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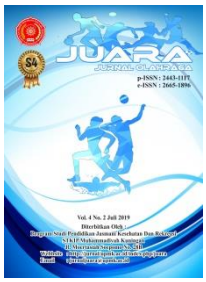

The Effect of Court Footwork Applications and Conventional Exercises on Badminton Footwork

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Abstrak

This research stems from the findings that athletes experience many difficulties in footwork movements. This study aimed to determine the significant influence between technology and conventional. The method used is a quasi-experimental design with a pre-test and post-test group design. This study showed an increase in using the CF application of as much as 16.27%, with a pre-test value of 48.80% and a post-test value of 65.07%. Moreover, conventional exercise increased by 12.80%, with a pre-test value of 64.53% and a post-test of 77.33%. This shows a superior difference of 3.47% using the CF application compared to the conventional. Thus, the practice of CF and Conventional applications can affect the footwork ability of Badminton Players at UKM Badminton UPI Sumedang.

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INTRODUCTION

The problem that arose during the observation was that the training program used by the trainer seemed monotonous. In addition, the training infrastructure needs to be improved, so athletes are less enthusiastic about participating in training. Another weakness found is, first: the athlete's footwork moves just like that, and there is no progress. second: athletes feel practically bored using the variations provided by the instructor (Pill, 2015; Ilham, 2021). If the footwork is not good, it will influence to support a good shot. This practice technique has several weaknesses, such as inconsistent instruction tempos, highly dependent on the coach's physical and mental conditions, unorganized practice time, boredom, having no independent exercises, easily predicted movement directions, and being highly influenced by the

coach's character (Ramadan et al., 2021; Ngadiman et al., 2019). Footwork is the basis for producing a quality shot when it is done in a good position. To hit in a good position, a player must have movement speed. The speed of footwork cannot be achieved if the footwork is irregular (Abdillah & Lismadiana, 2019; Tauhidman & Ramadan, 2018). Footwork (foot movement) is very important for badminton athletes. Footwork helps an athlete move in all directions as efficiently as possible. (Chen, 2014; Gustaman, 2019). Footwork is the most basic skill in badminton matches and is very important in having achievements in the game. Footwork allows players to reach the shuttlecock quickly. Then, analyzed in terms of the game's characteristics, agility is the dominant physical factor because an athlete must be able to control the court and complete the movement as fast as possible. Then, according to (Subarjah, 2015), in general, humans move using two legs; wherever and whenever they move there, the body must be there, as well as in playing badminton, when the two legs move not in the right direction or contrary to the mechanics of motion, it has an impact on position. improper body when hitting (Hermawan & Rachman, 2018; Suherman et al., 2021).

Sports achievement cannot be separated from the physical condition of athletes, which aims to make their physical abilities prime and valuable to support sports activities to achieve excellent performance. To achieve high achievements, physical conditions such as agility, speed, strength, coordination, endurance, reaction time, flexibility, and strength are needed in athletes in badminton (Astrawan, 2020; Iskandar & Ramadan, 2019)

The basic principle of leg movement for players who use the right grip (right-handed) means that the right foot is always at the end of every step you take always ends with the right foot. The lunging step is a unilateral motion involving the upper and lower limbs of the same side, which is commonly performed in several sports, such as badminton, fencing, squash, and other general exercise training. Specifically, this motion represents over 15% of all badminton movements in single male competition (Tauhidman & Ramadan, 2018; Yu et al., 2021). Then, Subarjah (2017) Then there are several leg movements that badminton players must master, including; a). movement of the foot forward, b). backward movement, c) movement to the left side, d). sideways movement, e). cross movement, and f). jump. Then aimed at the three different techniques of badminton footwork and found that the step-in lunge might be beneficial for reducing the muscular demands of lunge recovery (Syafei et al., 2021; Lin et al., 2015).

With the higher usage of smartphones, utilizing their built-in inertial sensors to assess in-field footwork performance might be possible by providing information about body acceleration in each direction. Therefore, this study aimed to evaluate the feasibility of a smartphone-based measurement system on badminton six-point footwork (Nur et al., 2020; Chiu et al., 2020). Then, to overcome the above problems, there must be innovation

in training, one of which is with training programs to convey learning content, for example, various training programs and various training patterns. (Kusuma, 2019).

