

## Research Article

# The Effectivity of the PBL Model in Learning Outcomes Analyzing Variations Basketball Playing Skills for Class X SMAN 7 in Central Maluku Regency

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**Abstract.**

This study aims to analyze the ability of Physical Education and Sports Health teachers using the Problem-based learning model to improve basketball playing skills of class X-IPA<sup>1</sup> High School 7, Central Maluku. This research is descriptive with a qualitative approach. The research participants were Physical Education and Sports Health teachers at class X. The data collection techniques used were; (1) observation; uses innovative learning assessment format of 19 assessment indicators, (2) interviews, (3) documentation, and (4) triangulation. To analyze data, use the model qualitative analysis technique from Milles and Huberman. This research produces several points: (1) The average ability of subjects to utilize problem-based learning in Physical Education, Sports, and Health, especially the material analyzing variations in basketball playing skills, is 69,47%, so it is in the “Good” category. (2) Based on 19 innovative learning assessment indicators, the results were as follows: (a) The best category had 5% or only 1 indicator, (b) the “Good” category had 42% or 8 indicators, (c) the “Sufficient” category had 48% or 9 indicators, (d) “Poor” category of 5% or 1 indicator. Even though the subject’s ability is in the average category, there is 1 indicator in the “poor” category. In conclusion, (1) the research subjects were not optimal in implementing the problem-based learning model in learning Physical Education, Sports, and Health, especially the material analyzing variations in Basketball Playing Skills. (2) Subjects have not activated the ability to analyze variations in students’ skills in practical activities in the field. (3) Participants had not carried out assessments of learning processes.

**Keywords:** effectivity, PBL, learning outcomes

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## 1. INTRODUCTION

The Education Curriculum, whether for Elementary, Middle or even Higher Education, always changes in line with the development and progress of the times. In Indonesia, there are 2 (two) curricula in place: (1) the 2013 curriculum and (2) the Merdeka curriculum. However, regardless of the curriculum being applied, learning requires proper planning and implementation procedures. In line with the competence of an educator, particularly teachers, contemporary learning demands that teachers plan lessons using various appropriate teaching models that suit the characteristics of the material and the learners.

Physical Education, Sports, and Health (PESH) is one of the subjects included in the learning curriculum for both Elementary and Middle Education levels. Educators in the field of physical education are also required to be professional in conducting the learning process, similar to educators in other subjects. Therefore, the PESH learning process must be designed using teaching models suitable for the learners' current characteristics [1].

However, based on previous research findings [2], it was found that most of the research subjects did not conduct the learning process according to the planning, and some even did not implement the curriculum in 2013 as intended [3, 4]. Additionally, in an evaluation of the learning process of students conducted in 2021 and published by [5], it was found that most research subjects only conducted assessments at mid-semester and end of the semester, without any evaluation during the learning process.

Basketball is one of the subjects included in the PESH learning curriculum [6]. However, because basketball is not very familiar among teenagers in this province and city, students often lack interest in focusing on basketball lessons compared to football or volleyball. Especially, if the teaching methods teachers use do not align with the characteristics of the students, the material, or the current learning and technological developments. Typically, teachers still use classic methods in teaching basketball in PESH lessons, even though the lessons have been designed using active learning models. These include cooperative models, Inquiry Learning Models, Problem-Based Learning (PBL), and Project-Based Learning (PjBL).

In line with the characteristics of students according to Law Number 20 of 2003, researchers and the team want to develop PESH learning, particularly in analyzing Variations in Basketball Playing Skills using the problem-based-learning (PBL) model. The reasons for using the PBL model in this research, based on opinions from [7], and Arends in [8, 9], include its effectiveness in teaching high-level thinking processes,

assisting students in processing existing information, and fostering independent learning and group work in finding solutions to real problems. Therefore, students will develop independent thinking and confidence in presenting various issues that have been successfully solved.

Students in grade X are categorized as adolescents, generally capable of abstract thinking, logical reasoning, and drawing conclusions based on available information. Despite some shortcomings, such as those mentioned by David Elkind in [10], these can be utilized as strengths in achieving maximum learning. Therefore, by applying the PBL model in teaching, students' learning outcomes can be activated and improved according to the syntax of PBL. Furthermore, implementing the lessons will be more effective with the creativity of PESH teachers in developing PESH learning in the classroom.

Hence, the authors and the team analyze the ability of teachers to implement basketball learning using the PBL model in the research entitled "The Effectiveness of the PBL Learning Model in Improving Learning Outcomes in Analyzing Variations in Basketball Playing Skills of Grade X Students at SMAN 7 Central Maluku" [11, 12].

