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DIFFERENCES OF THE INFLUENCE OF SERVICE TRAINING MODELS ON THE ACCURACY OF TAKRAW FOOTBALL FLASH SERVICES

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Abstract:
The purpose of this study was to determine the difference in the effect of the service training model on the accuracy of the Sepak takraw flash service. The method in this study used an experimental two group pretest and posttest design. The number of samples is 8 Sepak takraw athletes who are Tekong in PPLP (Student Sports Education and Training Center) Gorontalo Province. Data collection using tests and measurements. The data were analyzed using the requirements analysis test, namely the data normality test, data homogeneity test, and hypothesis testing. The result is that there is a difference in the effect of the service training model on the accuracy of the Sepak takraw flash service with a 95% confidence level. Both models of service training can be done to improve the accuracy of the Sepak takraw flash service.

Keywords: Hanging Ball; Drill; Flash Service; Sepak Takraw

INTRODUCTION

Speak takraw is a sport that is classified as an invasion game, in which there is a combination of movements from other sports such as football, gymnastics, badminton played by two opposing teams (Hanif, 2021). This game is a game that is usually played by noble children and then becomes a folk game (Iyakrus, 2019). Sepak takraw is a popular and often played sport in Southeast Asia (Udomtaku & Konharn, 2020). Sepak takraw is a popular sport in Southeast Asia which is a game of facing each other with movements almost the same as other sports.

The development of Sepak takraw in Gorontalo Province is progressing with the sending of representatives of the sons of the Gorontalo Province at the 2019 SEA Games and winning a gold medal (Syam, 2019). This proves that in Gorontalo Province, the sport of Sepak takraw itself has received high appreciation by the people of Gorontalo. Various Sepak takraw tournaments began to be held and also the center for the sport of Sepak takraw began to be promoted, especially in the PPLP (Student Sports Education and Training Center) Gorontalo Province. Not only that, many Sepak takraw tournaments have penetrated into villages in Gorontalo Province which have their own pride for the teams in their respective villages.

The basic techniques of Sepak takraw consist of Kicking (Service Football, Foot Footprint, Simpuh/badeg soccer, Sila soccer, Kuda/kura soccer, Kicking soccer), using the head, shoulder to shoulder, mendada, understanding, smash (Smash Kedeng, Smash Roll, Smash Scissors) (Heriansyah & Suhartiwi, 2021). This basic technique is a technique that must be learned and continuously honed by practicing properly and correctly. The service technique, especially for Sepak takraw, is an initial technique that has the potential to get as many points as possible if done perfectly. Players who excel in this service technique will get more attention by the coach in terms of increasing the number of points for his team.

The author's observations were carried out at PPLP (Student Sports Education and Training Center) Gorontalo Province Sepak takraw branch doing exercises and during the match, there were several players who were already proficient in serving, but in this case it was very rarely done by a tekong using a serve with the sole of the foot. (flash service). Even though the service using the sole of the foot really outwits the opponent when it is varied with service power. So the author took the initiative to collaborate with coaches on how to make athletes easily perform flash services perfectly.

Flash service itself is a top service using the sole of the foot which is one of the service techniques that is often used to outwit the opponent. The direction of the ball hit is on the sole of the foot so that the ball rotates forward and becomes slow, so that the ball falls in front of the opponent's net (Hermawan, 2020). The way of implementing flash service is the same as the implementation of the deep instep service, but in this case the flash service is more towards

getting the ball on the sole of the foot and the ball falling in front of the net. This method is considered more efficient and effective to get points in the match.

Flash service training techniques can be done in several ways. This exercise is the same as a regular service exercise, but the only difference is the footwork and the target. The training model technique to train the serve needs to be emphasized on leg muscle strength, limb flexibility, and balance (Murti et al., 2020). The first method that is considered appropriate is using the hanging ball service model, this exercise is a form of exercise by utilizing a ball that is hung on a pole using a rope, then the athlete uses the inside of the foot to kick the ball in order to improve the ability of the Sepak takraw service (Armelia, 2009) . While the second method is the Drill exercise model, this exercise is a continuous repetition exercise in accordance with the objectives to be achieved (Yulianto et al., 2021). Both of these training models are considered efficient and effective in training and have often been applied in Sepak takraw training, but which of these two training models has more influence on the accuracy of Flash service? This is the essence of this research.