METHODS

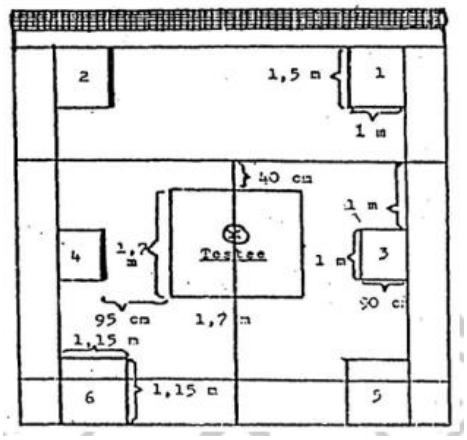
The researchers used the experimental method (Ramadan, Gilang & Juniarti, 2020). Researchers using this method refer to the assumption that researchers face problems here to reveal causation, as Crawford said (in Suherman, 2012). The focus of this research is to observe causal correlations, whether there is a correlation, which refers to the treatment in variable X (training method) to Variable Y (footwork). It was carried out with an experimental group (which was given treatment) and a control group (comparison group). The design of this study used a quasi-experimental design (pseudo-experimental), using two experimental groups and one control group. Fraenkel et al. (2012).

This study aims to compare footwork exercises with CF affiliation exercises and conventional affiliation of footwork in playing badminton. Based on its characteristics, this research is included in experimental research by looking at causal correlations. Sugiyono (2016) revealed that the treatment results on the independent variables could be seen in the results on the dependent variable. So that it can be done how to manipulate one independent variable, namely what is done by UKM members or athletes in badminton footwork by using CF affiliation exercises and conventional exercises and then analyzing the changes.

The population in this study were all members of the Sumedang Campus UPI Badminton UKM, totalling 45 people. Samples were taken taking into account body posture, weight, initial test results and athlete's ability. In this study, a purposive sampling technique was used in determining the research sample where "Determination of the sample by the researcher determines the character of the sample to be selected while still thinking and considering it" Sugiyono (2015). This consideration is used when the athlete already has the specified and expected criteria.

Researchers carried out tests and treatments using tools in the form of the Court Footwork application in the play store and conventional methods with the help of cones, shuttles and chalk. Then, the supporting media used to calculate footwork agility is to use a stopwatch. The instrument needed to calculate footwork agility in this study is the instrument by Bobby Charlton (Danny Mielke, 2018). This test measures footwork that steps forward right-left, side to side right-left, and back right-left in Tohar's badminton game (Mujami, 2010). The consideration of researchers using this instrument is to refer to the level of validity of this test instrument as 0.865 and the level of reliability as 0.758. Then, this instrument is widely used and effective for the athlete/student level, its implementation is easy and effective. The instruments used are

sourced from Tohar (In Mujami, 2015), namely:



Footwork Test Assessment *(*Tohar,dalam Mujami, 2015)

The implementation of this foot test is as follows: 1) First, the testee is in a rectangular box in the middle of the field. 2) On the signal "ready".... "yes" then the testee moves to take a step and one of the feet must enter the rectangular box located in the front (number 1). After the testee steps forward on the right, the testee moves back to the middle like the starting position.

Then test again by stepping to the front left (number 2). Then testee returns to the centre again and steps to the right side until one foot enters the correct side box (number 3) and moves back to the middle position. Then move back to the rectangular box on the left (number 4). After stepping on one of the feet, move back to the centre and step to the right behind (number 5), then move back to the middle, and then step to the left behind (number 6). After that, the testee returned to the middle position, moving continuously towards the boxes according to the mother's order. 3) Implementation of this test for 30 seconds, and the value is recorded based on the total number of the ability to set foot into the box. 4) The results of the number of stepping on the box are matched to the scoring list.

Data collection was carried out using two techniques, namely a skills test. The first data collection, namely the skills test in which there is a pre-test badminton footwork technique as the beginning to collect data on mastery of badminton footwork techniques and the post-test is the final test after giving treatment to the sample. Then the second test is the badminton footwork technique test to see how to improve the mastery of the badminton footwork technique.

