Development of Training Model Under Passing Skill of Volleyball Athletes

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ABSTRACT

The aim of this research is to develop a training model for under passing technique. The design of the model will be developed through the following steps: 1) to conduct a preliminary research consisting of potential problems, data collection and needs analysis study, (2) to develop the learning model design, (3) to test, gather expert evaluation, and conduct product revision, and (4) finally, implementation of the model. This is a true experimental research design using questionnaires to obtain the data. The trials data was collected from questionnaires from volleyball athletes of SUMBAR which is divided into (1) small group trials consisting of 12 athletes, and (2) larger group trials consisting of 24 athletes. To know the effectiveness of this forearm passing volleyball training model, the True Experimental Design (Pre Test-Post Test Only Control Design) method was performed by the researchers. Based on the results of the analysis, it was found that the expert validation involving three volleyball experts showed percentage value of 89.20% for forearm passing skill, so that this model is suitable to be used in Volleyball Club of Sumatera Barat. Then, the validation of three West Sumatra volleyball coaches showed percentage value as much as 79.72%, so the forearm passing learning model is worthed to use. In addition, the tobserved of experimental group was 4.13 > in which the ttable was 1.86, Thus, the developed forearm passing learning model showed significant influence. It means that the learning odel can improve passing skill of volleyball athlete in Sumatera Barat.

Keywords: Training model under passing skill, volleyball

1. INTRODUCTION

One of achievement sport is volleyball. The volleyball sport is one of the most popular sports, because this game is not difficult to learn nor does it cost a fortune. Besides, it can be played by anyone, whether the youth, adults or elder people, because this game provides recreational situation for anyone. In developing volleyball achievement sport, it needs a serious coaching, tiered and sustainable. In order the guidance and development of this sport to run well as desired, it needs several efforts to do. One of them is to pay attention to the physical condition and the ability to master the techniques in volleyball. According to Erianti (2004: 103), a technique is "a way to perform or implement something in achieving certain goals effectively and efficiently".

The purpose of this coaching is to create well-achievement athletes. Athletes will not be able to be excellent if the coaching is not done well. There should be mutually supportive cooperation to achieve such goals. If there is no cooperation between one element and other elements in training process, then the goal in coaching cannot be achieved, as well as in guiding the athletes. Therefore, the coaching of volleyball athlete is a way and effort that is done regularly, systematically and directed to improve and create an athlete who is excellent. In addition, there are a lot of things and factors that support how the coaching is done.

Faridha (2010: 4) explains that the basic volleyball technique consists of various movements. Movement means here is a movement with the basic technique which is done correctly. The mastery of volleyball basic techniques includes: service, passing, smash, and block. Of the four basic techniques, one that can not be ignored is the passing which is the ability to notice and anticipate the opponent's attacks in order to hold an accurate, precise and active defense.

In a volleyball game, the dominant technique used in the game is the forearm/bump passing technique. Yunus (1992: 122) says "forearm passing is a technique in a game of volleyball whose goal is to pass the ball to a place or to one's own friends in one team, to be played back and can also be said to be the first step to arrange an attack pattern on the opposing team ". Thus from the description above, it is clear that the forearm passing technique in a volleyball game is important to be mastered by an athlete. Beside being the first step to arrange the attack pattern, the forearm passing is also useful to defend the team from the opponent's attack because the ball comes roughly and is difficult to handle by using overhand passing, so it must be received by forearm passing.

Table 1. subject selection criteria

No	Research Steps	Total of Subject	Criteria	Instrument	No
1	Preliminary Study	1	1 coach Volleyball athlete	Interview Observation Pretest	1
2	Expert Evaluation	3	1 coach 2 lecturers/volleyball coaches	Questionnaire sheet interview	2
3	Evaluation of Instrument	2	2 lecturers/volleyball coaches	Questionnaire sheet interview	3
4	Small group try-out	12	Volleyball athletes of Sumatera Barat	15 kinds of forearm passing exercises	4
5	Field try group	24	24 of Volleyball athletes of Sumatera Barat	15 kinds of forearm passing exercises	5

There are some factors that influence how someone masters the skill of forearm passing. They are agility, endurance of arm muscle strength, hand-spinning of the ball, hand-eye coordination, technique or method of ball reception, arm swing, view on receiving ball, hand position and sensitivity controlling the ball. A low achievement of the volleyball game is a serious problem in PBVSI of West Sumatra. The failure of SUMBAR volleyball team following PON event in Riau and Bandung on 2016 are the proofs that the achievement is still very low. There are several factors that allegedly affect this low achievement, but the main factor dominantly influence is the low ability to do forearm passing. This can be seen from several matches in Pre Pon event when the athletes seemed unready to receive the ball at playing or at doing the exercise. It is important because the ball does not come right in front of those who accept the pass. To solve this phenomenon, the researchers are interested in providing solutions in the form of developing the forearm passing learning model. So the researchers conducted a study entitled: "Developing of Forearm Passing Learning Model to Volleyball Athletes in West Sumatra."

2. METHOD

This study used research and development method proposed by Borg and Gall (772: 1983) consisting of 10 stages. namely: Need analysis, planning, Developing Preliminary Form Of Product, Preliminary Field Testing, Main Product Revision, Main Field Testing, Revision of Product, Operational Field Testing, Final Product Revision, Dissemination and Implementation.