Previous research has been carried out for the sport of Sepak takraw by practicing the hanging ball and drill methods, but in this study the aim was to examine Kedeng's smash ability which is certainly different from this study. The findings from this study suggest that there is a strong effect of hanging ball and drill method exercises on Kedeng's smash ability (Bastia & Atiq, 2020). The basis of this research is what makes the author examine the difference in the effect of the service training model on the accuracy of the Sepak takraw flash service. Another thing that underlies the importance of this research is that the authors together with the coach are also obliged to formulate efficient and effective exercises in obtaining points towards team victory.

METHOD

This research is an experimental type using two groups pre-test - post-test design. The population is 8 male athletes of Sepak takraw PPLP (Student Sports Education and Training Center) of Gorontalo Province who plays as Tekong. The sample of this study is the entire population. The grouping of the two groups pre-test – post-test design was carried out randomly in the treatment, so they were grouped into the hanging ball group and the Drill group. These two groups will be tested by the author to determine the difference in the effect of the service training model on the accuracy of the Sepak takraw flash service.

The research instrument is using standardized tests and measurements, while the measurement test is a top service test with flash service (Winarno, 2006). The data collection technique was obtained by looking at the Flash service in the initial test before doing the exercise or being given treatment and then comparing it with the accuracy of the Flash service in the final test. The data analysis technique was carried out by testing the requirements of the analysis of the data normality test, data homogeneity test, and hypothesis testing.

RESULTS

The research was carried out at PPLP (Student Sports Education and Training Center) Gorontalo Province, with the aim of improving service accuracy results using flash service, using two forms of exercise, namely training using hanging balls and drill service exercises.

Determination of the Average, ($\bar{X}$) is a presentation used in statistical tests. The variance, (Si 2). Standard deviation or standard deviation (S), normality testing along with homogeneity of data from the dependent variable (Y), namely the accuracy of the service using flash service, and the independent variable (X) in the form of hanging ball training and drill service both before and after being given training. Tests and measurements were obtained from pretest (X1), posttest (X2) data then the difference between X1 - X2 can be seen as follows.

Table 1. Hanging Ball Group Serving

No	Pretest	Posttest	Gain Score (d)
1.	3	5	2
2.	3	6	3
3.	2	5	3
4.	3	4	1
	$\sum X_1$= 11	$\sum X_2$= 20	∑d= 9

Table 2. Drill Group Serving

No	Pretest	Posttest	Gain score (d)
1.	4	9	5
2.	3	6	3
3.	2	8	6
4.	3	9	6
	$\sum X_1$= 12	$\sum X_2$= 32	∑d= 20

The data in the two tables show an increase in the accuracy of the flash service after the two treatments. Next will be presented about the determination of the Pretest and Posttest on average in both groups. The hanging ball group had an average of 3 pretest and 4 posttest. The drill group had an average of 3 pretest and 8 posttest. The formula used in determining the average was $\bar{X}=(\sum x)/n$.

Normality test.

Normal or not the data, especially the pretest, it is necessary to use a normality test that will determine whether or not a data is normal. Therefore, to determine the subsequent processing using parametric statistics or non-parametric statistics, a normality test is required which is carried out as a prerequisite test for the first analysis. Testing the normality of the research data using the Liliefors Test, while the results are briefly as follows:

Table 3. Normality Test of Hanging Ball Group

No	Rank	Zi	F(Zi)	S(Zi)	F(Zi) – S(Zi)
1.	2	-1,50	0,0668	0,25	0,1832
2.	3	0,50	0,6915	0,75	0,0585
3.	3	0,50	0,6915	0,75	0,0585
4.	3	0,50	0,6915	0,75	0,0585

The results of the calculation in the table, the acquisition of the observation L value (Lo) or the calculated value of 0.1832. Then in the distribution table L, at = 0.05; n = 4 found the value (Lt) or L table of 0.381. Then, based on the test criteria which states that if Lo Lt then Ho (the sample comes from a normally distributed population) is accepted. The conclusion from the normal test is that the data obtained through the results of this study are normally distributed (0.1832≤ 0.381).