## 2. METHOD

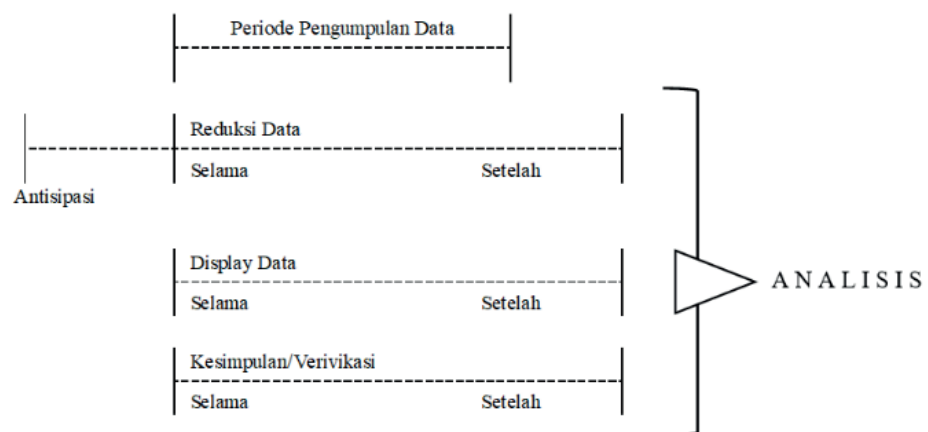
The study entitled "The Effectiveness of the PBL Learning Model in Improving Learning Outcomes in Analyzing Variations in Basketball Playing Skills of Grade X Students at SMAN 7 Central Maluku" is a descriptive research conducted with a qualitative approach. Data and facts obtained in the field will be described without manipulation.

The subjects in this study are PESH teachers at the research location. The instrument used in this research is an innovative learning assessment format with 19 assessment indicators. The data collection techniques used are (1) Observation, (2) Interviews, (3) Documentation, and (4) Triangulation/Data merging.

Meanwhile, the data obtained are analyzed using qualitative data analysis, the "Flow Model," which consists of (1) data reduction, (2) data presentation, and (3) drawing conclusions or verification [13–16]. This can be seen in Figure 1 below.

## 3. RESULTS

Based on observations conducted on the research subject identified as SGR01 during the learning process with the material of basketball, using the innovative learning practice assessment format, when the subject SGR01 implemented the Problem-based



**Figure 1:** Data Component Analysis (Flow Model). Source: [13].

Learning model in basketball learning, especially the basic technique of chest pass. The 19 assessment indicators are marked with codes K-1 to K-19, which consist of:

K-1 : The ability of the subject to perform Apperception by examining several problems related to the learning topic.

K-2 : The ability of the subject to stimulate students to recognize problems and root causes.

K-3 : The ability of the subject to stimulate students in identifying alternative solutions and choosing one alternative as the best solution (HOTs).

K-4 : The subject's ability to form effective work groups of 4-5 heterogeneous students.

K-5 : The subject's skill in using methods, models, approaches, and learning media.

K-6 : The ability of the subject to implement education with a technological, pedagogical, Content Knowledge (TPACK) approach based on the platform of the Industrial Revolution 4.0.

K-7 : The subject's skill in developing interaction variations.

K-8 : The subject's skill in utilizing time.

K-9 : The skill in organizing learning resources and teaching materials.

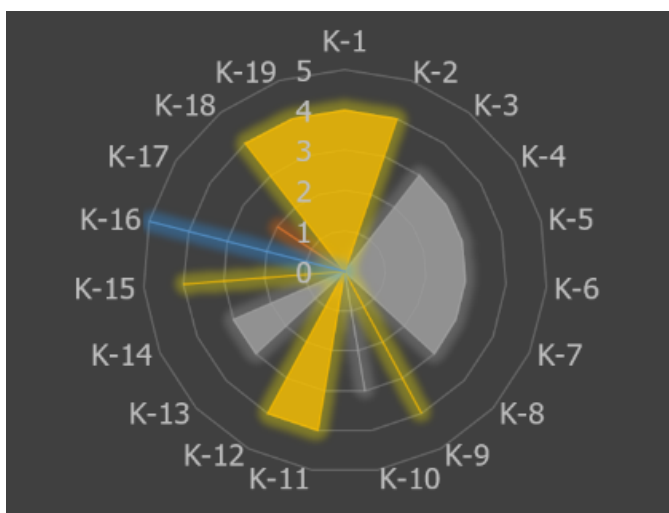
K-10 : The ability of the subject to integrate critical thinking, creative thinking, reflective thinking, and decision-making skills into learning activities through inquiry-based activities.

