there is still a lack of interest in learning mathematics, as evidenced by the questionnaire data given to students. During the preliminary stages, the researcher distributed a questionnaire regarding interest in learning mathematics. Following the completion of the questionnaire, it is known

that the average learning interest of class VI A SD Negeri Bujanggadung students can be seen in the table below:

**Table 1. Data Interest in learning Mathematics**

Number of Students	Total Score	Average Score	Conclusion
32	1602.5	50.1	Not Interested

As for the results of learning mathematics, it can be seen from the following table.

**Table 2. Math Test Score Data**

High Score	Lowest Score	Average Score
100	20	64,7

According to the evaluation results, the average minimum mastery value is 64.7, while the percentage of mastery of the material is less than the KKM of 84.4 percent and mastery of the subject matter is greater than the KKM of 15.6 percent. Various efforts were made as a result of these conditions to increase students' interest and learning outcomes. One method is to use a blended learning model with media such as pizza (Yuniarti, 2018; Noor, 2010).

## **Description of Research Results for Each Cycle**

### **Cycle 1**

During the initial planning, the teacher requested permission from the principal to conduct research, and the principal was very pleased with the implementation of the classroom action research. The teacher then developed a learning scenario using a blended learning model assisted by pizzaku media. Aside from scenario preparation, the teacher also prepares evaluations to determine student learning outcomes. In cycle 1, the teacher prepares students both at school (in person) and at home using Google Meet synchronous online. This research was carried out in class VIA SD Negeri Bujanggadung beginning at 08.00 and involving 31 students. Furthermore, all students adhere to the lesson plan. The circle is one of the learning objectives that must be met. Students give examples of objects in their lives that are related to circles, observe circle-shaped objects in books, and conduct experiments on things related to circles using pizza media prepared at home so that students can identify the elements of the circle. The circle's elements.

Then, in front of the class, students present the elements contained in a circle, while students at home present with their parents/adults at home. Following the evaluation, it is clear that the results of the first cycle of action obtained are as follows.

**Table 3. Cycle 1 Math Score Data**

High Score	Lowest Score	Average Score
100	0	71,3

According to the findings of this study, student learning outcomes have an average value of 71.3. Students who master the material exceed the minimum competency value limit by as many as 20 (62.5 percent), while students who master the material fall short of the minimum mastery criteria by as many as 12 (37.5 percent). According to these findings, there is an increase in the percentage of students who have mastered the material being taught.

Reflection Learning activities using the blended learning model have advantages and disadvantages, according to observations made during the first cycle of activities. The benefits include: 1) an increase in students' ability to work on evaluation questions, which has an impact on increasing the average score of 5.0; 2) by using pizza media, students find the elements of the circle themselves, which helps students better understand things related to the circle material; and 3) the atmosphere of teaching and learning activities is more enjoyable, which can increase students' interest in learning mathematics; 4) There is direct or real-time communication both at school and at home, so that if students do not understand the material being taught, they can directly ask the teacher, which receives positive feedback from parents and makes it easier to overcome the learning difficulties of participants educate. While the weaknesses in the first cycle include: 1) teachers still struggle with managing the time distribution of blended learning face to face and synchronous online; 2) students who do not bring learning media in the form of my pizza, even though the teacher has informed the students and parents a few days before the lesson is held; and 3) students who do not follow synchronous online because the gadget is damaged and being repaired.

## **Cycle 2**

Cycle 2 action planning was carried out after identifying the weaknesses that occurred in cycle 1. Cycle 2 action planning included the following steps: the

teacher asked the principal for permission to carry out cycle 2, then prepared some pizzaku media for students who did not bring my pizza medium. Inform students who are having difficulty following synchronous online that they should join their close classmates. When blended learning, both face to face and online, is synchronous via the Google Meet application, the teacher adjusts the needs of students.

During the implementation of the action in cycle 2, the teacher reminded the students of the previously taught material. The teacher prepares the students through a blended learning model in which they participate in both face-to-face learning and synchronous online learning via Google Meet. Students pray before beginning their lessons and sing the national anthem. The teacher explains to students the learning objectives for circumference and area of a circle. The teacher uses real-life examples to demonstrate the circumference and area of a circle. Students watch a video to learn how to calculate the circumference and area of a circle, then practice finding the circumference and area of a circle with pizza media. When conducting experiments to determine the circumference and area of a circle using my pizza media and drawing conclusions, the teacher guides and assists students.

Based on the observations, it is clear that there is an increase in the average value of the evaluation results of mathematics learning, particularly the circle material, as shown below.

**Table 4. Math Score Data Cycle 2**

High Score	Lowest Score	Average Score
100	10	76,9

The average value of cycle 2 is 76.9, as shown in the table above. There are 21 students (65.6 percent) who have mastery of material that exceeds the minimum competency value limit, while there are students who have mastery of material that is below the minimum mastery criteria as many as eleven students (34.4 percent). According to these findings, there is an increase in the percentage of students who have mastered the material being taught.

## Discussion of Each and Between Cycles

### Interest to Learn

According to the results of the student questionnaire, there was an increase in students' interest in learning mathematics using the blended learning model circle material with my pizza media. The following table details the level of interest in learning mathematics.