Table 4. Drill Group Normality Test

No	Rank	Zi	F(Zi)	S(Zi)	F(Zi) – S(Zi)
1.	2	-1,22	0,1112	0,25	0,1388
2.	3	0,00	0,5000	0,63	0,1250
3.	3	0,00	0,5000	0,63	0,1250
4.	4	1,22	0,8888	1,00	0,1112

The results of the calculation in the table, the acquisition of the observation L value (Lo) or the calculated value of 0.1388. Then in the distribution table L, at = 0.05; n = 4 found the value (Lt) or L table of 0.381. Then, based on the test criteria which states that if Lo Lt then Ho (the sample comes from a normally distributed population) is accepted. The conclusion from the normal test is that the data obtained through the results of this study are normally distributed (0.1388≤ 0.381).

a. Homogeneity test

Homogeneity test is needed to find out whether hanging ball drills and service drills have the same variance and also come from homogeneous or non-homogeneous populations. The summary is in the form of a table as follows:

Table 5. Homogeneity Test

Group	N	F_o	F_t 0,05	
Hanging	4	2,667	9,28	Homogen
Ball Drill	4	3	9,28	Homogen

From the calculations in the table above, the results of the calculation of the homogeneity test of observation (Fo) for the hanging ball group are 2.667 and the Drill group 3, while the Ftable (Ft) is 9.28. The conclusion is Fo < Ft, then it has a homogeneous variance which can then be tested for hypotheses.

a. Hypothesis testing

The basis for testing the analytical infrastructure shows that the research data is normally distributed and homogeneous, so the next step is to test the hypothesis using parametric statistics. The use of parametric statistics is intended to test the t-test research hypotheses as follows:

The statistical quantities before testing with the t-test are needed for the purposes of the formula in hypothesis testing which can be presented in the following table:

Table 6. Determining Xd and X2d of Hanging Ball Group

No	X_1	X_2	D	MD	X_d	X^2d
1.	3	5	2	2,25	-0,25	0,0625
2.	3	6	3	2,25	0,75	0,5625
3.	2	5	3	2,25	0,75	0,5625
4.	3	4	1	2,25	-1,25	1,5625
Σ Md			9 2,5	$\sum X^2d$		2,8

The calculation is by the formula

$$t = \frac{Md}{\sqrt{\frac{\sum x2d}{N(N-1)}}}$$ Maka t = 4,70.

Based on the calculation results obtained tcount = 4.70 while from ttable or table the value of t at alpha = 0.05; dk = n-1 (4-1 =3) the acquisition price of ttable = 2,353. The conclusion is that the value of tcount is greater than ttable (4.70 > 2.353). Then, the test criteria reference statement that rejects Ho if tcount (to) > ttable (tt), in this case H0 is rejected and Ha is accepted or in this case, there is an effect of hanging ball training on the results of service accuracy using flash service on PPLP athletes (Center Student Training Education) Gorontalo Province.

Table 7. Determining the Xd and X2d of the Drill Group

No	X_1	X_2	D	MD	X_d	X^2d
1.	4	9	5	5	0	0
2.	3	6	3	5	-2	4
3.	2	8	6	5	1	1
4.	3	9	6	5	1	1
Σ Md			20 5	∑X²d		6

The calculation is by the formula

$$t = \frac{Md}{\sqrt{\frac{\sum x2d}{N(N-1)}}}$$ Maka t = 7,07.

Based on the calculation results obtained tcount = 7.07 while from ttable or table the value of t at alpha = 0.05; dk = n-1 (4-1 =3) the acquisition price of ttable = 2,353. The conclusion is that the value of tcount is greater than ttable (7.07 > 2.353). Then, the test criteria reference statement that rejects Ho if tcount (to) > ttable (tt), in this case H0 is rejected and Ha is accepted or in this case, there is an effect of Service Drill Exercise on the results of service accuracy using flash service on PPLP athletes (Center Student Training Education) Gorontalo Province.

a. Analysis and statistical test of the difference in the effect of training using hanging balls and service drills on service accuracy using flash service.

