

Implementation of Problem Based Learning Models with Scientific Approaches in Efforts to Improve Learning Results in Chestpass Basketball Game for Class X High School Students 5 Tanjung Balai 2014-2015 Academic

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Abstract— This study aims to determine the increase in chest pass learning outcomes in basketball through the application of a problem based learning model with a scientific approach. The subjects in this study were 32 students of class X-1 of SMA Negeri 5 Tanjung Balai. This type of research is classroom action research. To obtain the data in this study, a learning achievement test I and a learning achievement test II took the form of the application of the basic technique of a Basketball chest pass as much as two meetings. After the data is collected and analyzed, the results of the analysis are obtained: (1) In the first cycle after the first learning achievement test, it can be seen that from 32 students who were the subjects in this study, only 19 students (59.38%) already had mastery learning, while the remaining 13 students (40.62%) do not have mastery learning. The average value obtained only reached 73.34. (2) In the second cycle it can be seen that apparently of 32 students, there were 27 students who completed (84.38%) who had mastery learning, while the rest 5 students (15.62%) did not have mastery learning. The average value obtained reached 80.09. Based on that, it can be concluded that using a problem based learning model with a scientific approach can improve learning outcomes of Chest pass in the basketball game for grade X students of SMA Negeri 5 Tanjung Balai in the 2014/2015 academic year.

Keywords: *problem based learning, scientific approach, chest pass*

I. INTRODUCTION

Basketball we know so far was discovered in December 1891 by Dr. James Naismith. A member of the YMCA training school in Spring Field, Massachusetts (now known as Spring College). Naismith designed basketball in response to

an assignment given by Dr. Luther Gulick, director of the physics education department, who commissioned to form a game such as soccer or lacrosse that could be played indoors during the winter.

Basketball is a game played by two teams with 5 players per team. The goal is to get a score (score) by putting the ball in the basket and prevent other teams from doing the same thing [1].

Playing time in basketball is 4 x 10 minutes, consisting of four quarters (rounds), with a rest period of 10 or 15 minutes. Basketball playing field measuring 14 x 26 meters, with a middle circle with a diameter of 3.60 m. Bounce boards measuring 1.8 x 1.2 m and 2.75 m high from the floor.

Basketball is made of leather, rubber or other synthetic materials with a circular shape and with a diameter of 74.9 - 78 cm and a ball weight of 567 - 650 grams. If the ball is reflected from a height of 1.8 meters it must be able to bounce as high as 1.4 meters [2].

Chest pass is one of the basic types of operands in basketball. The ball is held in the chest, with the tips of the fingers of both hands. The thumb must be behind the ball with the hand and the tips of the fingers spread toward the sides. The elbow is positioned close to the body. Put the foot in the triple threat position with a weight support on the back foot. Move your weight forward when stepping for passing. Extend your arms and turn your thumbs down.

To produce faster and farther passing, focus on fast weight transfer and stomping of the waist as the thumb rotates toward the floor. Continue towards the target and focus your weight

behind the passing. In chest operands, passing may not be connected. Passing is done and directed to the recipient, passing is also used in the right situation.

This chest pass is good, because it is short and effective so the ball can be given to the recipient as quickly as possible. This operand can be done for some time but not always often. If there is a sudden quick break (fast break), use the operand if the teammates are not awake. A long chest pass will slow down attacks because the ball tends to bounce [3].

Learning with a scientific approach is a learning process designed in such a way that students actively construct concepts, laws or principles through stages of observing (to identify or find problems), formulate problems, propose or formulate hypotheses, collect data with various techniques, analyze data, draw conclusions and communicate concepts, laws or principles that are "discovered" [4].

The learning process in the 2013 curriculum for all levels is carried out using a scientific approach (scientific). The learning process must touch on three domains, namely attitudes, knowledge, and skills. In the learning process based on a scientific approach, the realm of attitude takes the transformation of substance or teaching material so that students know about 'why'.

The realm of skills is to transform the substance or teaching material so that students know about 'how'. The realm of knowledge takes the transformation of substance or teaching material so that learners know about 'what'. The end result is an increase and balance between the ability to become good human beings (soft skills) and humans who have the skills and knowledge to live properly (hard skills) from students which include competency aspects of attitudes, skills, and knowledge. Learning outcomes with a scientific approach produce productive, creative, innovative and affective students through strengthening integrated attitudes, skills and knowledge.

Problem based learning is not designed to help teachers provide as much information as possible to students. Problem based learning is developed to help students develop thinking skills, problem solving, and intellectual skills; learn various adult roles through engaging them in real or simulated experiences; and become autonomous and independent learners [5].

Besides the benefits, the learning model based on the problem has advantages. The advantages of PBM as a learning model are: (1) Realistic with students' lives; (2) Concepts according to students' needs; (3) Fostering the nature of student inquiry; (4) Strong concept retention; and (5) Fostering Problem Solving capability [5].

II. METHOD

In accordance with the problems and research objectives that have been described previously, that this study intends to find out information about the problem-based learning model (Problem Based Learning) with a scientific approach to basketball chest passing in X-1 grade students of SMA Negeri 5 TanjungBalai 2014 Academic Year / 2015.

