

# Efforts to Improve Volleyball Lower Passing Learning Outcomes Using the Project Based Learning Model

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## ABSTRACT

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The purpose of the study was to determine the improvement of learning outcomes of volleyball lower passing using the project-based learning model in class XI IPS 2023/2024 SMA N 3 Yogyakarta. This research is a class room action research using a cycle from the Kemmis and Taggart model, consisting of four stages which include planning, action, observation / evaluation, and reflection. The action taken was the implementation of the project-based learning model. The main project was the making of a video of volleyball lower passing material. The research subjects were students of SMA Negeri 3 Yogyakarta City in the academic year 2024/2025. The subjects were 36 students. Data collection instruments used volleyball bradi test and observation with the help of observation sheets. Data analysis techniques were carried out using quantitative descriptive statistics. The results showed that there was an increase in lower passing learning outcomes from 80.75 to 87.14 through class action research using Project Based Learning. The increase was seen from the number of students who completed the minimum criteria, originally 21 students to 36 students. Project Based Learning can be used as an alternative learning for more optimal physical education learning outcomes.

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## INTRODUCTION

Physical education learning of volleyball lower passing material that researchers carry out in class XI IPS has not succeeded in accordance with the learning completeness target that researchers have set. A total of 15 students (41.67%) have not met the KKM (Minimum Completeness Criteria), the rest 21 students (58, 33%) have achieved complete status in their learning. This condition is quite a concern because the percentage of learning completeness is lower than other parallel classes.

Based on observations made by physical education, sports and health (PJOK) teachers, observations in the field there are still some students who do not understand how to do the correct movement of passing under volleyball. Another reason according to the results of teacher observations is that the majority of students are less motivated to be skilled in doing volleyball lower passing material. This is evidenced by the lack of students trying to practice and practice classically or independently. Knowledge, practice and motivation are considered as factors that influence the low learning outcomes of volleyball lower passing material in class XI IPS SMA 3 Yogyakarta.

There needs to be an effort to improve students' learning outcomes related to volleyball lower passing skills. Several studies explain the various efforts made to improve students' lower passing skills, including; efforts to use game modifications (Marzuki & Setyawan, 2023; Vincent et al., 2022) (Effendy et al., 2020) , efforts to modify equipment (Ramli et al., 2023) , the use of audiovisual media (Tarlina & Porja Daryanto, 2022) . Efforts to improve using the application of the model are also proven in several studies including the use of the Problem Based Learning model (Priyadi, 2021) , Application of *Teaching Games For Understanding* (A. T. Astuti, 2020; Wismarni, 2021) , application of project-based learning (Aini et al., 2024; Aryuda, 2016; Irawan et al., 2022; Rusdi et al., 2023; Tarigan, 2024) , Paired training (Hidayah et al., 2021) , Drill Method (Saputra & Gazali, 2023) , Cooperative Team Games Tournament Type (Pujianto et al., 2021) .

Some research results concluded that the use of the Project Based Learning (PjBL) learning model can improve the learning outcomes of volleyball lower passing in class VIII students of SMP Negeri 37 Makassar (Rusdi et al., 2023) , class X Accounting A at SMK Negeri 1 Singaraja in the 2022/2023 academic year (Aryuda, 2016) , grade IV students at SDN Babatan IV Surabaya (Aini et al., 2024) . Project Based Learning is one of the learner-centered learning models using problems as the first step in finding a product (Fahrezi et al., 2020) . The Project Based Learning Model encourages students to be more active in participating in learning. Through the Learning Model is able to support learners to solve problems by developing real projects (Faridah et al., 2022) . Project-based learning provides opportunities for students to explore skills, creativity and encourage students to be more active. So that the Project Based Learning Model is able to make learning more real and fun and encourage student learning motivation (Mahfud & Fahrizqi, 2020) . Project Based Learning has several advantages over other learning methods. According to (Rokhimawan et al., 2022) PjBL 4 learning has several advantages, namely (1) Creating an increase in motivation; (2) Creating an increase in students to solve problems; (3) Improvement in terms of cooperation; (4) There is a boost in communication skills; (5) Improve student skills in managing sources; (6) Make the learning atmosphere fun.

Based on the background, the researcher conducted a class action research in class XI IPS SMA 3 Yogyakarta as an effort to improve the learning outcomes of volleyball lower passing. Based on the results of relevant research, researchers use the Project Based Learning model as an action in research. This study aims to determine the improvement of learning outcomes of students in class XI IPS SMA 3 Yogyakarta through the *Project Based Learning* approach.