To find out the difference between the effect of training using a hanging ball and the effect of drill service, it can be seen in the following process:

Table 8. Calculation of Statistical Quantities

No	Ball Drill			**Drill**		
	X1	**X2**	**D**	**X1**	**X2**	**D**
1.	3	5	2	4	9	5
2.	3	6	3	3	6	3
3.	2	5	3	2	8	6
4.	3	4	1	3	9	6
Σ	**11**	**20**	**9**	**12**	**32**	**20**
Æ	**3**	**5**	**2**	**3**	**8**	**5**
S²	**0,2500**	**0,6667**		**0,6667**	**2,0000**	
s	**0,500**	**0,816**		**0,816**	**1,414**	

The solution is by using the calculation S =((n1-1)S12=(n2-1)s12)/(n1+n2-2) so that the statistical test of the difference in training using a hanging ball and Drill is 4.11. The determination of the test shows that tcount = 4.11 > ttable = 2.353 so it can be concluded that H0 is rejected and H1 is accepted at the real level = 0.05 or 95% confidence level. So that the hypothesis which reads "There is a difference in the results of training using a hanging ball and drill service exercises on increasing the accuracy of serving using the sole of the foot (flesing)" can be accepted at a 95% confidence level.

DISCUSSION

The research entitled the difference in the effect of the service training model on the accuracy of flash service Sepak takraw has an exercise program in applying the form of training using a hanging ball and drill service to increase service accuracy using flash service. Flash service itself is the same as the top ball service in Sepak takraw but has the advantage of outwitting the opponent (Zawi & Yusoff, 2008). On the basis of these advantages, the author examines the best method for flash service. Before carrying out the research, first provide an introduction to the form of exercise to the sample that is used as the object of research. So that those who take part in this research understand and know very well the goals and benefits of the program they are undergoing during the research process.

The effect of the hanging ball service training method on the accuracy of serving using flash service in the Sepaktakraw Game on PPLP (Student Training Education Center) athletes of Gorontalo Province. Hanging ball practice in Sepak takraw is indeed familiar, its use is often used in practicing smashes in daily life, but it is possible that it can be used for other purposes in Sepak takraw (Pernandes & Sutisyana, 2018). This study uses the hanging ball training method as one of the variables, the result is that there is indeed an influence on the accuracy of flash service when given to athletes. The use of this hanging ball is indeed very simple in its application, because it is assisted by a simple

tool to hang the ball to be kicked. Players only need to adjust the height of the ball and then kick it towards the opponent's field.

There is an effect of the drill service training method on the accuracy of flash service in the Sepak takraw game for PPLP (Student Training Education Center) athletes of Gorontalo Province. This finding confirms that the Sepak takraw service can improve accuracy in using the Drill training method (Pambudi & Sulendro, 2021). This influence is due to the athlete's habit of repeatedly doing a goal, namely serving, the athlete will get used to and learn from mistakes until he is really proficient at doing it correctly. Another advantage of the Drill training method is that players can seem to be in a real match state because of the help of other players who give the ball.

There is a difference in the effect of service drill and service using a hanging ball on the accuracy of serving using flash service in the Sepaktakraw Game at PPLP Athletes (Student Training Education Center) Gorontalo Province. From the calculation of the hypothesis of the difference between variables X1 and X2, it is obtained that t count is greater than t list/table or 4.11 > 2.353 at the real level = 0.05 or 95% confidence level. So that the hypothesis which reads that there are differences in the results of exercises using hanging balls and drill service exercises on increasing service accuracy using flash services can be accepted at a 95% confidence level.

CONCLUSION

The results of this study concluded that training using a hanging ball has an effect on increasing the accuracy of serving using flash service in athletes. Exercise using the Drill method has an effect on increasing the accuracy of serving using flash service on athletes. Based on the author's research, Drill practice has a greater effect based on the average results between the pretest and posttest results. Lastly, there is a difference in the results of training using a hanging ball and drill service training on increasing service accuracy using flash service.

