



Backhand Short Serve Drills to Improve Badminton Serve Accuracy in Elementary School Students

Fikram Daya¹, Muhammad Syaleh²

¹ Sekolah Tinggi Olahraga dan Kesehatan Bina Guna, Medan, Indonesia

² Sekolah Tinggi Olahraga dan Kesehatan Bina Guna, Medan, Indonesia

Corresponding Author: fikidayak0@gmail.com

Abstract

Objectives:

This study aims to determine the effectiveness of short backhand serve drills on the accuracy of the short backhand serve among participants in the badminton extracurricular program at SD IT Al Kautsar.

Materials and Methods:

This study employed a quantitative method using a one group pretest posttest design. The sample consisted of 14 participants selected using total sampling.

Results:

The results of the study show that the average accuracy score for the backhand short serve increased from 5.64 on the pretest to 13.07 on the posttest, representing an increase of 7.43 points (131.74%).

Conclusions:

Based on the research results, it can be concluded that backhand short serve drilling exercises are effective in improving the accuracy of the backhand short serve among participants in the badminton extracurricular program at SD IT Al Kautsar. This method can be used as an alternative training method to improve backhand short serve skills among elementary school students.

Keywords: drilling exercises; short backhand serve; badminton; extracurricular activities.

Introduction

Physical education is an important component of the national education system because it aims not only to improve physical fitness but also to develop motor skills, cognitive abilities, social attitudes, and students' character holistically. Through planned and systematic physical activities, physical education instills values of discipline, responsibility, cooperation, and sportsmanship from an early age. This is in line with the policies of the Ministry of Education, Culture, Research, and Technology, which emphasize the importance of physical education in developing movement skills, physical fitness, and healthy and active lifestyles as part of character education.

At the elementary school level, physical education plays a strategic role because this is a crucial period for establishing the foundation of children's movement abilities. Training in coordination, balance, agility, and accuracy from an early age prepares students to develop more advanced sports skills. Therefore, the selection of appropriate learning materials, methods, and approaches is a determining factor in the success of physical education. One of the sports that is popular in elementary schools is badminton. This sport is highly suitable for elementary school children because it can be practiced with relatively simple facilities, does not require a large playing area, and can be played individually or in pairs. Badminton also has high educational value, as it develops hand eye coordination, concentration, reaction speed, and the ability to make quick decisions.

In Indonesia, badminton is not merely a recreational sport but also a competitive sport that has brought pride to the nation on the international stage. The outstanding achievements of legendary athletes such as Susi Susanti and Taufik Hidayat provide clear evidence of the importance of systematic talent development and coaching from an early age. Therefore, introducing and practicing basic badminton techniques through extracurricular activities at the elementary school level is a fundamental foundation for supporting the sustainable development of national competitive sports.



In the process of learning badminton, mastery of basic techniques plays a crucial and strategic role, one of which is the backhand short serve. The serve is an opening stroke that strongly influences the rhythm of the game, controls the tempo, and creates opportunities to gain tactical advantages at the beginning of a rally. In particular, the backhand short serve requires a high level of control, accuracy, precision, and movement coordination rather than merely relying on physical strength. This technique is a fundamental element for extracurricular participants, considering its high frequency of use in actual game situations.

However, initial observations of the badminton extracurricular activities at SD IT Al Kautsar indicated that the participants' backhand short serve ability was not yet optimal. Several fundamental errors were still frequently observed, including unstable foot positioning, poor body balance, uncontrolled racket swings, and insufficient coordination between visual focus and hand movements. Consequently, the shuttlecock often failed to cross the net or did not reach the intended target. This condition indicates that the training conducted so far has not been sufficiently effective in improving the accuracy of the backhand short serve.

Accurate and precise backhand short serving plays a crucial role in badminton. This serve can not only restrict the opponent's movement but also create psychological pressure and strategic opportunities to win points more effectively. Therefore, a systematic, structured, planned, and intensive repetition based training method (drilling) is required to reinforce correct movement patterns and develop strong muscle memory. Through drilling exercises, participants can perform movement repetitions consistently, intensively, and with focus, enabling them to correct technical deficiencies and significantly improve the accuracy and consistency of their serves.

