Journal of Elementary School Education
journal homepage: https://journal.berpusi.co.id/index.php/joese/article/view/7
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e-ISSN 2963-9484 Vol 1 No 1 September 2022 (Page: 11-17)

Problem Based Learning Model for Understanding Towards Learning Results of School Students Basketball First Medium Nurul Hasanah

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ARTICLE INFO
Keyword
Learning
Problem Based Learning
Education

ABSTRACT
This study aims to see learning outcomes using a problem based learning learning model, from the results of the research carried out it can be seen and concluded that, Based on the results above, it shows that the learning outcomes of the A1B1 group basketball material have an average pretest of 46.58 and experienced an increase at the posttest of 62.25, group A2B1 the average prestest was 46.84 and an increase at the posttest was 77.84, group A1B2 had an average pretest of 31.10 and increased at the posttest was 49. .92, the A2B2 group had an average pretest of 35.11 and an increase at the time of the posttest was 44.16. Based on the statistical analysis of the normality test carried out using the Shapiro-Wilk test in Table 14 above, it can be seen that all pre-test and post-test data for learning outcomes of basketball, physical education, health sports, come from the results of the normality test. The test data, the significance value of p> 0.05, which means the data is normally distributed. This type of research is an experiment that uses a 2 x 2 factorial design. Based on the results of the study and the results of data analysis, the following conclusions are drawn, there are significant differences in the effectiveness of the problem learning model.

Introduction

Learning in the 21st century requires students to have several higher-order thinking skills, one of which is critical thinking skills. Critical thinking skills are skills that focus on making decisions, analyzing, and evaluating problems that can be explained (Bible, 2019). Critical thinking skills are important for students to exercise responsibility and practice skills in analyzing and solving various problems. Active learning is learning that invites students to learn actively, namely those who lead learning activities (Florea & Hurjui, 2015). Active learning motivates students to participate in all learning processes, not only mentally but also physically. The 2013 curriculum creates active learning that requires the use of scientific methods in the learning process (Konopka et al., 2015). Because one approach that is considered student-centered is the scientific method. One of the characteristics of the scientific method is to encourage and inspire students to think critically, analytically, and accurately in identifying, understanding, solving problems, and applying learning materials. (Wahlstrom, 2020). One of the subjects taught at the school is Physical Education, Sports and Health. Physical Education, Sports and Health are useful topics that promote greater adherence to athletic training in learners leading to a better quality of life, health, motor skills, academic achievement or educational value (Corbin, 2020). Physical education emphasizes motor skills and physical activity as self-expression, to the extent that. hysical activity or physical activity is for purpose, decision making, etc. and can be modified in learning (Grimes, 2020). The scope of the subjects of Physical Education, Sports, and Health for the Nurul Hasanah Junior High School level are as follows: (1) games and sports, (2) development activities (physical fitness component), (3) gymnastics activities, (4) activities (5) rhythmic, (6) water activity, (7) health. (8)

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Physical education learning assessment consists of three aspects, namely in terms of cognitive, affective, and also psychomotor. Basketball is played by two teams each team is played by five players. Each team tries to put as many balls as possible into the opposing team's basket and prevent the opposing team from putting the ball into its own basket, according to the rules of the game, the ball can be thrown, bounced, rolled, pushed (Patil & Wasnik, 2020). Based on observations made by researchers at Nurul Hasanah Junior High School during learning the game of basketball, it shows. The enthusiasm of students to take part in learning is still low. In the learning process, Physical Education, Sports, and Health teachers emphasize more on passing and shooting skills which are often more monotonous, namely dribbling with friends. The teacher is limited to providing material and students accept what is conveyed by the teacher. Teachers must be able to provide effective, efficient and innovative learning to achieve the objectives or competency standards appropriately. A learning approach that expects students to think scientifically, critically, logically, and objectively based on facts. Learning Physical Education, Sports, And Health, if done using good models and methods, it will not only help the psychomotor and emotional aspects, but also the cognitive aspects of students' critical thinking. Most of the data on Learning Outcomes of Physical Education, Sports, and Health in Nurul Hasanah Junior High School Basketball Materials are still below the Minimum Integrity Standards (Minimum Completeness Criteria).