## **METHODS**

This study uses a research model that refers to the research implementation process proposed by Kemmis and Mc Taggart. This type of research uses a self-reflection spiral system that begins with: (1) planning, (2) acting, (3) observing, (4) reflecting, and re-planning which is the basis for a problem-solving design. The subjects in this study were students of class XI IPS 2023/2024 SMA N 3

Yogyakarta. There were 36 students, consisting of 14 men and 22 women. The research was conducted at SMA N 3 Yogyakarta which is located at Kotabaru, Kec. Gondokusuman, Yogyakarta City, Yogyakarta Special Region. Research Time This class action research was conducted in August 2024. The data collection instrument used the Brady test which was tested valid and used in various previous studies (Y. Astuti & Zulbahri, 2015). Astuti & Zulbahri, 2021; Firman Kurnia Hajar Dewantara & Garnika Ade Sinto Raya, 2022) and observation with the help of observation sheets filled in by the teacher. The observation sheet consists of initial attitudes, contact points, and further movements that have been consulted by 5 experts with an Aiken V formula value of 0.91 (valid). The data analysis used in this study was quantitative descriptive analysis using percentages.

## RESULTS AND DISCUSSION

### *Pre Cycle*

The research process begins with researchers making observations of the PJOK learning process in class XI IPS SMA N 3 Yogyakarta. These observations found the problem that the use of the drill or exercise method in the learning process of volleyball games on lower passing material was less successful, this can be seen from the percentage of the number of students who meet the criteria for completeness. At this stage, the number of students who completed only reached 58.33% or 21 students out of a total of 36 students. This means that almost half of the students are not yet complete or below the KKM. Pre-cycle conditions can be seen in the following table;

**Table 1.** Completeness of learning outcomes of volleyball lower pass in class XI IPS

	<b>Total</b>	<b>Percentage</b>
Completed KKM	21	58.33
Not Completed KKM	15	41.67
<b>Total</b>	36	100

### *Cycle I*

#### *Planning*

In this planning stage, the activities carried out are making a Learning Implementation Plan (RPP) and preparing facilities and infrastructure that will be used in the learning process. The researcher as a collaborator provides ideas and input in determining the learning steps that will be carried out in cycle I, then discusses with the PE teacher to apply them to the learning process.

The series of planning, among others: (1) Determine the learning material that will be delivered to students adjusted to the time allocation given by the school. (2) Make a learning plan in the form of a learning implementation plan (RPP) (3) Prepare the learning tools / facilities used, namely the modified ball. (4) Prepare observation media used in learning field notes and documentation.

The project in this lesson is the making of a Volleyball lower passing video. Through this project,

learners are expected to be more motivated to succeed in passing under volleyball. Through this project learners are also expected to explore relevant existing videos, so as to increase knowledge and can be used as independent practice. Learners are expected to perform well in the videos made so that they need sufficient independent practice. Making videos is relevant to the characteristics of learners who have good mastery of technology.

### **Implementation**

In this implementation stage, activities are carried out based on the predetermined action planning, namely implementing learning according to the lesson plan that has been made. The focus is on efforts to improve learning outcomes in volleyball material. The implementation of classroom action in the learning process in one cycle lasts 2 face-to-face meetings. Cycle I was carried out for 3 lesson hours (3 x 45 minutes). The subject matter of learning about passing down volleyball games given to students through the *Project Based Learning* approach. The syntax used is in accordance with the project-based learning model which includes; (1) determining basic questions; (2) creating project designs; (3) compiling schedules; (4) monitoring project progress; (5) assessing results; (6) evaluating experiences.

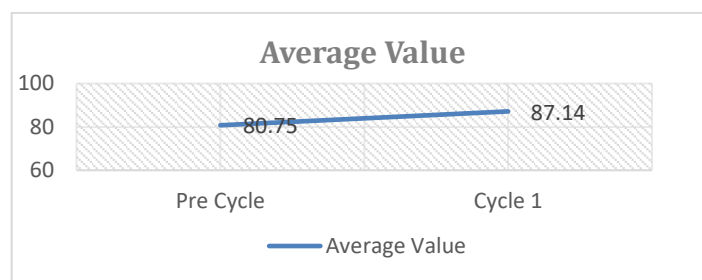
### **Observation and Evaluation**

From the learning activities in cycle I, the researcher concluded that there was an increase in student learning outcomes. This can be seen from the results of observations made by researchers during learning activities. The Minimum Completeness Criteria (KKM) in this material is determined to be 80. Of the 36 students who took part in volleyball learning who got a score that met the Minimum Completeness Criteria (KKM) determined by 36 students (100%). The increase in the number of students meeting the completeness criteria can be clarified in the following table.

