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The effect of 3M passing and 2M passing trainings on the advantages of overpassing in volyball games in attack Ivoba club players

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***Abstract*---**The research objective is to find out (1). The effect of over-passing training with a 2-meter upper passing on the ability to pass over in the volleyball game of the IVOBA Serang club. (2). Which is better between 3 meters and 2 meters over-passing exercises on over-passing skills in beginner volleyball games. The population in this study were all 20 players, then the initial passing test was carried out, the results of the initial test were ranked using the a b b a formula and divided into two groups, namely the experimental group I and the experimental group II. M-S pattern analysis, with statistical calculation of t-test with significant = 5%, degrees of freedom db 9, = 2.265. The population is taken as a whole, total sampling technique. The statistical calculation of the experimental group t-count = 5.19. experimental group two obtained t-count 3.95. Then the t-count of the experimental groups one and two is greater than the t-table value of 2.27. The conclusion is that there are significant differences in training in the practice of passing over 3 meters and passing over 2 meters. The value of t-count > t-table value, 2.95 > 2.27. From the

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statistical calculation, it was obtained that the experimental mean of one was greater than the experimental mean of two, 5.09 > 3.95. This means that the experimental group one is better than the experimental group two.

***Keywords*---**3M upper passing, 2M upper passing, inside upper passing.

Introduction

Volleyball is a team sport, so players must work together and support each other to become a solid and strong team. (Hardjati, H., 2010). Thus mastery of the basic techniques of playing volleyball individually is very necessary for a volleyball player. Perfection in performing basic techniques can only be mastered by multiplying if you do the exercises regularly and properly programmed. The right training methods will be able to reduce the mistakes made by a player. One of the basic techniques of playing volleyball is the basic technique of passing over. Passing over is very important in volleyball because it is the first step to planning an attack. The implementation of a good overhead passing technique can serve well with his teammates or feed the ball to the smasher who then attacks. (Aji, Sukma., 2016). Thus the success of creating attack patterns and defense and attack patterns is largely determined by the accuracy of the player in passing the ball given to his friend or to the smasher. Because of the importance of mastering the technique of passing over, it is necessary to hold training seriously and continuously. In the practice of passing over there are several methods or methods used.

Top passing on low ball

Passing over on a low ball, the player must move according to the arrival of the ball directly above the player's head. (Badriah, D. Laelatul., 2011). Thus when the ball comes, the player must immediately lower the body by bending the knee until one knee touches the floor, in order to place the body under the ball or so that the ball remains above the head of the volleyball player. And the players do the upper pass properly and correctly.

Top passing with side ball

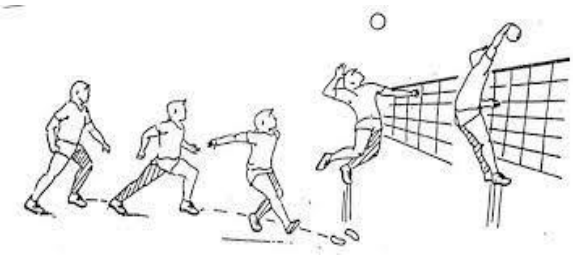


Figure 1. Passing over on a low ball
(Source: olahragapedia.com)

Passing over with the ball beside the body, players are required to move according to the arrival of the ball, either on the right side of the body or on the left and left side of the body.

Passing up by shifting backwards

Passing over by shifting backwards the player is required to move backwards quickly. Because the player must move according to the arrival of the ball so that the ball remains above the forehead of the player. Thus the ball can be passed well.

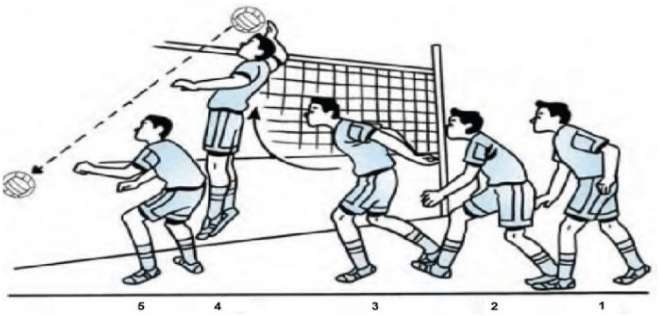


Figure 2. Passing up by moving backwards
(Source: penjasorkes.com)