SUGGESTION

The trainer can use the two service training models to improve the accuracy of flash service. The need for attention in using the flash service ability is only used if the athlete in the position of Tekong has been systematically trained and carried out as a variation so that the opponent is fooled in anticipating it. It is also recommended that the two service training models can be tested in training activities for other types of service training so that they are more varied to overcome boredom. The two service training models are indeed good when applied, but the author tends to drill service exercises in their application because it has been proven by the results of his research.

REFERENCES

1. Armelia. (2009). Bermain Sepak Takraw. Aneka Ilmu.
2. Bastia, B., & Atiq, A. (2020). Pengaruh Drill Training Dengan Media Bola Gantung Terhadap Kemampuan Smash Kedeng Sepak Takraw. Jurnal Pendidikan Jasmani Khatulistiwa, 1(1). https://doi.org/10.26418/jpjk.v1i1.43578
3. Hanif, A. S. (2021). Sepaktakraw untuk Pelajar. PT. Raja Grafindo Persada.
4. Heriansyah, & Suhartiwi, A. (2021). Permainan Sepak Takraw Sejarah, Teknik Dasar, Peraturan Pertandingan dan Perwasitan. CV. Jakad Media Publishing.
5. Hermawan, D. B. (2020). Model Latihan Servis Tipuan (Trick Service) Sepak Takraw Pemula. Halaman Olahraga Nusantara (Jurnal Ilmu Keolahragaan), 3(1). https://doi.org/10.31851/hon.v3i1.3737
6. Iyakrus, I. (2019). Sejarah Sepak Takraw Sumatera Selatan. Altius : Jurnal Ilmu Olahraga Dan Kesehatan, 6(1). https://doi.org/10.36706/altius.v6i1.8224
7. Murti, D. L. A. W., Marani, I. N., & Rihatno, T. (2020). Pengaruh Kekuatan Otot Tungkai, Kelentukan Togok dan Keseimbangan Terhadap Servis Sepak Takraw. Gladi : Jurnal Ilmu Keolahragaan, 11(02). https://doi.org/10.21009/gjik.112.04
8. Pernandes, A., & Sutisyana, A. (2018). Pengaruh Latihan Bola Gantung Terhadap Kemampuan Smash Kedeng Dan Smash Gulung Dalam Permainan Sepak Takraw Pada Atlet Psti Kabupaten Lebong. KINESTETIK, 2(1). https://doi.org/10.33369/jk.v2i1.5741
9. Rizky Dhisma Agung Pambudi, & Sulendro, S. (2021). Pengaruh Latihan Drill Servis Terhadap Ketepatan Servis Samping Olahraga Sepak Takraw PSTI Panggul Trenggalek. SPRINTER: Jurnal Ilmu Olahraga, 2(2). https://doi.org/10.46838/spr.v2i2.122
10. Syam, A. (2019). Analisis Kemampuan Inteligensi Atlet Cabang Olahraga Sepak Takraw Provinsi Gorontalo. Jambura Journal of Sports Coaching, 1(2). https://doi.org/10.37311/jjsc.v2i1.2385
11. Udomtaku, K., & Konharn, K. (2020). Energy expenditure and movement activity analysis of sepaktakraw players in the Thailand league. Journal of Exercise Science and Fitness, 18(3). https://doi.org/10.1016/j.jesf.2020.04.001
12. Winarno, M. E. (2006). Tes Keterampilan Olahraga. Laboratorium Jurusan Ilmu Keolahragaan Fakultas Ilmu Pendidikan Universitas Negeri Malang.
13. Yulianto, T., Priyono, A., & Suhaemi, M. E. (2021). Pengaruh Metode Drill Terhadap Keterampilan Sepak Mula Bawah Dalam Permainan Sepak Takraw Pada Siswa Ekstrakurikuler SDN Sembung 01 Larangan Brebes. JOURNAL RESPECS, 3(1). https://doi.org/10.31949/jr.v3i1.2790
14. Zawi, M. K., & Yusoff, M. S. (2008). Kinematic analysis of the kuda and sila service techniques in sepak takraw. Malaysian Journal of Sport Science and Recreation, 4(1).