Of the 38 students, 30 students or 78.94% were below the Minimum Completeness Criteria and 8 students reached the Minimum Completeness Criteria. According to information from teachers of Physical Education, Sports, and Health, it is said that the percentage of students' free throws is weak. The fact is based on observations made by researchers to several guardians of Nurul Hasanah Junior High School students & teachers who teach Physical Education, Sports, and Health in Junior High Schools that there is parental distrust of learning Physical Education, Sports, and Health who think that learning Physical Education, Sports, and Health only make children tired and emphasize physical activity, and there is an underestimate of other subjects in learning Physical Education, Sports, And Health, which emphasizes that other subjects are more crucial, according to Physical Education, Sports, and Health, especially the subjects tested as national exams. Students also seem less motivated when participating in Physical Education, Sports, and Health lessons.In empirical studies another problem in learning from teachers is that they rarely use pictures and videos to help students understand the material, and sometimes this makes it difficult for students to understand what the teacher is saying (Schukajlow et al., 2018). Educators are required to use effective and efficient teaching materials in accordance with the characteristics and special provisions of the curriculum, so that students are interested in participating in learning. The success of the curriculum is largely due to the teachers. The teacher factor focuses on how the teacher makes a Learning Implementation Plan that is relevant to the learning model and media that will be given to students (Fitz & Nikolaidis, 2020).

The learning model is defined as a conceptual framework that describes a systematic procedure for organizing the learning experience to achieve certain learning objectives and provides guidance to student designers and teachers in planning and implementing learning activities (Chiva & Fernandez, 2022). Approaches and teaching methods that are quite varied have not been fully studied and studied by physical education teachers to support their pedagogical abilities (Jeong, 2020). The educational background and experience of teachers vary greatly, resulting in differences that occur in the implementation in the teaching and learning process carried out by physical education teachers. Pavlovic et al., 2021). To overcome these problems, it is necessary to apply a learning model that can demonstrate the movement process correctly and well in accordance with the demands of the curriculum. One of these learning models is Problem Based and for Understanding. Both learning models have their respective advantages and disadvantages. From the background that has been described, the researcher aims to see whether there is an influence from the learning model.

Research Methodology

This type of research is an experiment that uses a 2 x 2 factorial design. Creswell (2020) argues that the factorial design allows modification of the current experimental design, namely variable adjustment. Effect of treatment (independent variable) on outcome (dependent variable). This pilot study used two groups that received different treatments: problem-based learning and comprehension learning games for Understanding. The following is the study design for this pilot study.

Table 1 The Form of the Problem Based Learning Model For Understanding

Learning model	Problem Based Learning	for understanding
Height (B1)	A1. B1	A2. B1
Low (B2)	A1. B2	A2. B2

Table Design 1 Stages of the Problem Based Learning Model

A1B1: using PBL learning model with high learning motivation
A2B2: using the FU learning model with low learning motivation
A1B2: using PBL learning model with low learning motivation
A2B1: using the FU learning model with high learning motivation

Results and Discussion

The data from this study are presented as pre-test and post-test data on the results of physical education, sports, and health training in basketball material. The research process took place in three stages. In the first stage, a preliminary test was carried out to obtain initial data on the evaluation of educational motivation and learning outcomes for Physical Education, Sports, and Health basketball material on August 11, 2022. The second stage of this research activity was to conduct treatment, and the research would last for one month for 4 meetings. Pre-test and post-test data on the results of Physical Education, Sports, and Health training on basketball material are presented in Table 1 as follows.

Table 2 High Learning Motivation

No	Very High Learning Motivation					
	Problem Based Learning (A1B1)			For Understanding (A2B1)		
	Pre-Test	Post-Test	Distance	Pre-Test	Post-Test	Distance
1	58,17	64.34	5.17	56.00	85.17	30,17
2	51.67	67.50	15.83	52.50	70.48	18.34
3	51.84	63.34	12.50	50.84	75.00	24,16
4	47,50	66.77	19.17	50.84	75.00	24,16
5	46.67	55.83	9.16	46.67	77.50	30.83
6	44.33	63.44	20.01	44.17	70.84	26.67
7	44.33	63.33	20.02	43.34	78.34	35.00
8	43.33	60.00	16.67	43.33	77.50	34.17
9	43.33	63.34	20.01	40.84	84.17	43.33
10	36.67	55.83	19.16	40.84	85.00	44.16
mean	46.58	62.25	15.67	46.84	77.84	31.00
Percentage			33.64%	Percentage		66.19%

Table 3 High Learning Motivation

No	Very Low Learning Motivation					
	Problem Based Learning (A1B1)			For Understanding (A2B1)		
	Pre-Test	Post-Test	Distance	Pre-Test	Post-Test	Distance
1	58,17	64.34	5.17	56.00	85.17	30,17
2	51.67	67.50	15.83	52.50	70.48	18.34
3	51.84	63.34	12.50	50.84	75.00	24,16
4	47,50	66.77	19.17	50.84	75.00	24,16
5	46.67	55.83	9.16	46.67	77.50	30.83
6	44.33	63.44	20.01	44.17	70.84	26.67
7	44.33	63.33	20.02	43.34	78.34	35.00
8	43.33	60.00	16.67	43.33	77.50	34.17
9	43.33	63.34	20.01	40.84	84.17	43.33
10	36.67	55.83	19.16	40.84	85.00	44.16
mean	35,50	49.42	13.917	35.11	44.16	8,997
Percentage			39.20%	Percentage		25.58%

The descriptive statistics of the pre-test and post-test learning outcomes of Physical Education, Sports, and Health on basketball material are presented in Table 2 as follows.

