

The Effect of Net Play on Forearm Passing Ability on Junior High School Level Inclusion Schools

Diajeng Tyas Pinru Phytanza¹, Erick Burhaein^{2,*}, Carla Cristina Vieira Lourenço³, Alek Andika⁴

¹Department of Special Education, Faculty of Education, Universitas Negeri Yogyakarta, Yogyakarta, 55281, Daerah Istimewa Yogyakarta, Indonesia

²Department of Sports Education, Faculty of Teacher Training and Education, Universitas Ma'arif Nahdlatul Ulama Kebumen, Kebumen, 54316, Jawa Tengah, Indonesia

³Department of Sport of Science, Faculty of Human and Social Sciences, University of Beira Interior, Covilhã 6201-001, Portugal

⁴Department of English Education, Faculty of Teacher Training and Education, Universitas Ma'arif Nahdlatul Ulama Kebumen, Kebumen, 54316, Jawa Tengah, Indonesia

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Abstract This study aims to determine the influence of net play on forearm passing ability in inclusion school students at the junior high school level. The design of this study is a Group Pretest-posttest design. The participants of this study were obtained using a random sampling technique, namely male students who took part in volleyball extracurricular in an inclusion school totaling 25 students. The instrument used is the forearm passing ability test. Data analyses used descriptive statistics and t-tests. The results showed that the t-count value of 5.047 versus t of table 2,060 (df = 25) at a significance level of 5% because t count is greater than the t-table, there is a significant difference. Judging from the average value, the average pretest value = 30.12 and the posttest average value = 34.87, then the effect of increasing the Forearm passing ability through the net game practice method is = 4.75 or 15.77%. The contribution of this research is to the next researcher so that in researching can pay attention to the things that are within the limitations of this study and develop net game methods and other methods to improve the ability to pass down.

Keywords Net Games, Inclusion, Junior High School, Volleyball, Disability, Non-Disability

1. Introduction

Inclusion schools are schools that also provide education for children with special needs. In this school, whether the child with special needs or not, will study in the same class and receive a similar education [1–3]. The inclusion school also provides training in the field of sports the sport of volleyball. Extracurricular volleyball activities in inclusion schools generally have many challenges and do not go well because of the obstacles faced by students, one of which is the interest in volleyball [4–6]. Students' interest in volleyball is still lacking, it can be seen in students who rarely go to extracurricular exercises volleyball; therefore, students need to be given motivational direction about the importance of achievement so that practicing extracurricular volleyball is more enthusiastic and earnest [7–9].

The extracurricular program of the inclusion school that wants to form a volleyball team, then the school will hold a basic ability test volleyball for all students. The basic ability test to play volleyball is given to students (disabled & non-disabled) who take part in extracurricular volleyball which aims to find out the extent of the basic ability of students who take part in extracurricular volleyball playing volleyball [10–12], in addition to the ability test to select or

attract students who are talented in playing volleyball and to form a school volleyball team [13–15].

Inclusion schools certainly have the same expectations as schools in general, namely having a reliable team in the field of volleyball, this is because in previous years they rarely won in competitions between schools or organized by the local government [16–18]. The decrease in the achievement of the volleyball team is partly due to the decrease in the ability of volleyball technique, especially in the forearm passing ability.

Forearm passing is passing by using both straightened arms to lift the ball low, and to pass the ball played to his teammates [19–21]. The forearm passing ability is one of the basic techniques that volleyball players must master, with good forearm passing certainly affecting the player's volleyball game.

Based on the results of previous studies, it is known that students' interest in participating in volleyball extracurricular activities is quite low [22,23]. This is because the school is far from sports facilities, especially volleyball courts [24–26]. Statistical data show the average attendance is at 70-75% for those who are absent there are 25-30% every day of Training below the total number of teams. A fairly large number of 25-35% is a form of motivation for students to participate in extracurricular volleyball. Based on the observations of researchers in inclusion schools, it was found that volleyball extracurricular activities were organized with a less varied exercise program.

