



Development of A Base Learning Project Model With Online Media In An Effort to Increase Learning Activities During the COVID-19 Pandemic

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ABSTRACT

Decrease in learning outcomes in operating systems courses. The decline in learning outcomes is caused by the current corona virus pandemic. Which causes face-to-face lectures to be online. Researchers use project base learning to improve learning outcomes. The application consists of 2 cycles, namely Diclus 1 which is 80.12% with the number who did not pass, namely 16 students, researcher evaluating the learning process so that in cycle 2 it increased by 83.73%. With the student's who did not pass. It can be concluded that the base learning method can be used to improve learning outcomes during the COVID-19 pandemic.

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1. INTRODUCTION

Graduate competence is a very important component that must be possessed by students to be able to compete in today's era[1]. The competencies possessed include attitudes, knowledge and skills[2]. Based on the data on the achievement of student learning outcomes, the following data are obtained:

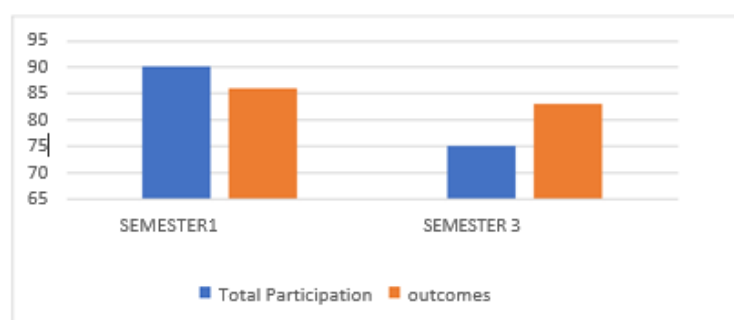


Figure 1. Student's outcomes semester 1 and 3

It can be seen from the data above that there is a decrease in student participation and learning outcomes[3][4][5]. In 2020 semester 3 students have an interest in participation of almost 90% and learning achievement at an average of 86%. Then in the new student force, this actually decreased due to the spread of the corona virus which caused the need for face-to-face restrictions, the participation rate of semester 1 students from 2020 to 2021 reached 75% and the average learning outcome was 84%. From this data, there is a difference of 15% for participation and a difference of 2% for learning outcomes, plus the spread of the corona virus which is also one of the causes of the decline in student learning motivation.

Corona virus is a global pandemic that spreads so fast and no country is able to prevent the spread of the corona virus [6] the corona virus is contagious, in the sense that it spreads very quickly through networks like a disaster or flu[7]. The corona virus spreads through contact with the sufferer, unfortunately now there is no cure for the corona virus[7]. For this reason, the government in several countries has implemented a lockdown (total isolation)[8].

According to Suprijono[9], learning outcomes are patterns of actions, values, understandings, attitudes, appreciation and skills[10][11]. Furthermore, learning outcomes that become the object of class assessment are in the form of new abilities that students acquire after they participate in the teaching-learning process about certain subjects[12][13][14][15]. How strong students' motivation in learning will determine the quality and learning outcomes, therefore teachers are required to be able to encourage and increase student motivation in learning[16].

So that from the three interrelated factors, optimal learning outcomes can be achieved by each student[17][18][19]. Students have the opportunity to learn as apprenticeships where there is an increase in task complexity, knowledge and skills; The complexity of the knowledge in question is the emphasis on conceptual connectedness, and interdisciplinary learning[20]. Cooperative and collaborative learning must be able to expose students to alternative views[21]; and Measurement is authentic and becomes an inseparable part of learning activities[22].

Project-based learning is a project-based learning method that emphasizes contextual learning through complex activities[23][24][25]. There are several advantages of Project based learning, namely [26][27] making students active, because students will be charged with finding solutions to problems in the real world. With this learning method, it has the potential to be applied during this pandemic.

2. RESEARCH METHOD

This analysis was conducted to determine the success or failure of the actions taken in the research. It consists of 4 main components: planning (planning), acting (action), observing (observing), and reflecting (reflection)[28].

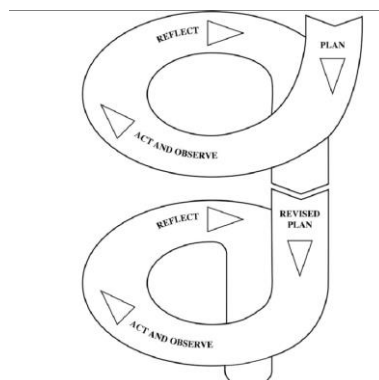


Figure 2. Action research cycle [28]

This is seen from the percentage of the success rate achieved by students. The data obtained from the field is then analyzed using qualitative data techniques. From the data analysis,

student learning outcomes are obtained where student learning outcomes based on the instructions for implementing the teaching and learning process have individual and classical completeness, namely:

- a. A student completes learning if the student has achieved a score of 65% or 6.5
- b. A class is said to have completed learning if the class has 80% who have achieved more than or equal to 65% completeness.