Top passing moves back 45 degrees

Passing above by moving backward diagonally 45 degrees by turning the body to the side then doing a diagonal cross step backwards and immediately followed by the back foot to take the right position under the ball

Passing up by jumping

Passing over by jumping, the player moves to adjust to the arrival of the ball, so that when the ball soars the player jumps by adjusting the arrival of the ball, passing over is done when the ball is directly above the forehead of the player. (Hartono, A. Budi., 2013). so that the ball can still be controlled properly and correctly. At the time of landing, the movement of the feet

Passing up to back

Passing up to behind players are required to quickly adjust the arrival of the ball, that is when the ball comes the player immediately places his body and is perpendicular to the ball. (Nugroho, D. Riski. 2013). so that the ball is right above the player accompanied by bending the knee a bit low, then passing over properly and correctly, by leaning the ball, by straightening the arms up and back, so that the body bends backwards, keeping the eyes following the direction of the ball.

Method

The research method is an important factor (Arikunto., 2013). In a study, the weight of the research is most important in the accountability of the research methodology.

- The population is the entire research subject. As the population in this study, IVOBA club beginner volleyball players. In accordance with the opinion of Sutrisno Hadi above that the population has at least one trait in common.
- The sample used in this study was a beginner volleyball player from the IVOBA club. In taking this sample using a total sampling technique. that is, some groups of the population are sampled. In accordance with the opinion above, this study examined a portion of the population with a total of 20 male athletes who had understood the volleyball game with the over-passing technique, then an initial test was carried out, namely the French-Cooper passing test.
- Research variable is the object of research, or what is the point of attention." In this study, two variables were disclosed, namely: (a). The independent variable is the variable that influences or causes the variable. The variables in this study were the 3 meter upper passing exercise and the 2 meter upper passing exercise. (b). The dependent variable is the variable that affects or the effect variable. (c). The bound variable used is the ability to pass over.

Data collection technique

In this study using the experimental method, the experimental method is a method that uses or gives a symptom called an exercise or experiment with the exercise. The experimental method is one of the most appropriate methods for investigating cause-and-effect relationships. (Sugiyono., 2015). Before starting to collect data, there are several things that need to be considered regarding the steps that must be taken so that errors do not occur in the study. With the following steps:

- How to get samples
- Research place
- Practice time
- Preparation of tools and equipment

Research instruments

This research was conducted using an experimental method with a research design of pre test - post test control - group design

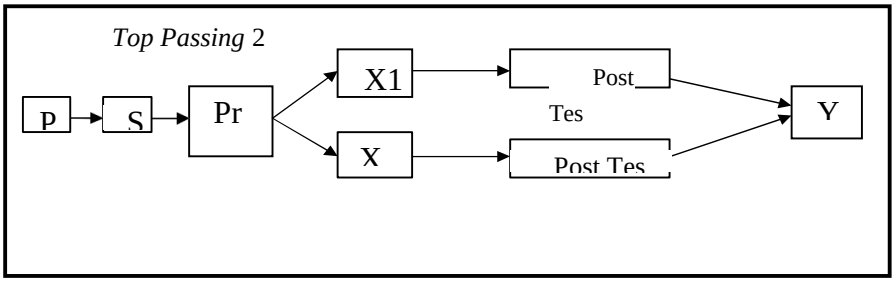


Figure 3. Research Design

Discussion

After the implementation of the final test of the experimental group one and experimental group two, the results obtained from each subject of the two groups. The final test data is then entered into the statistical calculation table. (Susanto, A., 2015). From statistical calculations, the results of the pre-test and post-test passing over 3 meters obtained the following results: Mean pre-test Ex1 = 77.60; Mean post test Ex1 = 94.40; MD = -16.80; d2 = 981.60; N = 10. Then from the data used the formula t, namely:

