Implementation of Project-Based Model in Collaborative Distance Learning System for Second Grade Elementary School

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Article Info

Abstract

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The COVID-19 pandemic has had a major impact on the education sector, especially for schools, in the form of a change in the learning process, which currently must be done in a different space and distance. In areas with a harmless zone and inadequate for online learning, the schools have practiced two ways of learning: face-to-face and non-face-to-face. The scientific model should still be implemented eventhough in distance learning situations. This study aimed to examine the use of a project-based learning model for elementary school students to develop a collaborative distance learning system during the COVID-19 pandemic. The research method employed classroom action research from the John Elliot model. The first cycle of learning was carried out online, and the second cycle of learning was conducted face-to-face at school. The research was done in two cycles because students had limited facilities to support online learning. The data collection technique was through observation. The research subjects involved were second-grade elementary school students of SD Negeri 2 Kurung Kambing in Pandeglang Regency. This study's results proved that the project-based model influenced increasing psychomotoric competency achievement in the SBdP (Cultural Arts and Crafts) subject with teaching materials mimicking daily and natural movements in the "Planting Corn" dance. This learning also involved students more actively and trained them to think critically and behave creatively.

Keywords:	Collaborative Learning, Project-Based Model, Distance Learning
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Info Artikel

Abstrak

Pandemi COVID-19 berdampak besar pada dunia pendidikan khususnya bagi sekolah berupa perubahan proses pembelajaran yang saat ini harus dilakukan di ruang dan jarak yang berbeda. Di daerah dengan zona tidak berbahaya dan tidak memadai untuk pembelajaran online, sekolah telah mempraktikkan dua cara pembelajaran: tatap muka dan tanpa tatap muka. Model saintifik tetap harus diterapkan meskipun dalam situasi pembelajaran jarak jauh. Penelitian ini bertujuan untuk mengkaji penggunaan model pembelajaran berbasis proyek bagi siswa sekolah dasar untuk mengembangkan sistem pembelajaran jarak jauh kolaboratif selama pandemi COVID-19. Metode penelitian yang digunakan adalah penelitian tindakan kelas dari model John Elliot. Siklus pertama pembelajaran dilakukan secara online, dan siklus kedua pembelajaran dilakukan secara tatap muka di sekolah. Penelitian dilakukan dalam dua siklus karena keterbatasan fasilitas penunjang pembelajaran online siswa. Teknik pengumpulan data melalui observasi. Subjek penelitian ini adalah siswa kelas II SD Negeri 2 Kurung Kambing di Kabupaten Pandeglang. Hasil penelitian ini membuktikan bahwa model berbasis proyek berpengaruh terhadap peningkatan pencapaian kompetensi psikomotorik pada mata pelajaran SBdP (Seni Budaya dan Prakarya) dengan bahan ajar yang meniru gerakan sehari-hari dan gerakan alam dalam tarian "Menanam Jagung". Pembelajaran ini juga melibatkan siswa lebih aktif dan melatih mereka untuk berpikir kritis dan berperilaku kreatif.

Kata Kunci:	Pembelajaran Kolaboratif, Model Berbasis Proyek, Pembelajaran Jarak Jauh
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INTRODUCTION

The COVID-19 pandemic becomes an educational sector problem, which is rarely thought of before, namely learning amid a virus pandemic. This virus's impact forces all schools not to carry out face-to-face learning processes and divert them to distance learning. To cope with this change, temporarily, in the learning system, teachers can take advantage of information technology development with e-learning in online learning (in the network). In this way, the learning process can be done remotely. It means that educators and students are not in the same room during the learning process or even at different times (Suci et al., 2017).

This learning system is considered to have a positive side because it can be accessed without limitation of space and time and saves the implementation process's cost so that it supports the learning process during the COVID-19 pandemic. However, for some schools that are still in the green zone of COVID-19 and have limited facilities, they are allowed to carry out collaborative learning while still implementing health protocols along with permission from the local education office.

With this different learning system, it is feared that many basic competencies may not be achieved, especially at the lower-class level in elementary schools, which still require great guidance from teachers. Therefore, teachers are required to provide a simple lesson but can meet the competencies in the existing curriculum. One way to meet these demands is that the teacher can apply a learning model suitable for collaborative distance learning systems so that the learning material remains easily understood by students (Melinda & Zainil, 2020).