It is important that during volleyball extracurricular activities, students be seriously active in attendance to follow the exercise program given by the volleyball extracurricular coach [27–29]. Students who are not serious about practicing tend to be bored and saturated with monotonous exercise programs and tend to be less varied [30–32]. The low level of motivation naturally affects the level of volleyball ability, especially on the forearm passing technique. So there needs to be a new method to increase interest that directly impacts volleyball skills, especially the ability to pass the forearm.

Net games are one of the methods to improve the passing ability of the forearm which is also a variation of Exercises to increase student attendance participation in practicing [33]. Based on the results of interviews with several inclusion school volleyball coaches, there has never been a test of forearm passing ability through the net game method on students participating in volleyball extracurricular participants in inclusion schools at the junior high school level. Thus, the search for the results of the survey and the observations of researchers based on reality, the researchers are interested in researching the "Effect of Net Play on Forearm Passing Ability in Volleyball Extracurricular Participants in High Schools".

2. Materials and Methods

2.1. Research Method

This type of research is experimental research. This study aims to prove the Effect of Net Play on Forearm passing Ability in Volleyball Extracurricular Participants in inclusion schools. The design used in this study is one Group Pretest-posttest design [34–36]. The designs in this study are as follows in Figure 1.

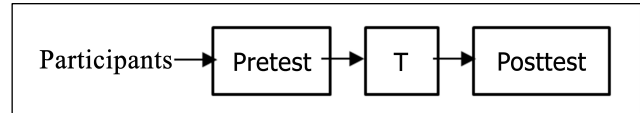


Figure 1. Research Design

Information:

Pretest: initial tests are carried out before the subject gets treatment.

T: the first treatment using the net game practice method

Posttest: the last test was conducted after the subjects received the experimental treatment.

2.2. Participants

Participants of this study paid attention to the existing population. The population is a generalization area consisting of subjects/objects that have certain quantities and characteristics that the researcher sets out to study and then draws conclusions. This study used random sampling techniques in determining participants [34,37]. Random population selection will reinforce the outcome of the impact of net play on forearm passing ability. Based on these provisions, the participants of this study were all male students who participated in volleyball extracurricular in inclusive schools totaling 25 students.

2.3. Instruments

The instrument in the study is the test forearm passing [6,26]. The instructions for instruments in this study are as follows in Figure 2.

a. Testing Officer

The testing officer consists of 2 people, each of who serves as follows:

- 1) Test Officer I: Free standing near the test taker's area. Calculates the time for 60 seconds. Giving aba-aba. Observe the feet of the test taker if out of the area.
- 2) Test Officer II: Standing on a bench/box. Counting the correct Passing down.

b. Test Execution

- 1) The test taker stands in the middle of the area measuring 4.5 x 4.5 m.
- 2) To start the test, the ball was inflated by the test taker himself, after hearing the aba-aba testing the testing officer.
- 3) To start the test, the ball was inflated by the test taker himself, after hearing the aba-aba from the testing officer.
- 4) If the test taker fails to do the forearm passing and the ball goes out of the area, then the test taker immediately takes the ball and resumes the forearm passing back.
- 5) If both test takers' legs are outside the area, then the testing officer orders that the test taker immediately returns to the area, and the ball reflected when both feet are outside is not counted. Forearm passing is only done 1 chance.