**Table 5. Mathematics Learning Interest Data**

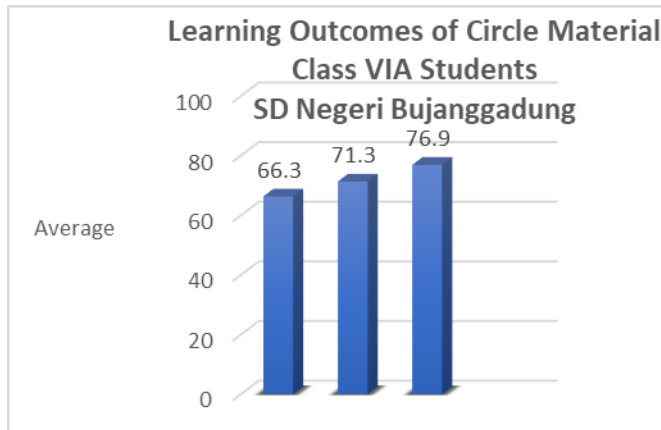
Interest to Learn	Number of Students	Total Score	Average Score	Conclusion
Before Action	32	1602.5	50.1	Not Interested
After Action	32	2507.5	78.4	Very Interest

The table shows that the mean value prior to the action was 50.1 percent, implying that students were less interested in participating in mathematics learning. It was able to increase students' interest in learning by using a blended learning model assisted by pizzaku media, with an average score of 78.8 percent in the very interested category.

### Learning Outcomes

There is a change in the average value of student learning outcomes in learning in this classroom action research, which can be seen in the total average value of students in each cycle, pre-cycle 66.3 in cycle 1 is 71.3 and in cycle 2 is 76.9. When viewed graphically, the average value of learning outcomes is as follows:



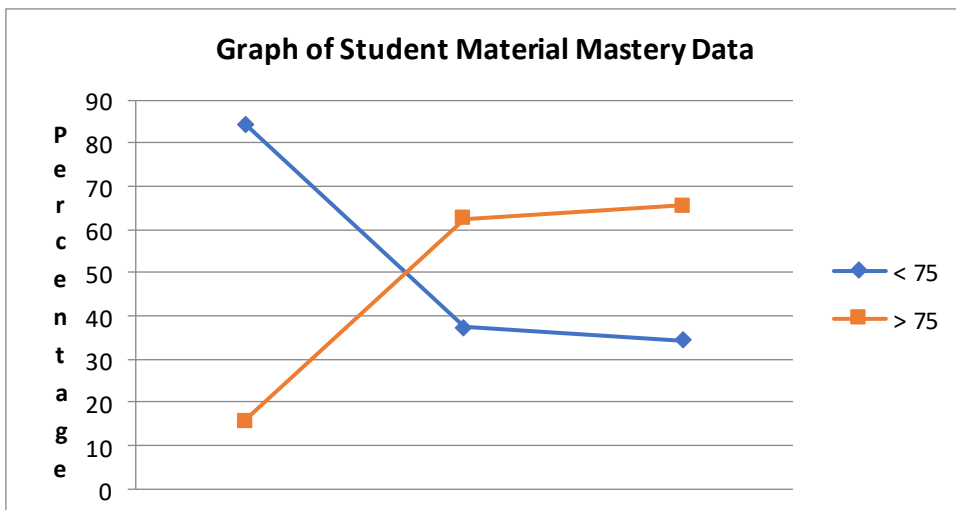


Graph 1. Recapitulation of Student Learning Outcomes

In mastering the circle material, the minimum completeness percentage can be explained by the following table:

**Table 6. Student Material Mastery Data**

Category KKM	The number of students		
	Pre cycle	Cycle 1	Cycle 2
< 75	27 (84,4%)	12 (37,5%)	11 (34,4%)
>75	5 (15,6%)	20 (62,5%)	21 (65,6%)



According to the graph above, the mastery of the subject matter of class VIA SD Negeri Bujanggadung students increases with each cycle. Cycle 1 shows that student learning outcomes have an average value of 71.3. In terms of material mastery, those who exceed the minimum competency value limit are as many as 20 students (62.5 percent), while those who master the material below the minimum mastery criteria are 12 students (37.5 percent). According to these findings, there is an increase in the percentage of students who have mastered the material being taught. The average value of cycle 2 is 76.9, as seen in Figure 2. Students who exceed the minimum competency value limit for mastery of the material are 21 (65.6 percent), while students in mastery of the material are below the minimum completeness criteria. as many as eleven students (34.4 percent). These results show that there is an increase in the percentage of students who have mastered the material being taught when compared to cycle 1.

Overall, the results of the class actions completed from before being assigned action to the end of action cycle 2 have a positive impact on the learning process using the pizzaku-assisted blended learning model (Schechter et al, 2017; Miller, 2021; Yudt, 2019). The face-to-face and online synchronous blended learning model supported by Pizzaku media via the Google Meet application is a novelty and innovation in the learning process. The Blended Learning Model, aided by my pizza media, is extremely beneficial in increasing students' interest in learning mathematics, particularly in circle material (Noviyanti et al, 2019).

According to Izzudin (2012) and Nugraha (2015), blended learning is a combination of various learning strategies and delivery methods that optimizes the learning experience for its users (Vanek et al, 2021).

#### **4. Conclusion**

The use of face-to-face and online synchronous blended learning models, aided by pizzaku media, can increase the learning interest of class VIA students at SDN Bujanggadung in learning mathematics, particularly in the circle material. The use of face-to-face and online synchronous blended learning models, aided by pizzaku media, can improve the learning outcomes of class VIA students at SD Negeri Bujanggadung, as evidenced by the average value in cycle 1 of 71.3 and the average value in cycle 2 of 76.9. The average value increased by 5.6. The use of face-to-face and online synchronous blended learning models via the Google Meet application aided by Pizzaku media can also increase the mastery of the subject matter of class VIA students at SD Negeri Bujanggadung, as evidenced by

an increase in the number of students who exceed the minimum criterion value limit, when the pre-cycle is as many as 5 students, cycle 1 as many as 20 students, and cycle 2 as many as 21 students.

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