One model that teachers can use is a project-based learning model. The Buck Institute for Education defines project-based learning as systematic teaching that engages students in learning knowledge and skills (Dewi, 2015). This model has the advantage of fostering critical thinking skills because it involves cognitive, affective, and psychomotor abilities to solve a problem (Luthvitasari & Linuwih, 2012; Masrinah, et al., 2019). Assessment in this model is also more student-oriented because it assesses the project results that have been made, either in the form of work or only assignments in the form of documents in writing (Lidinillah, 2013 in Mustofa et al., 2016).

The use of project-based models can be applied in almost all subjects, one of which is SBdP (Cultural Arts and Crafts). One of the focuses of SBdP learning is the art of dance, which facilitates students to move. The main assessment in dance learning is the kinesthetic aspect. Kinesthetic intelligence is a person's ability to combine the physical and the mind, which will produce perfect movements (Yuningsih, 2015).

In a study, it was stated that one of the efforts that could be made in the distance learning implementation was by making student worksheets based on scientific literacy indicators containing the topic of COVID-19 (Setiawan, 2020). In contrast to the making of worksheets, through this project of making "Planting Corn" dance movements, it is hoped that students can go through distance learning more enjoyably without leaving educational elements.

The advantages of this project-based assignment are that it can increase student motivation, help students understand the teaching material more easily because it is directly applied to the project task they are working on, increase collaboration between students and friends in discussions or with their families at home, and improve students' skills in managing the resources around them to be used in the project task (Lidinillah, 2013 in Putri et al., 2015).

From these analyses, it can be concluded that this project-based assignment is appropriate to be used as an assessment in online learning or distance learning implementation in terms of time availability, cost, teacher ability, and students' abilities to do the task. This project-based assessment is essential to develop so that curriculum competencies can be met and the assessments carried out by the teacher remain objective, as in usual face-to-face learning. The research subjects, consisting of second-grade students, were determined because the students' kinesthetic development still could not be developed optimally during this pandemic learning period. Besides, the children's lack of

development will result in the children being awkward in moving, shy, and not confident in moving their bodies (Yuningsih, 2015). Therefore, stimulation is needed to develop potential and abilities in children, one of which is through dance learning.

METHODS

This quantitative study applied an associative correlational research design with a cross-sectional survey method. This research was conducted in 15 public elementary schools in Kramatwatu Subdistrict, Serang Regency, Banten. This research was carried out from December 2019 to January 2020. The population was 193 people, with a sample of 130 people, employing probability sampling through simple random sampling.

The method used classroom action research from the John Elliot model (Elliott, 1991). This research was divided into two cycles: cycle I, learning conducted online, and cycle II, learning carried out face-to-face at school. The existence of two cycles in this study occurred because the school could not carry out online learning fully so that learning in two cycles was required. The technique of collecting data was through observation.

The research subjects involved were second-grade elementary school students of SDN 2 Kurung Kambing in Pandeglang Regency. The research instrument employed was an assessment sheet of the students' dance movements in demonstrating the "Planting Corn" dance in *Tema 3 Tugasku Sehari-hari Buku Tematik Terpadu Kurikulum 2013* by Purnomosidi. Data analysis was performed through the assessment formula in the assessment rubric in the lesson plan. In this study, data validation was carried out employing triangulation. The guidelines for the assessment formula for measuring student ability are as follows (Wahidmurni, 2020):

Maximum score	:	$2 \times 4 = 8$
Minimum score	:	$2 \times 1 = 2$
Grade	:	$\dfrac{\text{Score obtained} \times 4}{\text{Maximum score}}$
Maximum score	:	$\dfrac{8}{8} \times 4 = 4$
Minimum score	:	$\dfrac{2}{8} \times 4 = 1$

Guidelines for determining the number of achievements of children's abilities can be seen in Table 1.