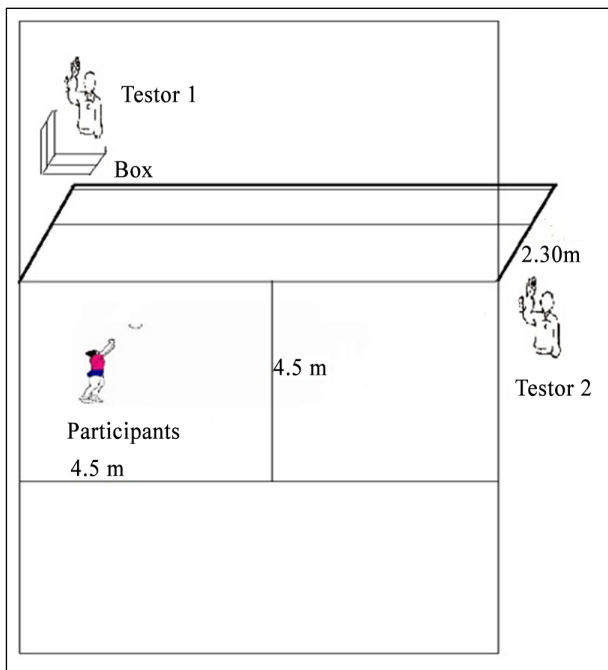


Figure 2. Forearm Passing Test

2.4. Data Collection Technique

The data collection technique in this study used the forearm passing test. The data that will be collected in this study are pretest data for conducting a forearm passing test before the sample is given treatment, and Post-test data after the sample is given treatment using the net game exercise method. The training program is carried out three times a week for 16 meetings, namely Tuesdays, Thursdays, and Saturdays, for about 1.5 hours. In this study, the sample performed net game exercises (the net game I and net game II). The full net game practice program (net I game and net II game) can be seen in Figure 3 & 4.