K-11 : The ability of the subject to manage Volume and Intonation of Voice.

K-12 : The subject's ability to use language properly and correctly, orally and in writing (according to the subjects taught).

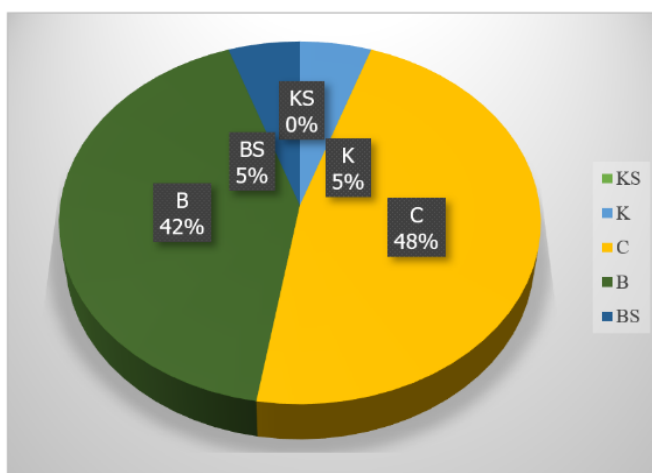
K-13 : The ability of the subject to use analogies/metaphors.

- K-14 : The ability of the subject to use non-verbal communication (gestures).
- K-15 : The ability of the subject to create a pleasant atmosphere.
- K-16 : The subject's etiquette in dressing and appearance.
- K-17 : The subject's ability to assess process and learning outcomes (Assessment of learning, assessment for learning, and assessment as learning) and utilize the results.
- K-18 : The ability of the subject to provide reinforcement and punishment.
- K-19 : The subject's skill in closing the learning process.



**Figure 2:** Capability Radar for Organizing Innovative Learning Subjects. Source: The researcher's analysis, 2023.

Based on the results depicted in the radar as shown in diagram 1 above, it can be conveyed that the subject's average ability to learn using the PBL model in Physical Education, Sports, and Health learning is 69.47% (attached assessment evidence). The above percentage can be illustrated in diagram 2 below.



**Figure 3:** Percentage of Ability Per Category. Source: The researcher's analysis, 2023.

Based on the percentage of ability per category in diagram 2 above, it can be explained that out of 19 indicators, the subject’s ability in the “Very Good” category, indicated by “VG,” is 5% or only one indicator. Meanwhile, the subject’s ability in the “Good” category, indicated by “G,” is 42% or eight indicators. Furthermore, the subject’s ability in the “Sufficient” category, indicated by “S,” is 48% or a total of 9 indicators, while the subject’s ability in the “Poor” category, indicated by “P,” is 5% or only one indicator. Therefore, based on the percentage of ability per category above, it can be elaborated as follows.

### 3.1. Excellent Category

The subject’s ability to be categorized as “Excellent” is 5%, or only one indicator: “Etiquette in dressing and appearance.”

### 3.2. Good Category

The subject’s ability in the “Good” category is 42% or eight indicators. Thus the eight indicators included in the good category are as follows:

TABLE 1: 8 (eight) Types of Subject Abilities in the Good Category.

Indicator		Description
1.	K-1	The subject’s ability to perform Apperception by examining several actual problems related to the learning topic.
2.	K-2	The subject’s ability to stimulate students to recognize problems and root causes.
3.	K-9	Skills in organizing learning resources and/or teaching materials.
4.	K-11	The subject’s ability to manage Volume and Intonation of Voice.
5.	K-12	The subject’s ability to use language properly and correctly, orally and in writing (according to the subjects taught).
6.	K-15	The subject’s ability to create a pleasant atmosphere.
7.	K-18	The subject’s ability to provide reinforcement and punishment.
8.	K-19	The subject’s skill in closing the learning process.

Source: The researcher’s analysis, 2023

### 3.3. Sufficient Category

The ability of the subject that falls into the “Sufficient” category is 48% or a total of 9 (nine) indicators, so the nine indicators included in the sufficient category are as follows:

TABLE 2: 9 (nine) Types of Subject Abilities in the Sufficient Category.