Regarding the evidence generated from this research, it can later be continued by reviewing research data to formulate a conclusion using parametric statistics. The data normality test is a test that is carried out to prove whether the evidence is usually distributed or not, so that normally distributed

data can be used in a study. The experiment was carried out depending on the variable to be worked on. They are testing the normality of material leaflets using the Kolmogorov-Smirnov Test with SPSS 26. If the p.> value is more significant than 0.05, the evidence is expected; therefore, if the analysis results prove that the p.< value is less than 0.05, the evidence is abnormal.

In addition to testing the dispersion of the quality to be investigated, it is important to test for homogeneity to ensure that the sampled pool is initially from homogeneous participants. Homogeneity can be seen from the pre-test and post-test information F test utilizing the SPSS 26 program. The homogeneity test is done using the ANOVA test, with the effect of the inspection showing a number > 0.05, the information is homogeneous, but if the effect of checking the information shows a number < 0.05, then at that time the value information is not homogeneous.

FINDINGS AND DISCUSSION

The results of this study namely:

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance
Pre-test Kontrol	15	10,00	23,00	236,00	15,73	4,10	16,78
Post-test Kontrol	15	13,00	23,00	266,00	17,73	3,08	9,50
Gain Kontrol	15	-3,00	11,00	30,00	2,00	3,80	14,43
Pre-test Court Footwork	15	6,00	22,00	183,00	12,20	4,43	19,60
Post-test Court Footwork	15	9,00	22,00	244,00	16,27	3,75	14,07
Gain Court Footwork	15	-1,00	7,00	61,00	4,07	2,52	6,35
Pre-test Konvensional	15	11,00	22,00	242,00	16,13	3,68	13,55
Post-test Konvensional	15	16,00	23,00	290,00	19,33	2,26	5,10
Gain Konvensional	15	-5,00	10,00	48,00	3,20	4,14	17,17
Valid N (listwise)	15						

Explanation of the data above, namely that there is an average for the CF group, an increase of 16.27%, the Conventional group 12.80% and the control group 8%. Then, the data were tested for normality with the results from the table above; it can be concluded that because the Sig or p-value (0.997, 0.964, 0.878, 0.625, 0.682, 0.730, 0.878, 0.844, 0.738) > 0.05, then Ho is accepted. So it can be concluded that the nine groups are a "Normal" distribution. the two training methods above are equally effective but more significant with application training.

CONCLUSION

Based on the results of research on the effect of cf application exercises and conventional exercises on badminton footwork as follows;

1. The application of court footwork has a positive and significant effect on badminton footwork.

2. Conventional exercises have a positive and significant effect on badminton footwork.
3. It Has a slight difference, but both can be used.

REFERENCES

Abdillah, M., & Lismadiana, M. (2019). *The Influence of Visual Media on the Footwork in Badminton*. *278*(YISHPESS), 115–116. https://doi.org/10.2991/yishpess-cois-18.2018.29

Astrawan, I. P. (2020). *Comparison Between the Effects of 10 Repetitions 2 Sets footwork with 5 Repetitions 4 Sets Footwork for Improving Trainees' Agility in Badminton Training*. *394*(Icirad 2019), 425–429. https://doi.org/10.2991/assehr.k.200115.070

Chen, C. (2014). Footwork Teaching of College Badminton Elective Course. *Proceedings of the 3rd International Conference on Science and Social Research*, *1*(Icssr), pp. 281–283. https://doi.org/10.2991/icssr-14.2014.69

Chiu, Y. L., Tsai, C. L., Sung, W. H., & Tsai, Y. J. (2020). Feasibility of smartphone-based badminton footwork performance assessment system. *Sensors (Switzerland)*, *20*(21), 1–11. https://doi.org/10.3390/s20216035

Gustaman, G. P. (2019). Hubungan Footwork, Kekuatan Otot Tungkai Dan Tinggi Lompatan Terhadap Kemampuan Smash Bulutangkis. *JUARA : Jurnal Olahraga*, *4*(1), 1. https://doi.org/10.33222/juara.v4i1.512

Hermawan, D. A., & Rachman, H. A. (2018). Pengaruh pendekatan latihan dan koordinasi mata tangan terhadap ketepatan shooting peserta ekstrakurikuler basket. *Jurnal Keolahragaan*, *6*(2), 100–109. https://doi.org/10.21831/jk.v0i0.20349