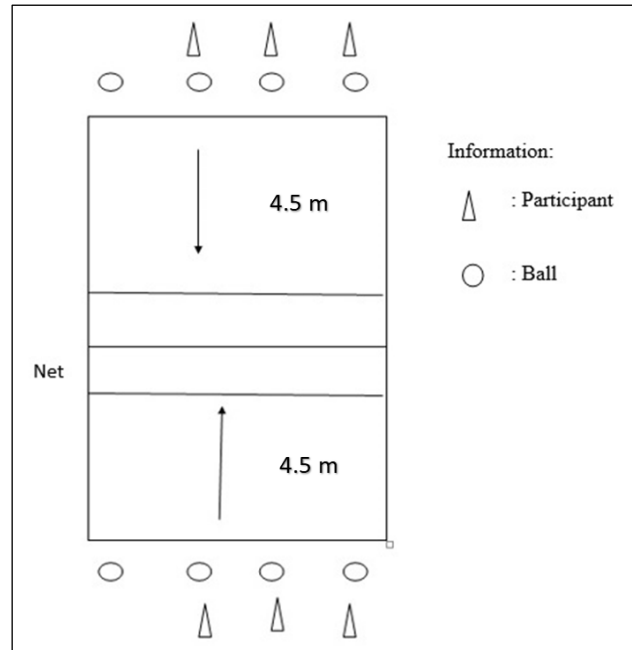


Figure 3. Net game (1) treatment

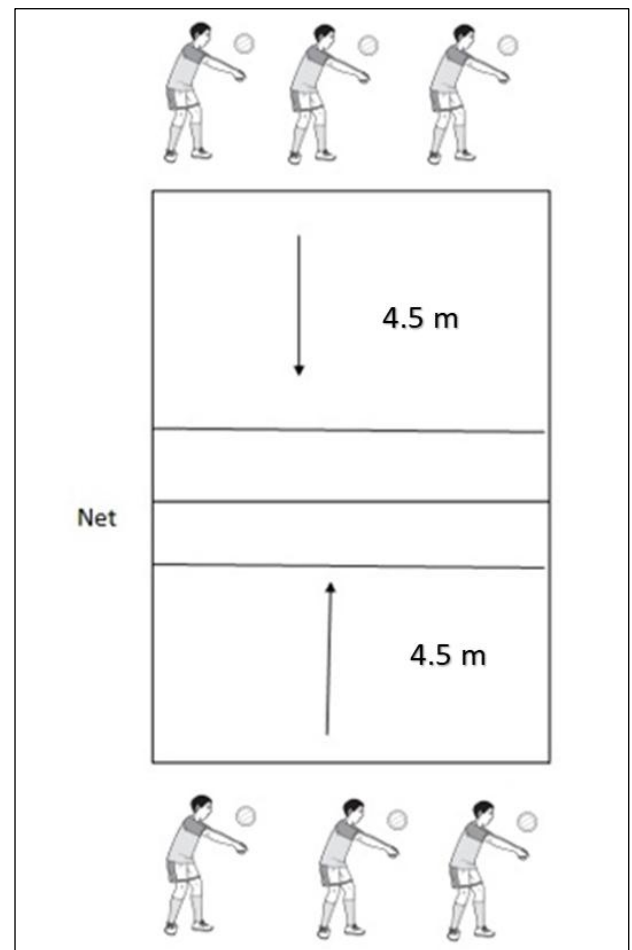


Figure 4. Net game (2) treatment

1. Net Games I
 - a. Each of the students threw the ball over the net with a total of 4 existing balls, followed by the students in the next field throwing each other and returning the ball thrown into their area.
 - b. The ball that runs out first then becomes the winner.
2. Net Games II
 - a. In essence, it is the same as the first game, starting with the beginning of bouncing the ball on the ground first and then passing down.
 - b. Make a bottom pass until the backline of the opponent's game.

2.5. Data Analysis

This study used an experimental method. Analysis of research data was carried out by comparing pretest and posttest data after being given treatment. If the calculated value of t is smaller than the value of the table, then Ha is rejected and if the value of the -count is greater than the t-table then Ha is accepted [38–40]. The formula used in this study is a paired t-test.

$$- test = \frac{\bar{D}}{S_{\bar{D}}}$$

Information:

\bar{D} = Average calculates the difference between the two pairs

$S_{\bar{D}}$ = standard deviation between the two pairs

3. Results

3.1. Descriptive Statistical Data

Descriptive data in this study is presented in two forms. The data is the pretest, posttest, and the difference in the increase from forearm passing of volleyball test results. The pretest, posttest, and difference in increases can be observed in Table 1 and Figure 5.

Table 1. Frequency of Pretest and Posttest Comparison Data

Descriptive Data	Pretest	Posttest
Mean	30.12	34.87
Median	31.50	36.50
Mode	31.00	39.50
Std. Dev.	6.55	7.23
Min.	21.50	25.00
Max.	44.00	48.00

The description of research data serves to facilitate the research that has been carried out. The description of the research data includes pretest and posttest data from the

experiments carried out. This subchapter will be presented one-by-one research data, from pretest and posttest data from the experimental group in improving the ability of forearm passing through the net game practice method.

The pretest of improving the Forearm passing ability through the net game practice method has the data descriptive. This data is a minimum value of 21.50, a maximum value of 44.00, an average of 30.12, a median of 31.50, a mode of 31.00, and a standard deviation of 6.55. The Posttest for improving the ability of Forearm passing through the net game practice method has a minimum value of 25.00, a maximum value of 48.00, an average of 34.87, a median of 36.50, and a mode of 39.50, and a standard of deviation 7.23.

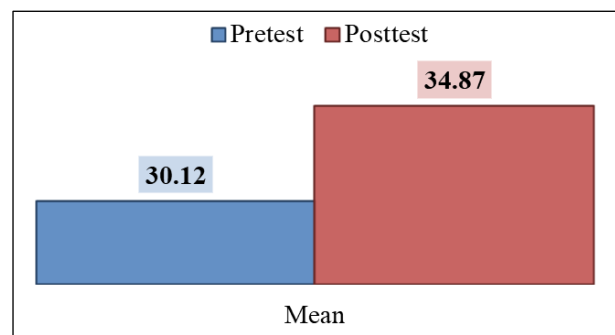


Figure 5. Histogram of comparison of the average of the pretest and posttest

3.2. Data Testing

Hypothesis testing was carried out to determine the improvement of the forearm passing ability through the net game practice method. Test the hypothesis using a t-test whose results can be seen in table 2.

Table 2. Results of Hypothesis Test Calculations

Variable	T-test			Information	
	t-count	t-table	df		
pretest - posttest	5.047	2.060	25	0.000	Significance

Note: t = t-test; df = degree of freedom; sig. = signification

Based on theoretical studies, a hypothesis can be found as follows: "There is an increase in Forearm passing ability through the net game practice method in students participating in extracurricular volleyball in inclusion schools. The rule used to determine the presence or absence of significant differences is that if the calculated value of t is greater than the t-table, then Ha is accepted and if the significant value of t-counts is less than the t-table, then Ha is accepted.