Table 4 Descriptive Statistic

Group	Minimum	Maximum	mean	Deviation
Pre-Test A1 B1	36.67	59.17	46.58	61.18
Post-Test A1B1	55.83	67.50	62.25	3.95
Pre-Test A2 B1	40.84	55.00	46.84	5,10
Pre-Test A1 B2	41.67	44.17	49.42	3.93
Pre-Test A2 B2	25.84	43.33	35.17	5.48
Posttest A2 B2	33.33	55.83	44.17	5.95

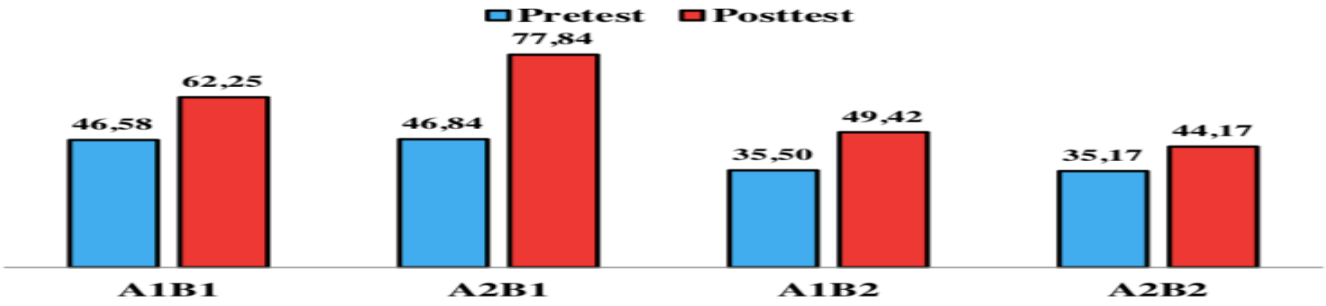

Figure 1 Pre-Test and Post-Test

Information
A1B1: Group Problem Based Learning High Learning Motivation A2B1 : Group Problem Based Learning High Learning Motivation, A1B2 : Group for Understanding Low Learning Motivation, A2B2 : Group for Understanding Low Learning Motivation

Normality test

Based on the results above, it shows that the learning outcomes of basketball material in the A1B1 group have an average prestest of 46.58 and an increase at the posttest of 62.25, the A2B1 group has an average prestest of 46.84 and an increase in the post-test of 46.84. 77.84, group A1B2 with an average prestest of 31.10 and an increase at the posttest of 49.92, the group A2B2 with an average pretest of 35.11 and an increase at the time of posttest by 44.16. The discussion of the results of this study provides further interpretation of the results of the data analysis presented. Based on the hypothesis testing, two groups of analytical conclusions were drawn. There is no significant interaction between the main factors in the form of two-factor interaction. Discussion of the results of the analysis can be described further as follows.

Group	Significance	Information
Pre-Test A1 B1	0.475	Normal
Post-Test A1B1	0.072	Normal
Pre-Test A2 B1	0.268	Normal
Pre-Test A1 B2	0.222	Normal
Pre-Test A2 B2	0.443	Normal
Psottest A2 B2	0.456	Normal

Based on the statistical analysis of the normality test carried out using the Shapiro-Wilk test in Table 14 above, it can be seen that all pre-test and post-test data for learning outcomes of basketball, physical education, health sports, come from the results of the normality test. The test data, the significance value of $p > 0.05$, which means the data is normally distributed.

Homogeneity Test

The uniformity test was designed to test the similarity of variance between the pre-test and post-test. The homogeneity criterion in this study was Levene's test. Presenting the results of the uniformity test.

F	dF1	Df2	Significant
0.726	3	36	0.543

Based on the statistical analysis of the uniformity test performed using the Wilk Levene test in the table above. From the calculation results obtained a significance value of 0.543 and 0.05.