Table 1. Rubric for Indicator Assessment

Indicator	Score	Description
Understanding dance movements	4	Students can imitate all the movements of everyday life and nature according to the song "Planting Corn".
	3	Students can imitate most of the daily movements and nature according to the song "Planting Corn".
	2	Students can imitate a few daily movements and nature according to the song "Planting Corn".
	1	Students cannot imitate daily movements and nature, according to the song "Planting Corn".
Performing dance moves	4	Students can dance with confidence.
	3	The students danced quite confidently.
	2	Students dance with a lack of confidence.
	1	Students dance with no confidence.

The steps taken in the research are as follows:
1) Identifying problems arising from distance learning
2) Analyzing the causes of the problem
3) Conducting literature studies and interviews with classroom teachers regarding innovations that will be applied in the distance learning process

4) Developing a learning process design in accordance with the indicators and competencies
5) Carrying out collaborative learning
6) Monitoring project work by students
7) Assessing the work that students have done
8) Summing up the effect of the implementation of project-based learning based on the achievement of the work that students have made on the indicators and learning competencies in the assessment rubric

RESULTS AND DISCUSSION

Through a project-based learning model in a collaborative distance learning system, it is hoped that it could improve competency outcomes in SBdP subjects. This study produced a product in the form of a children's song dance, namely the "Planting Corn" dance. The dance project will help students develop abilities, especially in the kinesthetic and creative aspects (Yuningsih, 2015).

To achieve existing learning competencies, this learning process went through two cycles. The first cycle was carried out online, and the second cycle was conducted offline. After the two cycles had been carried out, the achievement of competencies that had been carried out by students while participating in learning activities was compared.

Implementation of Learning Cycle I
Early Reflections

At this stage, researchers and class teachers discussed problems experienced during collaborative learning. Then, several solutions that could be applied for further learning were analyzed.

Action Planning

Furthermore, teachers and researchers designed the learning implementation to be carried out, such as determining appropriate subjects to use project-based models in the learning process. After discussing it, it was decided that the subjects used in this study were SBdP, with the material of recognizing daily movements and nature through dance. Finally, competency and assessment rubrics

based on the existing syllabus were also planned and compiled.

Implementation

The learning implementation in cycle I was carried out on Wednesday, November 5, 2020, in the second grade at one of the public elementary schools in Pandeglang Regency. Nine students took part in this online or not face-to-face learning. The online learning process in cycle I included preliminary activities, core activities, and closing activities, all of which were carried out not face-to-face but through WhatsApp as intermediary media.

The first action taken was to provide direction to students to start designing daily movements with similar movements when juxtaposed with the song "Planting Corn" to form a dance. In cycle I, the teacher conveyed the students' learning objectives and what they wanted to achieve. Besides, the teacher also determined the time limit for working on the project by first asking students about their ability to work on the project. After going through the deliberation process, it was mutually agreed that the time needed to carry out the project was two weeks.

The second action was implementing and monitoring the project in cycle I. There were several stages, such as making movements assisted by instructions from student books and videos of dancing movements from YouTube.

Evaluation and Monitoring

To determine learning outcomes, the teacher assessed the students' works by guiding the assessment rubric prepared previously. From cycle I, the students' scores were obtained, as follows:

Table 2. Grade in Cycle I

Students' name	Movement grade	Attitude grade	Max. score	Students' grade	Final score
Student a	2	2	8	4	2
Student b	1	2	8	3	1.5
Student c	1	1	8	2	1
Student d	1	2	8	3	1.5
Student e	2	2	8	4	2
Student f	2	3	8	5	2.5
Student g	3	3	8	6	3
Student h	3	3	8	6	3
Student i	2	2	8	6	4

To determine the effect of learning in cycle I, the researchers processed the grade data in Table 1 by adding up each assessment aspect's averages. First, for the movement aspect, the average obtained was 1.88. Because the average number was close to number two, this value indicated that students could imitate a small part of daily and natural movements in accordance with the song "Planting Corn". Furthermore, for the attitude aspect in the data above, it can be seen that the average was 2.22. This value signified that students danced with less confidence. Meanwhile, the student's grades had an average of 3.8, the final score was 1.83, and was in the reasonably good category of the maximum value ratio.

Based on the monitoring results via video sent by the students' parents to the teacher, it could be seen that the students' movements were slightly different from the guidelines in the book, and the movements made by students also looked not confident.