However, not all of the steps of research and development model are dot by the researchers, because of the limited cost and time available. The steps of this study are carried out in 4 stages: (1) preliminary study to find out the potential problems, data collection and needs analysis, (2) planning of learning model development, (3) testing, expert evaluation, and product revision, and (4) model implementation. The target in this study was the volleyball athletes of West Sumatra. The sample was taken by using total sampling, which means that all subjects were all taken. The number of subjects and subject selection criteria are described in the following table 2:

3. RESULTS

Table 2. The Frequency distribution of forearm passing using individual methods

No	Interval	Absolute Frequency	Relative Frequency(%)	Category
1	49 – 53	3	33.33	Very Good
2	44 – 48	1	11.11	Good
3	39 – 43	3	33.33	Fair
4	34 – 38	-	-	Poor
5	29 – 33	2	22.22	Very poor
	Total	9	100	

Model Feasibility Test From expert validation, the result showed that the percentage value was 89.20% for forearm passing skills. Thus, the forearm passing practice model is worthy to be used in Volleyball Club of West Sumatra. While the validation of the three West Sumatra volleyball coaches showed the percentage value as much as 79.72%, so the model is worth using too. The expert validation results were tested on UNP volleyball athletes in small group trials and large group trials with the following results: 1) it was stated that the variations of this model has a good purpose for improving skills, 2) variations of this model have good quality to improve the forearm passing skill in volleyball, 3) variation of the model is not monotonous, 4) Variations of this model are arranged based on the principle of practice that is from easy to difficult, 5) variations of this model have a good appeal to the West Sumatra volleyball players.

Model Effectiveness Test

To know the effectiveness of this model, the researchers used True Experimental Design (Pre Test - Post Test Only Control Design).

Data Description
Individual training group
The pre-test

for group using individual methods was performed by the samples by doing forearm passing to the wall for

60 seconds. The highest score was 52 and the lowest score was 24. The scoring distribution yielded a mean of 39.22 and the standard deviation was 8.95. The data distribution can be seen in the table 3:

Table 3. Frequency distribution of forearm passing using individual methods

No	Interval	Absolute Frequency	Relative Frequency (%)	Classification
1	48 – 53	2	22.22	Very Good
2	42 – 47	1	11.11	Good
3	36 – 41	3	33.33	Fair
4	30 – 35	2	22.22	Poor
5	24 – 29	1	11.11	Very Poor
	Total	9	100	

Table 4 Summary of normality test results

No	N	Pre-test		Post-test		Note
		Lo	Ltabel	Lo	Ltabel	
1	9	0.131	0.271	0.139	0.271	Normal

Based on the frequency distribution data above, from 9 UNP volleyball athlete, there were 2 respondents or 22.22% were in very good category, 1 respondent or 11.11% were in good category, 3 respondents or 33.33 % were in fair category, 2 respondents or 22.22% were in poor category, and 1 respondent or 11.11% were in very poor category.

Post-test

The results of these measurements showed that the highest score was 53 and the lowest score was 29. Distribution score yields mean score was 41.77 and the standard deviation was 8.51. The data distribution can be seen in the table below:

Based on the frequency distribution data above, 3 respondents or 33.33% were in very good category, 1 person or 11.11% respondent were in good category, 3 respondents or 33.33% were in fair category, and 2 respondents or 22.22% were in very poor.

Prerequisite Test Data analysis
Data Normality Test

In this study, the data was firstly tested its normality to know whether it is normally distributed or not. This test used Liliefors test and the hypothesis are:
If: Ha = Lobservation < Label then the data is normally distributed
Ho = Lobservasi > Ltabel then the data is not normally distributed

The normality test of individual exercise group variables and paired exercise group was analyzed by Lilliefors test statistic with the significance level used as the basis for rejecting or accepting the normal decision whether or not a data distribution is $\alpha = 0.5$.

3.3.2 Data Homogeneity Test

Homogeneity test was done by variance test. This requirement is concerned to show that the data has a diversity or similarity of variance. It means that the population data variance is the same and the data in a homogeneous state. The summary of test results of the similarity of variance is presented in the following table 5:

N	Pre-test		Post-test		Note
	Fobserved	Ftable	Fobserved	Ftable	
9	1,01	3,34	1,01	3,34	Homogenous

Based on the above table, it can be seen that between the pre-test and the post-test, it was obtained that Fobserved <Ftable, so it can be concluded that both groups of samples are homogeneous.

3.3.3 T-Test

After the test of the normality and homogeneity are completed, the next step is to test the model of passing ability under the statistical t-test. The calculation results is served in the table 6:

Data	N	Individual Training Group		
		Tobserved	Ttable	Ha
Individual	9	4,13	1,86	Accepted

Based on the table above, it is known that the $t_{observed}$ of the experimental group was 4.13 which is higher than t_{table} 1.86. Thus, the forearm passing learning model developed has a significant influence. It means that the model can improve forearm passing skills of West Sumatra volleyball players.

4. CONCLUSIONS

Based on the results, it can be concluded that this exercise model is: Effective, it means that the exercise model is applied according to the actual match situation, like Games Like Match

1. Efficient, this model is based on principles that exist in the phases of Volleyball play
2. Useful, because this model can be a reference for coach of SUMBAR Volleyball athletes in providing exercise program.
3. Simple and easy to understand, practice material viewed in terms of ease of doing, variations, suitability, and benefits of the exercise itself.

4. An interesting model, the exercise should be interesting, the product is also packed inside a module and a video modeling of forearm passing skills to make it easy to understand.

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