The difference in the effect of the Problem Based Learning for Understanding (fU) learning model on basketball learning outcomes

Based on hypothesis testing, it is known that there is a significant difference with an F value of 5.318 and $p < 0.05$ between the problem based learning model of basketball learning outcomes and the learning

for understanding (fU) model. The game for understanding learning model group (fU) performed better than the problem-based learning model (PBL) group, with an average difference between the two groups of 5.2. Research resultEcheverria & Santos(2021) that the implementation of the learning model (fU) makes students' psychomotor abilities and improves badminton service skills.It's different withBrian et al., (2020) put forward that(fU) is model learning instructional which actually for find how children understand sport through ideas important from game.(fU) no emphasize learning on strategy play sport, so that learning more clear and in accordance Step formation child. Learning (FU) approach zero in addition on methodology strategic with a little notice strategy which required, play in all situation in game, expand creativity in play, speed in determine choice in game and center attention on various varieties game (Goecks et al., 2022). Methodology this will push shift direction learning which lead on enhancement nature practice which actually with destination so that destination school which actually cover field intellectual, full feeling, and psychomotor could achieved and walk with good (Low, 2020). For Understanding has a great impact on cognitive learning, pursuing to train competent learners, able to make decisions and solve tactical problems (Moşteanu, 2020). Affirming that using fU actively supports teaching and student motivation towards learning (Chang et al., 2019.As well as increasing the time of exercise for moderate and heavy physical activity, some of these factors make fU one of the main models used by sports teachers to improve the health of students.Onyema et al., 2019). Unlike a technique-oriented approach, fU contributes to increasing learners' tactical awareness and performance along with feelings of autonomy, competence, and self-efficacy in small-sided games (Darling, 2018).

Model learning fU based on six component, in process implementation that is (1) game, (2) application game, (3) awareness tactical, (4) make decision which appropriate, (5) To do Skills, (6) performance (Beal et al., 2019).Model fU develop as application practical use model learning based game six step through approach tactical technical, like which illustrated in University Loughborough in end 1960s (Nathan, 2019). for understanding other version with a number of element addition from perception cue, practice Skills and perspective learning located created as version revision fU by Kirk and MacPhail.Second version fU this emphasize on tactics and element Skills play. However, for make fU as approach training play games which more holistic, consideration must given as index key for control small intensity play games side (Smith, 2021). According toDing(2019) fU is based on four educational principles: These principles are: (2) appearance modification consisting of adapting the game according to the age or skill level of the trainee's body while maintaining a tactical structure; (3) excessive modification; This principle makes it possible to introduce new rules or change them to help you learn the main tactics. (4) Tactical difficulty, where the proposed goal should be based on the development of tactical difficulty.

Interaction of Learning Models (Problem Based Learning and for Understanding) on Learning Motivation (High and Low) in Basketball Learning Outcomes

Based on the results presented in this study, there is a significant interaction between the problem-based learning model and for understanding, as well as learning motivation (high and low) on basketball learning outcomes, with an F value of 20.123 and p> 0.05 (Bączkiewicz, 2021). The results showed that the Learning for Understanding (fU) learning model was more effective for students with high motivation, while the Problem Based Learning learning model was more effective for students with low motivation (Bataineh et al., 2019). To create quality human beings and excellent students related to physical education, sports and health, students must have good learning outcomes.Snedden et al., 2019). Learning outcomes are the maximum benchmark achieved by students after studying together within a predetermined period of time. In educational institutions, learning outcomes are an important indicator of success in the learning process. However, it cannot be denied that the level of student achievement is strongly influenced by motivation (Rafiola et al., 2020). Therefore, the higher the motivation of students, the higher the learning outcomes, learning also increases, and vice versa when motivation is low, student achievement decreases. It has been found that there are many factors that influence learning, a process of activity that changes student behavior. Among them are motivational factors that function as efforts to achieve learning outcomes. Usually, a person starts a business out of motivation. Having good motivation in the learning process will also bring good results. In other words, if you work hard and have a strong will, you will get good study results. This means that the strength of student motivation greatly determines the level of

achievement of learning outcomes (Davidescu et al., 2020). It has been found that there are many factors that influence learning, a process of activity that changes student behavior. Among them are motivational factors that function as efforts to achieve learning outcomes. Usually, a person starts a business out of motivation. Having good motivation in the learning process will also bring good results. In other words, if you work hard and have a strong will, you will get good study results. This means that the strength of student motivation will determine the level of achievement of learning outcomes. As the final product of the learning process, learning outcomes are considered capable of showing what the learner has learned and developed. The existence of Physical Health Sport Education in schools is to improve the health and fitness of all students, and equip students themselves with cognitive, emotional and psychomotor experiences. Here, the teacher must decide which learning model is right for students (Afsar & Umrani, 2019). This is because the teacher has to deal with the participants. Students with different characteristics. For this reason, educators must be creative in packaging learning materials so that students like and participate actively in every learning experience.

Conclusion

Based on the results of the study and the results of data analysis, the following conclusions were drawn. 1. There is a significant difference in the effectiveness of the problem learning model. Learning Based Learning and for Understanding (fU) on basketball learning outcomes with an F value of 5.318 and $p < 0.05$. The model for understanding (fU) group performed better than the problem-based learning model group, with an average difference between the two groups of 5.2. 2. There is a significant interaction between problem based learning and learning for understanding (fU) learning models with learning motivation (high and low) on basketball learning outcomes with an F value of 20.123 and $p > 0.05$.

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