This research uses quantitative research methods with the type of classroom action research (classroom action research). This class action research is an examination of learning activities in the form of an action that is deliberately raised in a class together. The action is given by the teacher or by the teacher's direction done by the student [6].

III. RESULT

This study aims to determine the learning outcomes of basketball chest pass material through the application of Problem Based Learning Model to X grade students of SMA Negeri 5 Tanjungbalai. To answer these problems, the type of research used is classroom action research. This research was conducted in two learning cycles, each cycle consisting of one meeting. The subjects involved in the study were all students of class X-1 of SMA Negeri 5 Tanjungbalai, totaling 32 people. During this research, all students are present in class (100% attendance), this is intended to obtain accurate data and does not affect the conclusions of the research results. This research was conducted at SMA Negeri 5 Tanjung Balai in the 2014/2015 Academic Year. The test given to students is a basketball chest pass test with the application of problem based learning with scientific approaches.

TABLE I. A DESCRIPTION OF THE RESULTS OF A BASKETBALL CHEST PASS

Indicator	Pre-Test Value		Cycle 1 Value		Cycle 2 Value	
	Total	Average	Total	Average	Total	Average
Prefix Attitude	91	2,8	111	3,47	119	3,72
Implementation Attitude	86	2,7	97	3,03	105	3,28
Advance Attitude	68	2,1	75	2,34	85	2,66

TABLE II. Comparison of Learning Outcomes

Cycle	Complete	Percentage	Not Complete	Percentage	Average Value
Cycle I	19	59,38%	13	40,62%	73,34
Cycle II	27	84,38%	5	15,62%	80,09

From the analysis of the data it has been concluded that through the application of the Problem Based Learning model can improve learning outcomes of basketball chest passes in class X-1 students of SMA Negeri 5 Tanjungbalai.

IV. DISCUSSION

Basketball is one of the subject matter delivered to students in physical education learning. In teaching and learning activities students will feel bored if the learning is not as expected by students, at least physical education learning can make students feel happy. In basketball learning basically students are directed to be able to do basketball techniques correctly. One passing technique in basketball is chest pass. Chest pass is one technique that is often used in basketball

games, because this technique is easy to do and fast in mastering or maintaining the ball.

Learning that tends to be one-way and is still centered on the teacher in physical education learning is an obstacle faced in the learning process that makes most students less active in the learning process. This becomes a basis for the development of learning models that can improve student learning outcomes and make students active in the learning process.

One learning model that can overcome these obstacles is a problem based learning model. This model is a learning approach where students work on authentic problems with a view to compiling their own knowledge, developing higher level of inquiry and thinking skills, developing independence, and self-confidence.

In this study, the learning model will be integrated using a scientific approach so that it is hoped that it can improve the understanding of students' chest pass learning concepts through the practice of mastering the movements learned by direct discovery. It is hoped that the development of problem-based learning models using scientific approaches in this study can improve student learning outcomes in basketball chest pass material.

Learning through the application of learning models Problem Based Learning in the first cycle is not as expected and student learning outcomes are also still low. Then in cycle II it can be seen that there has been an increase in student activity from the previous cycle. From the test results of the analysis it was concluded that there has been an increase in basketball chest pass learning outcomes for students, especially when carrying out the attitude of implementation and continued attitude.

Improvement occurs after learning is given through the application of the Problem Based Learning model designed in cycle II which refers to reflection and experience in cycle I.

In the second learning achievement test, the average value of student learning outcomes is 80.09 with a mastery level of 84.38%, it can be seen from the scores obtained where

students are able to perform basketball chest pass techniques during the learning achievement test.

The increase in the average value of student learning outcomes is 6.75 and the classical increase is 25%. From the results of observations, learning activities carried out in cycle I and cycle II are included in both categories with an average value of 73.34 and 80.09 an increase of 6.75 per cycle. Judging from these results it can be concluded that through the application of the Problem Based Learning model can improve the learning outcomes of basketball chest passes in class X students of SMA Negeri 5 Tanjungbalai in the 2014/2015 Academic Year.

V. CONCLUSIONS

Based on the results of research and discussion it can be concluded that the application of the Problem Based Learning model with a scientific approach can improve the results of chest pass learning in the basketball game of class X students of SMA Negeri 5 Tanjung Balai in the 2014/2015 Academic Year.

REFERENCES

- [1] H. Wissel, *Basketball: Steps to Success*. Jakarta: PT Raja Grafindo Persada, 2011.
- [2] National Basketball and Association, "Official Rules of the National Basketball Association," pp. 1–62, 2008.
- [3] N. Lieberman-Cline and B. Pribadi, *Panduan lengkap bola basket untuk wanita*. Jakarta: Raja Grafindo Persada, 1997.
- [4] I. Kurniasih and B. Sani, "Implementasi Kurikulum 2013 Konsep dan Penerapan," *Kemendik. dan Kebudayaan*, pp. 1–162, 2014.
- [5] Trianto, *Mendesain model pembelajaran inovatif-progresif*. Jakarta: Kencana Prenada Media Grup, 2013.
- [6] J. A. Maxwell and L. E. Reibold, "Qualitative Research," in *International Encyclopedia of the Social & Behavioral Sciences: Second Edition*, 2015.