Student learning mastery can be calculated using the formula:

$$K = \frac{A}{B} \times 100\%$$

Information:

K = Completeness

A= Scores that have been obtained by students

B= Maximum score

Criteria

0% < 80 % = Students has not finished

80% < 100% = Students have completed their studies

Learning mastery can be calculated using the formula:

$$D = \frac{C}{F} \times 100\%$$

Information:

D = Percentage of class that has finished studying

C = Number of students who have finished studying

F= Total number of students

The criteria produced in student learning completeness are:

Table 1. Criteria for student learning success rate

Level of success %	Category
90%-100%	Very High
80%-89%	High
65%-79%	Enough
55%-64%	Low
0%-54%	Very low

3. RESULTS AND DISCUSSIONS

The learning process in cycle 1 went quite well by applying the project-based learning model. Learning evaluation was carried out at the second meeting. Questions are used to measure student learning outcomes in the cognitive aspect while project assignments are used to measure student learning outcomes in psychomotor aspects. The questions used have been prepared before the research is carried out. The project assignments given are different but the assignments refer to the tasks that have been given so that the level of difficulty is also evenly distributed. Data from student learning outcomes can be seen in Table 2.

Table 2. Criteria for Student Success Rates

Outcomes cycle 1	Category		
	Theory	Project	Final Test
Very High	85	87	86
Very Low	68	69	68.5
Mean	80.12	82.35	81.23

Outcomes cycle 1	Category		
	Theory	Project	Final Test
Passed Student	20	24	
Pass Percentage	58.82%	64.86%	61.84%

Based on the results of the reflection there are problems that can be seen from Table 3.

Table 3. Criteria for Student Learning Success Rates

Observation	Reflections
1. There are still some students who are less active at the time of this zoom because they have a lying learning position, this makes concentration decrease	1. Students must be active in the camera, and dress coders must use polite shirts and clothes, and must not lie down or lie down.
2. students are still wrong in making presentations because students do not focus on taking notes	2. Mahasiswa wajib membuat rangkuman dan wajib dikumpulkan melalui elarning
3. Don't ask when the presentation starts.	3. Lecturers must choose students who will be prepared to ask questions

Based on the results of observations on student learning activities in cycle 2, it shows that the learning activities carried out by students have increased. The results of observations show the average value of student learning activities in the cycle as shown in the table below:

Table 4. Student Learning Outcomes Cycle II

Hasil Belajar Siklus 2	Kategori		
	Teori	Proyek	Nilai Akhir
Very High	90	92	91
Very Low	81	80	80.5
Mean	83.12	86.35	84.78
Passed Student	36	36	
Pass Percentage	100%	100%	100%

4. CONCLUSION

Student learning activity is one of the variables observed in the implementation of the project-based learning model. Cycle 1 shows the average percentage of student learning activities of 80.12%. From these results have met the criteria for the success of the action so that it can be continued in the next cycle. The average percentage of student learning activities in cycle 2 reached 83.73%. The increase in student learning activities from cycle 1 to cycle 2 was 3.61%. The results can be seen from the image below:

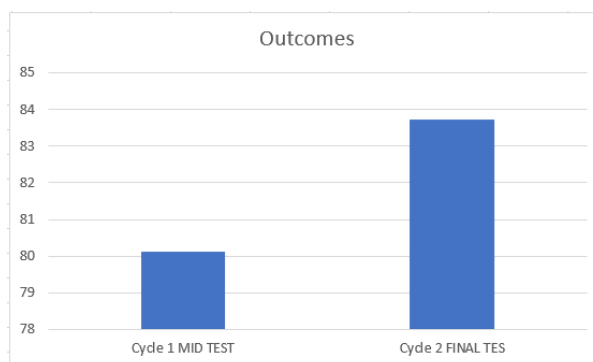


Figure 3. Student's outcomes cycle 1 and 3

In detail, it can be seen the increase in student learning activities in each indicator of learning outcomes in the picture below:

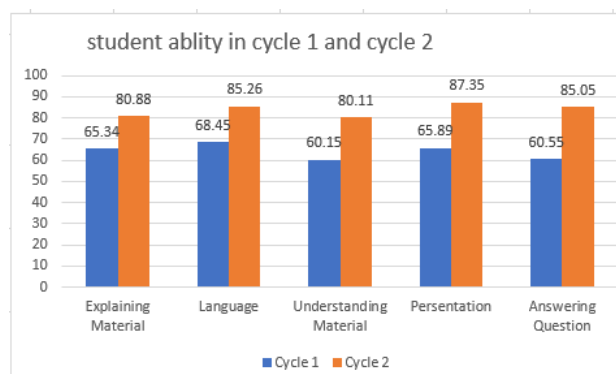


Figure 4. Student's ability in cycle 1 and 2

From the data above, the researchers compared the above competencies through direct assessment of student performance, it can be concluded that students' abilities increased between cycle 1 and cycle 2.

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