$$t = \frac{MD}{\sqrt{\frac{\Sigma d^2}{N(N-1)}}}$$

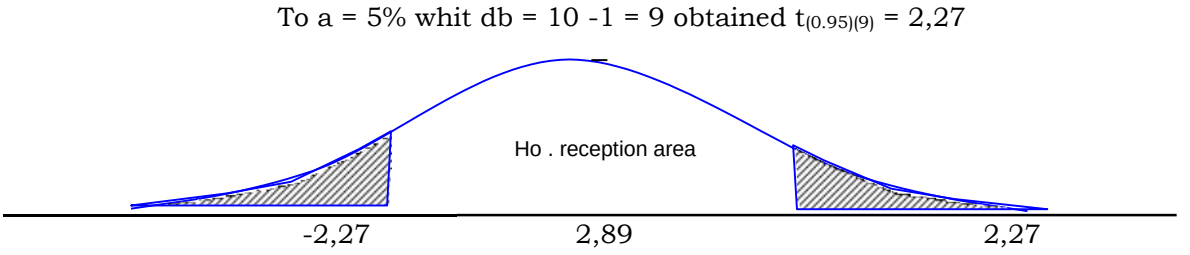
Hypothesis testing

To test the hypothesis, the formula: Ho is accepted if t < t(1-1/2a)(n1+n2-2)

No	Resp	X_{e1}	X_{e2}	D	d	d^2
1	1 - 8	94,00	92,00	2,00	-1,20	1,4400
2	14 - 19	90,00	90,00	0,00	-3,20	10,2400
3	2 - 3	88,00	82,00	6,00	2,80	7,8400
4	9 - 12	81,00	80,00	1,00	-2,20	4,8400
5	15 16	80,00	78,00	2,00	-1,20	1,4400
6	5 11	78,00	76,00	2,00	-1,20	1,4400
7	13 - 17	76,00	74,00	2,00	-1,20	1,4400
8	17 - 18	71,00	70,00	1,00	-2,20	4,8400
9	10 - 20	66,00	54,00	12,00	8,80	77,4400
10	4 - 6	52,00	48,00	4,00	0,80	0,6400
Amount		776,00	744,00	32,10	0,00	111,6100
Average		77,60	74,40	3,21		

$$MD = \frac{MD}{N} = \frac{32,10}{10} = 3,21$$

$$t \sqrt{\frac{3,20}{\frac{111,6100}{10\ 10\left(\quad 1 \quad\right)}}} 2,89$$



Because t is in the area of acceptance of Ho, it can be concluded that there is no difference in the results of the pre-test between experimental group 1 and experimental group 2. Based on statistical calculations obtained t value of 5.09 with a significance level of 5% and degrees of freedom (db) = 9, then the t value in the table is 2.26. This means that the value of t-count is greater than the value of t-table, then the data analysis obtained is 5.09> 2.26. Because t is in the Ho rejection area, it can be concluded that there is a difference in the results of the 3 meter passing exercise. (Kusnadi, Agus., 2015). The results of the calculation of the pree test and post test passing over 2 meters. Mean pree test Ex2 = 74,40; Mean post test Ex2 = 89.80; MD = -15.40; d2 =1384,40; N = 10. Then from the data used the formula t, namely: Based on the results of statistical calculations, the t value is 3.95 with a significance level of 5% and the degree of freedom (db) = 9, the t value in the table is 2.27. This means that the t-count value is greater than the t-table value, so in the data analysis, the value is 3.95 > 2.27. Because t is in the rejection area of Ho, it can be concluded that there is a difference in the results of the 2-meter passing exercise.

Hypothesis testing

To test the hypothesis, the formula: Ho is accepted if t < t(1-1/2a)(n1+n2-2)

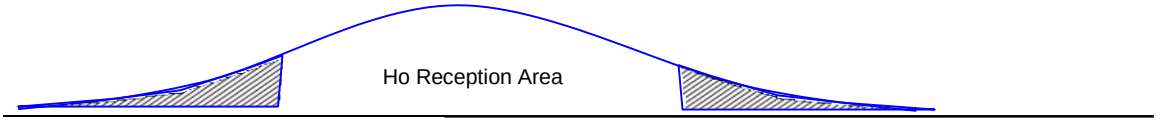
No	Resp	X_{e1}	X_{e2}	D	d	d^2
1	1	94,00	102,00	-8,00	8,80	77,44
2	14	90,00	94,00	-4,00	12,80	163,84
3	2	88,00	90,00	-2,00	14,80	219,04
4	9	81,00	96,00	-15,00	1,80	3,24
5	15	80,00	99,00	-19,00	-2,20	4,84
6	5	78,00	100,00	-22,00	-5,20	27,04
7	13	76,00	91,00	-15,00	1,80	3,24
8	17	71,00	98,00	-27,00	-10,20	104,04
9	10	66,00	86,00	-20,00	-3,20	10,24
10	4	52,00	88,00	-36,00	-19,20	368,64
Amount		776,00	944,00	-168,10	0,00	981,61
Average		77,60	94,40	-16,81		