Indicator		Description
1.	K-3	The subject's ability to stimulate students to identify alternative solutions and choose one alternative as the best solution (HOTs).
2.	K-4	The subject's ability to form effective work groups consisting of 4-5 heterogeneous students.
3.	K-5	The subject's skill in using methods, models, approaches, and learning media.
4.	K-6	The subject's ability to implement education with a technological, pedagogical, Content Knowledge (TPACK) approach based on the platform of the Industrial Revolution 4.0.
5.	K-7	The subject's skill in developing interaction variations.
6.	K-8	The subject's skill in utilizing time.
7.	K-10	The subject's ability to integrate critical thinking, creative thinking, reflective thinking, and decision-making skills into learning activities through inquiry-based activities.
8.	K-13	The subject's ability to use analogies/metaphors.
9.	K-14	The subject's ability to use non-verbal communication (gestures).

Source: The researcher's analysis, 2023

### 3.4. Poor Category

The subject's ability that falls into the “Poor” category is only 1 (one) indicator, namely “Conducting an assessment of process and learning outcomes (Assessment of learning, assessment for learning, and assessment as learning), and utilizing the results.”

## 4. DISCUSSION

Physical education, sports, and health are some of the subjects students greatly enjoy. Although it is a favorite subject due to its characteristics, it may not necessarily impact students. Learning will impact students if they can cultivate a healthy and clean lifestyle based on their knowledge. In line with this, Law Number 20 of 2003 mandates three main objectives to be achieved by the Physical Education, Sports, and Health subject:

short-term, medium-term, and long-term goals. Medium-term and long-term goals lead to the achievement of short-term goals, with the main focus being on the learning process in the classroom during every face-to-face meeting. If students can achieve the learning objectives, one element of the short-term goals has been achieved.

However, this does not necessarily bring joy, as the results of Physical Education, Sports, and Health learning are carried out by professionals in the field of physical education, which professionals from different disciplines do not fundamentally understand. Current learning requires every educator, from primary to secondary and high school levels, to develop themselves professionally, creatively, and innovatively in planning and developing learning so that learning is enjoyable, challenging, and impactful for students.

Based on several research findings conducted by the researchers and team at the research site in recent years, the average subject of the study, who are professionals in the field of physical education, has not conducted the learning process following the ideal conditions expected [2–4, 17]. However, the results obtained by the subjects in this study are somewhat different from previous research findings. Based on the assessment of innovative learning conducted by the researchers and team for the subjects by applying the PBL model in PESH learning, with an average result obtained from 19 indicators of 69.47%, generally, the subjects' abilities are in the "sufficient" category. However, if viewed based on the assessment categories, namely Excellent, Good, Sufficient, and Poor, then it can be discussed as follows:

#### **4.1. Excellent Category**

So, the result obtained by the subject in the "Very Good" category is 5%, or only 1 (one) indicator, namely "etiquette in dressing and appearance." For this indicator, the subject has dressed appropriately for sports, wearing training attire, a t-shirt, and sports shoes, thus presenting an appearance that can build confidence and convince students. This is evident in the Figure 2 below. It is slightly different from the sports uniform of the students, as students in grade X (ten) are new to the school for only a few months and do not yet have a sports uniform.

#### **4.2. Good Category**

The subject's ability in the "Good" category is 42% or 8 (eight indicators). The first ability is "The subject's ability to perform Apperception by examining several actual problems





**Figure 4:** The way the subject dresses and appears in learning. Source: The researcher's analysis, 2023.

related to the learning topic.” In this indicator, the subject has conducted apperception activities well by presenting common problems in the basic techniques of basketball practice and the shortcomings that affect a basketball team if passing techniques are not performed properly.

The ability of the subject to stimulate students to recognize problems and root causes has also been done well. Through the presentation of basketball game videos that demonstrate the basic techniques taught, questions are given to the students to identify problems and root causes that align with the basic techniques taught.

For the third ability, categorized as good, “skills in organizing learning resources and teaching materials,” the subject has planned the learning process well and has prepared learning resources for the students, including instructional videos and PowerPoint presentations. However, the shortcoming is that the subject did not provide detailed materials or textbooks to the students, so the students only watched the presented videos and PowerPoint.

Next is the subject's ability to manage the volume and Tone of voice. Throughout the learning process, from start to finish, the subject's voice volume remained controlled, so even during heavy rain, the subject's voice was still audible despite the research team's position being both in front and behind the class door, making it easy for students to understand every delivery by the subject.

Furthermore, the subject's ability to use language properly and correctly, both orally and in writing (according to the subjects taught), create a pleasant atmosphere, provide reinforcement and punishment, and close the learning session.