Based on the results of the variable statistical test obtained the t-test value between the pretest and posttest of the increase in the ability of Forearm passing through the net game practice method which has a t-count value of

5.047 compared to t-table 2,060 (df = 25) at a significance level of 5%, because the t count is greater than the t-table then there is a significant difference. Judging from the average value, the average value of the pretest = 30.12 and the average value of the posttest = 34.87, because the average value of the posttest is greater than the average value of the pretest, the effect of increasing the ability of Forearm passing through the net game practice method is = 4.75 or 15.77%.

4. Discussions

Volleyball is a game on a square court measuring 9x18 meters consisting of two teams of 6 people each volleying in the air and passing the ball on the net or net with the intention of dropping the ball inside the opponent's court in search of victory [19,41,42]. To get victory in the game of volleyball a player must master all the basic techniques of volleyball, one of which is volleyball passing.

The provision of good technical and physical exercises can be achieved through programmatic and regular exercises. Good technique abilities result from good basic motion training as well as good physical skills will be obtained with proper training [43,44]. The forearm Passing ability must be mastered by a volleyball player because this technique is one of the basic techniques in playing volleyball.

The forearm passing is a way of playing the ball using both arms interlocking or with one arm. The approval of the ball in the forearm passing is above the wrist. From the results of observations when learning the basic technique of forearm passing volleyball in students, the author found that there are some students who have not been able to perform the basic technique of forearm passing properly and correctly. Therefore, the method of playing the ball through the net is intended to improve the forearm passing capability.

The provision of good technical and physical exercises can be achieved through programmatic and regular exercises. Good technique abilities result from good basic motion training as well as good physical ability will be obtained by correct practice [9,45,46]. The forearm passing ability must be mastered by a volleyball player because this technique is one of the basic techniques in playing volleyball.

In doing the forearm passing, it must be supported by a good mastery of technique, from the attitude of the beginning, the approval, to the final attitude. With the practice of net games, you will be able to maximize the ability to do forearm passing.

In this study, researchers want to examine the ability to pass under volleyball through the net game practice method in high school students. The net game practice method is an assumption from research to be adapted for the practice of forearm passing techniques. Judging from the form of training, it is estimated that it can improve the

forearm passing ability.

A net game is an individual or team game exercise separated from the net. Both squads seek to control by controlling the body against objects and try to return objects to the opponent's field of play, with a certain height, energy, and position using tools or not with the aim that the opponent can no longer return the object to the net game field.

A game approach is a form of physical learning that can be given at all age levels including high school students for a fun activity [47,48]. In addition, by knowing the benefits of playing, it is hoped that teachers can give birth to ideas on how to take advantage of play activities to develop various aspects of student development in the mini-volleyball, especially forearm passing. The playing approach can be applied in the learning process of passing down, namely by providing a form of play first before evaluation.

The practice of playing with the net is a forearm passing exercise with a game method that aims to attract interest from students so that the higher the student's interest, the higher the willingness to practice. With a high willingness to train, the hope is that there can be an increase in ability, especially in this case, it is the forearm passing.

In this exercise, there are several components of the volleyball game that be modified, starting from the net on the size height and the size of the playing field will also undergo modifications. The net that will be used is the badminton net, the size of the net height and the size of the court are also used the size in badminton.

The time division in each face-to-face implementation of the exercise is 90 minutes with preliminary details and 15 minutes warm-up, the core exercise 60 minutes then the closing 15 minutes. It is for face-to-face preliminary test data collection and final test data. For the first implementation carried out for initial data collection or pretest, the implementation is 15 minutes for the introduction then the initial test data collection uses the remaining time until the data collection is completed.

For the second face-to-face to face-to-face implementation, the eleventh is carried out for the practice process of playing with the net with the details of the implementation being 15 minutes for the introduction, 60 minutes for the core training (10 minutes for the basic introduction of the forearm passing technique and 50 minutes for the practice of playing with the net). Before doing the exercises, students are given how to do the forearm passing with the correct technique.