$$MD = \frac{MD}{N} = \frac{168,10}{10} = 16,81$$

$$t = \frac{-16,80}{\sqrt{\frac{981,610}{10}\left[\frac{10}{1}\right]}} = -5,19$$

To a = 5% with db = 10 -1 = 9 obtained $t_{(0.95)(10)} = 2,27$

-5,19 -2,27



2,27

Because t is in the Ho rejection region, it can be concluded that there are differences in the results of the pre-test and post-test of the experimental group Based on the results of the above statistical calculations, the null hypothesis which states that there is no difference in the effect between the 3 meter upper passing exercise and the 2 meter upper passing exercise is rejected. (Indrawan, Dony., 2014). Because the results of the above data processing there are differences in the results of the exercise. Thus, the alternative hypothesis which states that there is a difference in the effect of the 3 meter upper passing exercise and the 2 meter upper passing exercise, is accepted. Meanwhile, to find out which is better between the 3 meter overpass exercise and the 2 meter top passing exercise on the results of passing over volleyball, by comparing the mean results of the experimental group one with the experimental group two. (Fahmi, Hifzul., 2012). Based on the calculation, the mean of experimental group one is 94.50 and the mean of experimental group two is 89.90. This means that the mean of the experimental group one is better than the mean of the experimental group two. So it can be concluded that the 3 meter top passing exercise is better than the 2 meter top passing exercise.

From the results of data analysis proves that the technique of passing over 3 meters and passing exercises 2 meters has a positive influence on the results of passing over. This can be seen from the value of the experimental group one 5.19 and the value of the second experimental group 3.97 which is greater than the t-table value of 2.30. (Subairi, A., 2012). Furthermore, the results of data analysis also prove that there is a significant difference between the 3 meter overpass and the 2 meter top pass on the passing results of the IVOBA club's male volleyball beginners. This can be seen from the t-count value of 2.95 which is greater than the t-table value of 2.30. The initial test showed varying results, to balance it was by matching and the final test showed differences in results. (Subroto, Toto., et al. 2010). This is because theoretically the training methodology given uses multilevel learning theory. So that children try to more easily adapt to the training load given. The effect of the use of passing over 3 meters gives a different view for

children trying, especially after it is carried out with certain repetitions. By doing the 3 meter passing exercise, the child will try to be able to advance the service place to the front or closer to the net, helping children who have weak energy. (Kurnianto, A., 2013). The factors that influence the results of this study are the mood and enthusiasm of the children trying to carry out the exercise. This is a contemporary factor that cannot be controlled in this study.

Conclusion

Based on the analysis of research results and discussion in this thesis, it can be concluded that:

- There is a positive difference in the 3 meter overhead passing exercise against the results of the top passing on the beginner volleyball players of the IVOBA Serang club
- There is a positive difference in the 2-meter upper passing exercise against the upper passing results for the IVOBA Serang club volleyball beginners.
- There is a positive difference in the practice of passing over 3 meters and passing over 2 meters on the ability to pass over to the male volleyball beginners of the IVOBA Serang club. In the 3 meter upper passing exercise, it gives a better difference, when compared to the 2 meter upper passing exercise on the results of the upper passing of the male volleyball beginners of the IVOBA Serang club.

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References

Aji, Sukma., 2016. The Most Complete Sports Book. Jakarta: Science

Arikunto., 2013. Research Procedure. Jakarta: Rineka Cipta

Azizi, M.M. 2014. Contribution of Leg Muscle Strength, Body Weight and Height to Long Jump Ability in Air Gait (Study of Pasi-Tuban Athletes). Journal of Sports Health Vol.2 No.2, 2014 pp. 180-188.