### 4.3. Sufficient Category

The subject's ability is categorized as sufficient based on the analysis results, which is 48%, or 9 (nine) indicators. The first ability in the sufficient subject category is to stimulate students to identify alternative solutions and choose one alternative as the best solution (HOTs). The subject has not yet performed well. By presenting several solutions and some additional solutions from the subject, the subject should allow students to determine the main solution that is considered the best alternative.

Furthermore, the subject's ability to form effective work groups consisting of 4-5 heterogeneous students. In line with current learning, during the learning process in the classroom, the subject should have already distributed students into small groups of 4 to 5 students each. However, this was not done, as students only sat in their respective positions (Figure 3. a). Similarly, for practical activities outside the classroom, carried over from the classroom learning process, since students were not distributed into small groups during theoretical learning in the classroom, during practical activities outside the classroom, students were only divided into three large groups based on the number of balls. Then, these groups would utilize one ball, further divided into two sub-groups (Figure 3.b.c). However, in Physical Education, Sports, and Health Education, the principle of modification can be used, where the subject should creatively utilize additional balls, including rubber balls the same size as basketballs.



**Figure 5:** Formation of work groups in learning. Source: The researcher's analysis, 2023.

Next is the subject's skill in using methods, models, approaches, and learning media. This ability is related to the subject's skill in implementing educational learning with a technological, pedagogical, Content Knowledge (TPACK) approach based on the 4.0 industrial revolution platform. In current learning, it is important to integrate the principles of using Technological, Pedagogical, and Content Knowledge (TPACK) based on the 4.0 industrial revolution platform. The learning process utilizes PowerPoint and instructional videos as used by the research subject, as well as various technologies in various applications, such as (1) Students are provided with links to visit sites related to learning content. (2) Conducting process and learning evaluations using online platforms such as Kahoot, Quizizz, and others.

The subject's skill in developing interaction variations. The subject's skill in utilizing time. The ability of the subject to integrate critical thinking, creative thinking, reflective thinking, and decision-making skills into learning activities through inquiry-based activities. The subject's ability to use analogies/metaphors. The subject's ability to use non-verbal communication (gestures).

#### 4.4. Poor Category

The subject's ability in the "sufficient" category is to assess. This ability resulted in a 5% score. This illustrates the subject's low ability to assess during the learning process. Ideally, in the learning process, assessment should be conducted based on assessment rubrics that have been prepared beforehand in the lesson plan (RPP), which are related to attitude (affective), knowledge (cognitive), and performance (psychomotor) assessments related to basketball learning materials, so that the subject knows how many students have reached the minimum completeness criteria (KKM). Similarly, at the end of the learning, the subject must conduct an assessment to determine the overall absorption of students and to know the success of the learning implemented by the subject. Therefore, based on the assessment results of the learning process and students' outcomes, there needs to be a follow-up on the learning process that has been carried out.

However, in reality, the subject did not conduct any assessments, so there was no follow-up in remedial actions for students who did not meet the standards and enrichment for students who were deemed successful. Likewise, the subject did not know the extent of the success of the learning conducted. This is in line with the results of research conducted by the researcher and the team previously entitled (Evaluation of the Application of Authentic Assessment in Physical Education Learning at Senior High Schools in Ambon City, 2020), where the research subject never conducted the average assessment of PJOK learning, so the rubrics prepared in the RPP were only to fulfill the administrative formality of learning, but assessments were never performed in every learning process. However, assessment rubrics and evaluations of the learning process and outcomes were planned for each face-to-face meeting.

## 5. CONCLUSIONS AND RECOMMENDATIONS

### 5.1. Conclusion

Some points that are conclusions in the research entitled “Effectiveness of Problem-Based Learning Model in Improving Learning Outcomes Analyzing Variation of Basketball Playing Skills of Grade X Students of SMAN 7 Central Maluku” are:

The subject’s ability to implement the Problem-Based Learning model in Physical Education, Sports, and Health learning is categorized as “Good” with a percentage of 69.47.

The subject’s ability categories in PJOK learning are described in several categories: Excellent with 5%, Good with 42%, Sufficient with 48%, and Poor with 5%.

The fundamental issue that describes the subject’s shortcomings in the research is in the “Poor” category, namely, the subject did not conduct learning assessments either in the process or the students’ learning outcomes.

### 5.2. Suggestion

The main suggestion that can be conveyed based on the analysis results in this research is the need for development in further research, with the main focus on the development of assessment in Physical Education, Sports, and Health learning for PJOK teachers in Saparua District.

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