

DEVELOPMENT OF UNDERARM PASSING IN VOLLEYBALL THROUGH TRADITIONAL GAME APPROACH

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ABSTRACT

This research is aimed to develop a model of underarm passing in volleyball through traditional game's basic movement approach. The method used for this learning method development is Research and Development (R & D) Development Method. By choosing SMPN III Parongpong in West Bandung Regency as the location of this study, this study is done through 8 stages: first, determining idea to develop; second, producing a design; third, evaluating, improving and completing the text; forth, revising a product by the expert; fifth, a prototype product done by taking product picture; sixth, prototype test, the test of subject field both in stage I and stage II test; seventh, revising a second product of which revision was done by an expert; eighth, producing a complete to be the final product. From those stages, the result of the study is gained by first stage evaluation analysis of ten products. The total respondent score is resulted with data number = 123. Therefore, effectiveness of new teaching method in total = $123 : 144 = 0,85$ or 85% from the expected criteria and based on stage II evaluation analysis by using numbered final product, the total respondent score is resulted with data number = 246. Therefore, the total effectiveness of teaching method = $246 : 288 = 0,85$ or 85% from the expected criteria to fulfill valid criteria. Based on the result of the study, it can be concluded that: (1) Underarm passing learning model in volleyball through *gatrik* traditional game approach in SMPN 3 Parongpong is needed by Physical Education teachers and improving the learning process of underarm passing effectively and efficiently. (2) Application of the developed learning model will make students more motivated in joining learning process.

Key Words: Model development, underarm passing, traditional game approach

Physical education is one of part of general education which is aimed to develop individual personality. Physical education is taught from primary education to university level by doing physical activities. Student is expected to have physical and psychological growth, motoric skill, knowledge, reasoning, appreciation of values (mental, sportiveness emotional, spiritual, and social attitude) and healthy life habituation to trigger the growth and development of balanced physical and psychological quality by joining physical education subject.

There are three important aspects which an unique contribution of physical education, namely: 1) improving students' physical fitness and health; 2) improving physical mastery; and 3) improving students' understanding in movement principle and applying it in practice.

One of activities in physical education is game. It is believed that game can develop social values, such as, togetherness, tolerance towards difference, solidarity, honesty, and accepting the strength of other teams, therefore, it can create dignified excellent people. In addition, game is one of media to make students healthy, fit, and smart.

One of forms of game sport is volleyball which has become daily lifestyle in school environment. A game cannot be separated from adequate facility and infrastructure to facilitate interest and talent of students who like volleyball game.

Passing in volleyball is one of indicators of sub basic competence. By teaching students to practice basic movement of simple big ball game with

modified rule by developing values of cooperation, sportiveness, and honesty, the implementation has to refer to the purpose of physical education, among others, by developing the skills of self-management to improve movement skill through various chosen physical activities and sports. Besides, to understand the concept of physical activity and sport in clean environment to achieve perfect physical growth, healthy lifestyle and fitness, be skillful, and have positive attitude.

Underarm passing is very important for children because it is the very basic movement in volleyball game. Underarm passing is used to receive serve, spike which is directed strongly, short balls, and balls coming directed to the net. Besides, at teenage level (and in emergency situations for all levels), underarm passing can be used to give passing to attacker. Especially, when passing to tossed is too low to be passed by using overhead passing. Underarm passing is the most common passing type in volleyball, all players must learn the way to do underarm passing because students will rotate over all positions in the field.

1. How does the form of development model of underarm passing in volleyball game through basic movement of *benthik* traditional game approach become effective in physical education learning for students in SMPN 3 Parongpong?
2. How far is the effectiveness of underarm passing development model in volleyball game through basic movement of traditional game approach in physical education learning for students in SMPN 3 Parongpong?

Underarm passing model of volleyball through traditional game approach is a set of underarm passing learning model which consists of learning components based on 2013 curriculum and various passing games using stick modified in situational game which is similar to one faced in competition.