**Table 2.** the completeness of the learning outcomes of passing down volleyball class XI IPS

	<b>Pre Cycle</b>		<b>Cycle I</b>	
	Total	Percent	Total	Percent
Completed KKM	21	58.33	36	100%
Not Completed KKM	15	41.67	0	0%
	36	100	36	100%

The increase in the number of students meeting the minimum completeness criteria (KKM) is supported by data on the increase in the average learning outcomes of class XI IPS, from 80.75 to 87.14. The increase in the average score can be clarified in the following graph.



**Graph 1.** Average value of learning outcomes of passing under volleyball class XI IPS

### **Reflection**

There was a significant increase in students' lower passing learning outcomes. All students (36) of class XI IPS meet the minimum completeness criteria (KKM). After the implementation of cycle I, the majority of students perform movements according to the stages of the prefix, implementation, and further movements better. Learners can also perform lower passing movements with better coordination, so that the lower passing movement is more effective and efficient. This condition is evidenced by the reduction in the ball falling to the floor when doing the wall pass test. The number of lower passes in the majority of minutes increased.

During the monitoring of project progress, learners experienced an increase in motivation. This increase can be seen from the efforts of students to find reference sources from the internet, YouTube, and other sources related to correct volleyball lower passing. Practical experiments and independent exercises are carried out by learners outside of class hours both at school and at home. Learners try their best to make the video project that has been determined. This condition is considered by the teacher as a mediator to improve the learning outcomes of lower passing. Project-based learning is considered capable of increasing knowledge of the material, providing practice or repetition time, and creation by utilizing technology.

### **DISCUSSION**

Through classroom action using a project-based learning model can improve the results of learning to pass down volleyball for students of class XI IPS SMA 3 Yogyakarta. The increase is shown that the increasing number of students who completed the KKM, originally 21 students to 36. This condition can also be seen from the decrease in the number of students who did not complete the KKM, originally 15 students to none. The improvement in learning outcomes is also reinforced by an increase in the average class score, from 80.75 to 87.14.

The increase in learning outcomes in this study is relevant to the results of research that concluded the use of the Project Based Learning (PjBL) learning model can improve the learning outcomes of volleyball game skills, especially in the lower passing technique in class VIII students of SMP Negeri 37 Makassar (Rusdi et al., 2023) . The same condition is a class action research with a Project Based

Learning approach (Irawan et al., 2022) . Of the 23 students with the results of cycle I research, there were 15 students with a percentage of 65% who had not completed 8 with a percentage of 35%, so it was continued to the cycle II stage. In the observation of learning outcomes in cycle II there were other students declared complete 100. Research in class X Accounting A at SMK Negeri 1 Singaraja in the 2022/2023 academic year concluded that based on the results of data analysis this study of the learning outcomes of students using the PjBL learning system (Aryuda, 2016) . In volleyball material, the knowledge aspect obtained 62.2% in cycle I to 86.4 in cycle II. The skill aspect obtained 54.1% in cycle I to 83.8 in cycle II. The results of research involving 25 fourth grade students at SDN Babatan IV Surabaya (Aini et al., 2024) , showed a significant increase from cycle I to cycle II. In cycle I, only 12% of learners reached mastery, while in cycle II, there was a drastic increase to 80%, an increase of 68% through the STEAM-based PJBL learning method, which supported learners to understand the material better.

Project-based learning can improve students' learning outcomes can be influenced by various mediator variables among students' motivation and students' creativity. Project-based learning is believed to be able to increase students' creativity in the physical education learning process. The results of the research conducted can be stated that there is an effect of the project-based learning model on student creativity (Ardianti et al., 2017) , especially learning physical education sports and health (Utami et al., 2022) . Project-based learning provides opportunities for students to explore skills, creativity and encourage students to be more active (Mahfud & Fahrizqi, 2020) . Through the project model, students are required to be creative to analyze the lower passing material, explore sources, and conduct practical experiments independently. This approach can also increase students' motivation in the learning process. The results of the study recommend using a project-based learning model which is proven to have an effect on student learning motivation (Yani, 2018) , the use of a project-based learning paradigm centered on developing fun in the learning process (Ginanjari et al., 2024) . *The Project Based Learning model* is able to make learning more real and fun and encourage student learning motivation (Mahfud & Fahrizqi, 2020) . With fun learning, it is expected that students have more motivation to complete the achievement indicators in learning.

## **CONCLUSION**

Based on the results and discussion, it can be concluded that there is an increase in the learning outcomes of passing under volleyball class XI IPS SMA 3 Yogyakarta through Classroom Action Research using Project Based Learning. The action only lasted one cycle, and showed an increase in terms of the number of students completing the minimum criteria, originally 21 students to 36 students.

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