According to Eny Kusumastuti (2014), dance education serves as an alternative to developing students' souls towards maturity. With the emphasis on creativity, students are given the broadest possible opportunity to express their dance movements so that the final result is not the main goal. The limitation in this online learning might be one of the reasons why children were not very expressive in dancing because they did not really understand and master the dance movements (Kusumastuti, 2014).

The last action taken in this cycle was to look at the monitoring report and provide input and appreciation for students' work. Appreciation is given as a form of effort to increase self-confidence and enthusiasm in students. From the assessment data in the first cycle, it could be concluded that online learning about the "Planting Corn" dance movement had a sufficient influence on the process experienced by students even though they did not meet face-to-face with the teacher. However, the results obtained by the students were not satisfactory, so the second cycle was carried out.

Implementation of Learning Cycle II
Early Reflections

After going through online learning in cycle I, the teacher concluded that the dance movements performed by the students were not well structured even though they were close to daily movements. Thus, further learning was needed to straighten the previous students' dance movements to match the song "Planting Corn".

Action Planning

After analyzing the evaluation results, the teacher and researchers then re-designed further learning in cycle II. In the lesson in this cycle, the teacher displayed a more structured dance movement according to the daily movements in line with the song "Planting Corn".

Implementation

The second cycle of learning was carried out face-to-face at school on November 25, 2020. The first action in this second cycle was that students were given directions to display their dance work, and they looked more confident when practicing dance movements. It differed from cycle I, where they looked a little awkward and laughed a lot when practicing the movement.

The second action, namely, before assessing dance movements, the teacher displayed her work's dance movements first, as a trigger for students' enthusiasm in displaying the movements made. It was then continued by performing a dance movement of "Planting Corn" simultaneously based on the movements demonstrated by the teacher. Only then were students welcomed to perform dance movements independently in front of the class.

Evaluation dan Monitoring

Based on the observation results in cycle II, the students' scores were obtained with a rubric assessment guide and the calculation formula as follows:

Table 3. Grade in Cycle II

Students' name	Movement grade	Attitude grade	Max. score	Students' grade	Final score
Student a	2	3	8	5	2.5
Student b	2	2	8	4	2
Student c	2	3	8	5	2.5
Student d	2	2	8	4	2
Student e	2	2	8	4	2
Student f	4	3	8	7	3.5
Student g	3	3	8	6	3
Student h	4	3	8	7	3.5
Student i	3	4	8	7	3.5

To determine the effect of learning in cycle II, the researchers processed the data as in the previous first cycle, namely by adding up each assessment aspect's averages. In the movement aspect, the average obtained was 2.67. Since the average number was close to three, this value indicated that students could imitate most of the daily movements and nature in the song "Planting Corn". Furthermore, for the attitude aspect, the average was 2.77. Because the number obtained was closer to the number three, this value represented that the students were dancing confidently enough. Based on the students' final score calculation, an average of 2.72 was obtained; from the ratio of the maximum value, it was included in the good category.

Based on the observation results during face-to-face learning in class, it could be seen that the movements made by students had slightly changed with the movements in the previous first cycle. It might be influenced by the gesture given by the teacher before starting the assessment. This change impacted the movement closer to the book's guidelines so that the movements were more precise and in tune with the song "Planting Corn".

At this stage, students used their cognitive domain to provide an assessment or comparison between the movements they made and the teacher's movements so that in the end, they decided to change their movements a little to match the movements directed by the teacher in the classroom. It corroborates with Suyadi's opinion that kinesthetic intelligence is a person's ability to combine physical and thoughts to produce perfect movements (Yuningsih, 2015).

Moreover, for the attitude aspect grade, the teacher assessed it based on the expression indicators displayed by students when dancing. From the data obtained, it could be seen that students had happy expressions when imitating movements so that they looked more confident than before. Thus, it indicated that students had developed better kinesthetic intelligence than before (Mahardika et al., 2017).

From the assessment data in cycle II, it could be inferred that face-to-face learning about the "Planting Corn" dance movement was sufficient to have a better effect on the process experienced by students than non-face-to-face learning in cycle I. The research was terminated because competence was achieved in cycle II.