***Benthik* Lesson 1**

a. Lesson

Throwing a ball by using stick from *benthik* base.

b. Purpose

To make students get used to do underarm passing by straitening feet.

c. The way to do it

Poke the ball over with half squat position and slightly sloping feet.

Then, straighten feet and let the ball bounced right to the target.

***Benthik* Lesson 2**

a. Lesson

Passing ball towards *Benthik* base.

b. Purpose

To make students get used to do underarm passing by straightening feet.

c. The way to do it.

Throw the ball over with half squat position and slightly sloping Feet .
Then, straighten Feet and let the ball bounce again after hitting *benthik*
base.

***Benthik* Lesson 3**

a. Lesson

Ball management.

b. Purpose

To make students get used to manage and anticipate underarm passing
movement both to the left and right or straight.

c. The way to do it

Ball is passed by both arms in the same time with doing wide step
forward.

Underarm passing is an effort of a player to give passing to tosser, by
using the inside part of underarm. The use of this underarm passing technique is
to receive ball serve from opponent, to receive ball from opponent in form of
smash, to return ball after blocking or ball bouncing on the net, to save ball
which sometimes bounces far from the field, and to return low ball which comes
all of sudden. (ASEP, 2008 : 82)

In order to ease in controlling and giving a ball, underarm passing
technique and body parts involved in underarm passing technique to be more
coherent starts from preparation, execution, and follow through stages.

1) Foot

Foot consists of thigh, knee, and leg. It has a role to give body balance on the contact or it helps hand swing when doing underarm passing.

2) Body

Body has a role to give body balance on the contact or it helps hand swing when doing underarm passing.

3) Arm

Arm is a part which becomes contact to the ball and helps arm swing and feet movement when doing underarm passing in order to be a set of movements.

METHOD

The study of passing model development in volleyball through basic movement of *Benthik* traditional game for junior high school students is a process to develop and validate learning product. Research and development in this research use Research & development (R & D) development model from Borg and Gall (Coker, 1983) which consists of ten stages, namely: (1) Doing research and information collection (literature review, subject observation, preparation of main problem report; (2) doing planning (defining skill, determining purpose, determining teaching order, and small scale test); (3) developing the form of early product (teaching material preparation, textbook writing and evaluation equipment); (4) doing early field test (using 6 - 12

subjects); (5) doing revision of main product (based on suggestions from early field test result); (6) doing main field test (with 30-100 subjects); (7) doing product revision (based on suggestion and test result of main field); (8) field test of 40-200 subjects; (9) final product revision; (10) making report about product in a journal, working with publisher that can do commercial distribution.

(1) Firstly, ideas are determined to develop, by collecting information as thinking basis to make a concept. (2) This evaluation is done to improve and complete the text that has been made. (3) Product revision I, revision is done by the related an expert. (4) Prototype product, done by taking product picture by audio-visual (video) media. (5) Prototype test, the test towards field subject both in stage I and stage II tests. (6) Second product revision, revision is done by expert to achieve perfect result. (7) Reproduction, product completion to be the expected final product in development.

RESULT

Evaluation data from 12 respondents/students towards effectiveness of old teaching method is shown in table 1 and new teaching method is shown in table 2 as follows:

To calculate the average of effectiveness of old and new methods, at first, ideal criteria score to determine the working system.

Ideal score = $1 \times 3 \times 4 \times 12 = 144$ where,

1 = highest answer score

3 = movement stages (initial attitude, follow movement, final movement)

4 = number of questions

12 = number of respondents

Then, ideal score of every number of instruments = $1 \times 4 \times 12 = 48$ where,

1 = highest answer score

4 = movement stage

12 = 12 respondent number

Based on table 1, the number of data achieved = 72. Therefore, the total effectiveness of old teaching method = $72 : 144 = 0,50$ or 50% from the expected criteria.

To calculate the average of new and old method effectiveness, at first, ideal criteria score must be determined for the working system.