Badriah, D. Laelatul., 2011. Sports Physiology. Bandung: Ramadan Library.

Fahmi, Hifzul., 2012. Efforts to Improve Upper Passing Learning Outcomes in Volleyball Game Using Various Media in Class XI Students of SMK N 2 Tebing Tinggi Academic Year 2011/2012. Medan : Faculty of Sport Science Unimed.

Giriwijoyo, Santosa and Dikdik Zafar Sidik. 2013. Sports Physiology (Sport Physiology). Bandung : PT. Rosdakarya Teens

Hardjati, H., 2010. The new paradigm of sports physical education. Bandung: Alphabeta.

Harsono., 2015. Sports Coaching: Theory and Methodology. Bandung: Youth Rosdakarya.

Hartono., Agung, Budi. 2013. Efforts to Improve Volleyball Passing Learning Outcomes Through Cooperative Methods of Stad Type in Class V-A Students Sdn Bangah Gedangan Sidoarjo. Surabaya: Journal of Sports and Health Education. Vol. 02, No. 03: 758-760

Hemphill, N. 2012. Core Exercise for Athletic Performance. Accessed from http://www.oneresult.com/training/coreexercise-atheltic-performance

Indrawan, Dony., 2014. Cooperative Tps Improves Activities and Learning Outcomes of Basic Volleyball Passing Techniques. Bali: PJKR E-Journal. Vol. 2

Kalma, K.L. 2015. The effect of balance training with a trampoline on the balance of a basketball player's body in a basketball unit. Surakarta: FIK UMS.

Kurniawan, Feri. 2012. Smart Book of Sports Knowledge. East Jakarta: Laskar Aksara

Kristiyanto, Agus. (2010). Classroom Action Research (CAR) in Physical Education & Sports Coaching. Surakarta: UNS Press.

Kurnianto, A., 2013. Analysis of Smash Techniques for Junior Volleyball Athletes Ganevo Yogyakarta. Journal of Sports Science, Yogyakarta State University.

Kusnadi, Agus., 2015. The Relationship between Back Flexibility, Arm Length and Height with Spike Technique in Volleyball Game (Descriptive Study on Volleyball Extracurricular Students at SMP Negeri 18 Tasikmalaya City 2014/2015 Academic Year). Tasikmalaya : Siliwangi University.

Maulana, Ridwan. 2010. Development of Physical Conditions in Sports. Jakarta: Ministry of Education and Culture Director General of Higher Education PPlPTK.

Nala, I.G.N (2011). Principles of Sports Physical Training. Bali: Udayana University Press.

Nugroho, D. Riski. 2013. Application of Cooperative Learning Model Type (Team Games Tournament) Tgt on Student Motivation to Participate in Volleyball Learning in Class X SMAN 1 Panggul, Trenggalek Regency. Surabaya: Journal of Sport and Health Education. Vol. 01, No. 1: 161-165

Subagyo & Nugroho, S. 2010. Kinesiology of Physical Education. Yogyakarta: Faculty of Sports Science, Yogyakarta State University.

Subairi, A., 2012. Analysis of Technical Skills for Playing Volleyball in Pbv Fantastic Sumenep. Journal of Sports Science, State University of Surabaya

Subroto, Toto., et al. 2010. Volleyball Game. Bandung: FKIP UPI.

Sugiyono., 2015. Educational Research Methods. Bandung: Alphabeta.

Sukadiyanto. 2010. Introduction to Physical Training Theory and Methodology. Yogyakarta: FIK UNY.

Sunardi and Dedy Whinata Kardiyanto. 2015. Surakarta: UPT Publishing and Printing UNS (UNS Press).

Susanto, A., 2015. The Effect of Plyometric Zigzag Drill And Hexagon Drill To Increase Explosive Power Of The Limb Muscles Of Kediri Man 3 Volleyball Players In 2015. Indonesian Journal of Physiotherapy Vol 3 No.2.

Winaya. 2015. The effect of depth jump training on increasing leg muscle explosive power. Bali: Physiotherapy Study Program, Faculty of Medicine, Udayana University