Discussion

The teacher's assessment of the learning implementation was carried out in two stages: cycle I and cycle II. Cycle I was carried out online, and cycle II was face-to-face in class. Based on the assessment results from cycle I and cycle II, the combined assessment data were obtained as follows:

Table 4. Average Grade Results

Stage	Motion Aspect	Attitude aspect	Maximum score	Student grade	Final score
Cycle I	1,88	2,22	8	3,8	1,80
Cycle II	2,67	2,77	8	5,4	2,72

Table 4 shows an increase in score from cycle I to cycle II. It certainly signified the achievement in accordance with to use of two cycles in collaborative distance learning, namely, so that students' learning outcomes were better. This area did not fully support online learning due to limited signals and access to the material.

The limitations in this learning are that the delivery must be apparent and easy to understand; if not, students will not be interested. Besides, in the delivery, teachers are required to ignite the students' enthusiasm to be motivated to do it without being told or forced first.

Based on the research data, project-based learning could be said to support the distance learning system. It happened because, through this learning, a more innovative learning atmosphere was created and could trigger creativity in students even though the process did not meet face-to-face. Relevant to Barron & Darling-Hammond in *Teaching for Meaningful Learning: A Review of Research on Inquiry-Based and Cooperative Learning,* when student has different learning styles, project-based learning provides opportunities for students to explore content (material) using various meaningful ways to carry out collaborative experiments (Padmadewi et al 2020).

Indeed, it is an input for teachers or educators to develop project-based learning during the pandemic to support students' cognitive, affective, and psychomotor development. Thus, through this learning, teachers can also know and support every potential that a student has because of its multidimensional nature. Through project-based learning, students are trained to use skills to utilize technology to become a way of solving problems, and students get the benefits of this learning (Jagantara et al., 2014; Zubaidah, 2019)

Based on the explanation of the research results, it could be denoted that the project-based learning model was appropriate for use in distance learning systems. This model could also be said to support the collaborative distance learning system to develop kinesthetic intelligence in children based on the subject matter, namely SBdP, related to the movement of students' limbs in dance. According to the Ministry of Education and Culture, one of the goals of dance learning is to instill the beneficial influence of creative dancing activities on the formation of student personality, not only to create dances for performance (Kusumastuti, 2014; Amanda et al., 2014).

Compared to previous distance learning that did not use a project-based model, the learning only provided assignments for students to write, color, draw, or make handicrafts. Tasks like this could be done by other people, not by students directly. When face-to-face meetings in the class took place, the teacher usually could only observe the cognitive aspects by checking the tasks done; however, when the project assignments to make this dance were given, the teacher could observe more assessment aspects related to the abilities possessed by students. With this project-based learning, students are allowed to learn in-depth knowledge or content and 21st-century skills (Zubaidah, 2019).

Furthermore, learning the art of dance involves students actively in their assessment so that it requires a strategy to teach it even though the learning system is a distance. One of the strategies that can be used in dance learning is the use of this project-based model because it can make learning activities more communicative, interactive, and engaging. It is in accordance with the main objective of learning dance, which is to help find the connection between his body and his entire existence as a human (Kusumastuti, 2014). The active question-and-answer communication between teachers and students, together with graphic video media, supports the learning process to be more creative (Marlinda, 2012) and less monotonous to attract students' attention even though the system is carried out collaboratively (Hidayatsyah, 2021).

CONCLUSION

The impact of the COVID-19 pandemic has presented a problem in the field of education that has rarely been thought of before, namely conducting distance learning for all schools. The learning model that can be used to meet curriculum competencies in the distance learning process is project-based. This model implementation in the SBdP subject of dance movement material was conducted in two cycles. The first cycle was carried out online, and the second cycle was offline. Using an assessment rubric to assess student work results, there was an increase in the final score from cycle I to cycle II, which led to the achievement of competency achievements. With this model, the learning process was deemed more able to provide effective, efficient, and objective learning. Besides, through this learning, teachers also got assessments in three domains: cognitive, affective, and psychomotor.

The learning implementation using a project-based model has drawbacks, namely the time consumption, which is quite long. Besides, the delivery and direction should be clear and attractive. Thus, it is hoped that in its development, project-based tasks must use a digitization system to attract more students to participate in working on projects without coercion.

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