Ideal score = $1 \times 4 \times 3 \times 12 = 144$ where,

1 = highest answer score

3 = three movement stages (initial attitude, follow movement, final movement)

4 = four instrument items

12 = respondent number

Then, ideal score of every instrument number = $1 \times 4 \times 12 = 48$ where,

1 = highest answer score

4 = movement stage

12 = 12 respondent number

Based on table 2, the number of data obtained = 123. Therefore, the total effectiveness of new teaching method = $123 : 144 = 0,85$ or 85% from the expected criteria.

To prove significance of old and new system difference, it is needed to be tested statistically by correlated t-test. The used formula is as follows:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2} - 2r \left(\frac{S_1}{\sqrt{n_1}}\right) \left(\frac{S_2}{\sqrt{n_2}}\right)}}$$

Where:

\bar{x}_1 : average of sample 1 (old working system)

\bar{x}_2 : average of sample 2 (new working system)

$$S = \frac{\sum_{t=1}^N (x_1 - \bar{x})^2}{n-1}$$

s_1 : standard deviation of sample 1

s_2 : standard deviation of sample 2

S_1^2 : sample 1 variant

S_2^2 : sample 2 variant

r : correlation between two group data

$$r = \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}}$$

In this study, hypothesis is formulated as follows.

H_0 : effectiveness of new teaching method is less than or similar to old teaching method.

Ha : effectiveness of new teaching method is better than old teaching method.

$$H_0 : \mu_1 \leq \mu_2$$

$$H_0 : \mu_1 > \mu_2$$

Test with t-test correlated with right side test. Using right side test because alternative hypothesis (Ha) sounds "better".

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2} - 2r \left(\frac{S_1}{\sqrt{n_1}} \right) \left(\frac{S_2}{\sqrt{n_2}} \right)}}$$

$$t = \frac{0,811 - 0,280}{\sqrt{\frac{0,884}{12} + \frac{0,666}{12} - 2.0.393 \left(\frac{0,942}{\sqrt{12}} \right) \left(\frac{0,816}{\sqrt{12}} \right)}} = -15.397$$

To make decision, whether the difference is significant, t value is needed to be compared with t table value with dk $n - 2 = 10$. For right side test with the error rate 5%, t tabel value = 1,812, t value in Ha reception area, Ha states that new teaching method is better than old teaching method. Based on calculation, t value – 15.397 in reception Ha or rejection Ho. Therefore, it can be concluded that there is a significant difference between new and old method effectiveness, which the new teaching method is more effective than old teaching method.

To calculate the average of this method's effectiveness, the same way is done by calculating the average of this method's effectiveness., namely:

$$\text{Ideal score} = 1 \times 3 \times 4 \times 30 = 360 \text{ where,}$$

1 = highest answer score

3 = three movement stages

4 = four instrument items

30 = respondent number

Then, ideal score of every instrument item = $1 \times 4 \times 30 = 120$, where:

1 = highest answer score

4 = four instrument items

30 = 30 respondent number

The total effectiveness of teaching method = $310 : 360 = 0,86$ or 86% from the expected criteria.

Since 24 students get ≥ 80 scores (very good) and 6 students get 60-70 scores (good, underarm passing material is mastered by students.

DISCUSSION

Learning model development of basic movement underarm passing for junior high school students is written in form of storyboard script which presents forms of volleyball learning model in form of lesson modified by basic movement underarm passing which is applied for junior high school students. The result of second stage test is 85% of the expected target.

It means this model is effective to fulfill learning need of underarm passing in volleyball for junior high school students. The product of this development is the development of underarm passing through traditional game

approach which can be used as teaching model by junior high school teacher. In its usage, it needs the consideration of situation, condition, facility, and infrastructure.

CONCLUSION

Based on the obtained data from the result of field test and discussion of study result, it can be concluded that:

1. Development of underarm passing through the approach of traditional game make students able to learn effectively and efficiently.
2. It can be concluded that there is a significant difference between new and old teaching method, where new teaching method is more effective than old teaching method.

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