Iskandar, D., & Ramadan, G. (2019). The development of a concentration training model on free throw shots basketball players. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, *5*(1), 1. https://doi.org/10.29407/js_unpgri.v5i1.12493

Kusuma, L. S. W. (2019). Penerapan Metode Blocked Practice Dan Media Footwork Berbasis Teknologi Dalam Upaya Meningkatkan Keterampilan Bermain Bulutangkis. *JUPE : Jurnal Pendidikan Mandala*, *4*(4), 193–202. https://doi.org/10.36312/jupe.v4i4.932

Lin, H.-W., Huang, K.-S., Pan, K.-M., & Tsai, C.-L. (2015). Biomechanical Analysis of Badminton Different Forward Steps. *33rd International Conference on Biomechanics in Sports, Poitiers, France ISBS - Conference Proceedings Archive*, *1*(1), 1066–1069.

Ngadiman, N., Kusuma, I. J., & Nugraha, A. W. W. (2019). Designing a supporting device for badminton footwork practices based on a microcontroller technology. *Annals of Tropical Medicine and Public Health*, *22*(11), 40. https://doi.org/10.36295/ASRO.2019.221137

Nur, L., Giyartini, R., & Sumardi, S. (2020). Gross Motor Skills: Outbound Activities in Elementary Students. *JUARA : Jurnal Olahraga*, *5*(1), 93–99. https://doi.org/10.33222/juara.v5i1.781

Pill, S. (2015). *Play with Purpose: For Fundamental Movement Skills Teaching*. Ache.

Ramadan, Gilang & Juniarti, Y. (2020). *Metode penelitian : pendekatan kuantitatif, kualitatif dan R & D*. CV Sadari Press.

Ramadan, G., Gani, A. A., Haryanto, A. I., Samin, G., Fataha, I., & Kadir, S. S. (2021). Effect of Kinesthetic Perception, Eye-Hand Coordination, and Motivation on Lay Up Shoot. *Gorontalo Sport Science*, *1*(1), 14. https://doi.org/10.31314/gss.v1i1.914

Suherman, A., Suherman, A., Juliantine, T., & Mahendra, A. (2021). Thematic Learning Based On Physical Literacy for Early Children. *JUARA : Jurnal Olahraga*, *6*(2), 318–331. https://doi.org/10.33222/juara.v6i2.1347

Syafei, M., Budi, D. R., Listiandi, A. D., Hidayat, R., Kusnandar, Setiawan, A., Oktirani, S., Kuswari, M., Ramadan, G., Friskawati, G. F., & Stephani, M. R. (2021). Identification of Overweight and Obesity Causative Factors in Students. *Annals of Tropical Medicine & Public Health*, *24*(03). https://doi.org/10.36295/asro.2021.24316

Tauhidman, H., & Ramadan, G. (2018). Pengembangan Model Latihan Keseimbangan untuk Sekolah Dasar. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, *4*(1), 133. https://doi.org/10.29407/js_unpgri.v4i1.12012

Yu, L., Mei, Q., Mohamad, N. I., Gu, Y., & Fernandez, J. (2021). An exploratory investigation of patellofemoral joint loadings during directional lunges in badminton. *Computers in Biology and Medicine*, *132*(818), 104302. https://doi.org/10.1016/j.compbiomed.2021.104302

Eskrima, A. (2019). *Sport Center*. *Sport Center*, 14.

Federation, B. W. (2019). *Instructions to Technical Officials (ITTO)*, *Statutes section* 4.1.1. (p. 345). -: BWF.

Komarudin. (2016). *Psikologi Olahraga*. Bandung: PT REMAJA ROSDAKARYA.

Maksum, A. (2012). *Metodologi Penelitian dalam Olahraga*. Surabaya : Unesa University Press.

Poole, J. (2013). *Belajar Bulutangkis.* Bandung: PIONIR JAYA.

Putra, G. P. (2021). *Antropologi Budaya*. Bandung: -.

Sobarna, A. (2020). *Sosiologi Olahraga*. Banten: Desanta Muliavisitama.