In doing practice playing with the net, there are several materials that will be practiced, namely playing three against three. Like the previous activity first, divide the students into teams. Each team consists of 3 people. In this game, each team plays volleyball using only the bottom pass. Each team uses three touches, it is mandatory to pass the ball above the net to go to the opponent's area and shut down the opponent. If someone dies, they will be replaced by the next team. After finishing practice, do volleyball (4

vs. 4) by applying dominant forearm passing.

After carrying out the core activities, the next step is cooling and closing within 10 minutes. The 14th or last meeting is the final or posttest data retrieval. In its implementation, it is 15 minutes for notification of the procedure for running the test, then continued with the final data collection or posttest. Exercises like this are included experimental methods, in this method the student must adjust the nature and characteristics of the ball. Therefore, at the beginning of its implementation, students experimented more both in presenting and hitting, therefore the practice method of playing with the net can also be said to be an experimental method.

Experimental methods are an excellent educational interaction in helping students find answers to some questions [34,49]. In addition, the advantages of the experimental method include making students able to actively take part in doing for themselves. He himself not only saw others interrupt an experiment but by doing his own thing he acquired the cleverness of being treated.

Based on the analysis of these data obtained a t-count value ($5.047 > t\text{-table } (2,060)$), it is interpreted that there is an influence of playing the ball through the net on the forearm passing ability of volleyball extracurricular participants in inclusion schools at the junior high school level. Playing ball through the net can train children continuously in understanding making forearm passing. By playing the ball through the net, the child performs movement exercises in as much detail as possible so that they will know the mistakes made and can be corrected in the next exercise. In addition, in playing the ball through the net, children do games, so that it is required to actively move the limbs so that indirect activities that will continuously increase the accuracy of the hands in processing the ball so that the child's forearm passing ability becomes increasing.

The game can be interpreted with two senses. First, a game is a purely fun seeking playing activity without seeking victory or loss. Second, games are defined as playing activities that are carried out to find pleasure and satisfaction but are characterized by the search for win-loss [50-51]. Games are very beneficial for the improvement and development of motivation, performance, and achievement in better carrying out the duties and interests of the organization. Play is an activity that helps children achieve complete development, both physical, intellectual, social, moral, and emotional.

Game is learning to adjust to their environment, so that by playing students (athletes) will get to know the conditions around them [32,52]. Namely objects, plants, animals, and so on. The joy of playing must be caused by playing itself, not because of something that is outside of playing. So that the existence of games as an application for providing teaching materials will be able to attract students' interest as well as a means of improving students' basic movement skills.

The improvement efforts caused by playing the ball

through the net on the forearm passing ability are an influence to be better, with this increase, it can be interpreted as playing the ball through the net to be one of the efficient training methods to improve the child's forearm passing ability, the most important thing is that continuous training in accordance with the principle of training requires planning a training program with training load and intensity and duration of training according to the ability of the child's physical condition.

5. Conclusions

Based on the analysis of the results of the research and discussion, it can be concluded that an improvement of forearm Passing ability through the net game practice method in students who are participants in extracurricular volleyball students at high school students. Based on the conclusions, this study has implications for 1) The emergence of initiatives from coaches to implement net game exercises with the aim of improving Forearm passing ability; 2) The emergence of enthusiasm for students who participate in volleyball extracurricular activities in high school students to improve Forearm passing ability.

This research has been carried out as much as possible, but it is inseparable from the existing limitations. First, at the time of the study on students who participated in volleyball extracurricular activities of high school students who became the study population, researchers had difficulty in controlling other factors that might affect the test results, such as rest time, body condition, psychological factors, and so on. Second, the limited amount of funds, time, and the number of students who take part in volleyball extracurricular activities for high school students who are actively practicing so that the population used in the study is still relatively small.

Based on the conclusions of the research above, there are several suggestions that can be conveyed, namely 1) For students who take part in volleyball extracurricular activities for junior high school students in inclusion schools to use net game exercises to improve Forearm passing ability; 2) For coaches and extracurricular coaches to increase exercise creativity to improve forearm passing ability with varied methods; 3) For subsequent researchers to pay attention to the things that are within the limitations of this study and develop other methods for improving the ability to pass down.

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Conflict of Interest

All authors declare if this research doesn't have a

conflict of interest.

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