The badminton extracurricular participants at SD IT Al Kautsar are known for their high enthusiasm and motivation toward the sport. However, this enthusiasm needs to be supported by a more structured, progressive, and intensive training approach so that their skill potential can develop optimally. Learning activities that are monotonous, lack variation, and provide insufficient directed repetition tend to cause stagnation in technical progress and may even reduce participants' motivation in the long term. Therefore, the implementation of a well programmed drilling training method is a relevant and strategic solution for continuously improving the accuracy of the backhand short serve.

This research is important and urgent to conduct because the backhand short serve is one of the fundamental techniques and essential foundations in badminton. If this basic technique is not developed properly, intensively, and continuously from an early age, the future development of the extracurricular participants' technical abilities and achievements may face significant obstacles. In addition, this study offers novelty by specifically examining the effectiveness of backhand short serve drilling training in improving serve accuracy among participants in the badminton extracurricular program at SD IT Al Kautsar.

Materials and Methods

Study Design

This study employs an experimental method a research approach aimed at examining the cause and effect relationship between independent and dependent variables by administering a specific treatment to the research subjects. The study utilizes a One Group Pretest Posttest Design. This design was selected because it is suitable for assessing changes in students' abilities before and after the administration of the training treatment.

Study Participants



The population of this study consists of all students participating in the badminton extracurricular program at SD IT Al Kautsar. The sample comprises 14 students from the badminton extracurricular program at SD IT Al Kautsar.

Study Organization

The test instrument used for both the initial measurement (pretest) and the final measurement (posttest) was the backhand short serve skill test. The instrument employed in this study was the backhand short serve skill instrument.

Statistical Analysis

Before hypothesis testing, prerequisite tests were conducted, including the normality test using the Kolmogorov Smirnov test and the homogeneity test using the F test with SPSS 16. Hypothesis testing was then performed using a t test by comparing the pretest and posttest means, with the hypothesis accepted if the calculated t value exceeded the critical t value and the significance value was $p < 0.05$. The percentage of improvement was calculated by comparing the mean difference between the posttest and pretest scores with the pretest mean.

Results

The pretest and posttest results regarding the accuracy of the backhand short serve among SD IT Al-Kautsar badminton extracurricular participants are presented in Table 1 below:

Table 1. Pretest and posttest data on backhand short serve accuracy

No	Name	Pretest	Posttest	Difference
1	Aira Putri Wijaya	4	15	11
2	Arkan Alfatih	7	14	7
3	Arkana Risky	4	12	8
4	Ananda Saqueena	6	11	5
5	Aqila Azara	3	16	13
6	Aqila Rafa Dninar	5	10	5
7	Fadillah Amri	6	13	7
8	Fanny Arraisyah	5	14	9
9	Alfa Syahputra	8	15	7
10	Lukman Arsyad	6	11	5
11	Raffa Tsaqif	8	12	4
12	Reva Fatina	5	14	9
13	Risky Ananda	6	11	5
14	Zahira Salsabila Nst	6	15	9

Descriptive statistics for the pre-test and post-test regarding the accuracy of the backhand short serve among SD IT Al-Kautsar badminton extracurricular participants are presented in full in Table 2 below:

Table 2. Descriptive Statistics for Pre-test and Post-test Backhand Short Serve Accuracy

Statistics	Pre-Test	Post-Test
N	14	14



<i>Mean</i>	5,64	13,07
<i>Median</i>	6,00	13,50
<i>Standard Deviation (SD)</i>	1,45	1,90
<i>Minimum</i>	3	10
<i>Maksimum</i>	8	16
<i>Range</i>	5	6

The bar chart showing the pre-test and post-test results for backhand short serve accuracy among SD IT Al-Kautsar badminton extracurricular participants is presented in Figure 1 below:

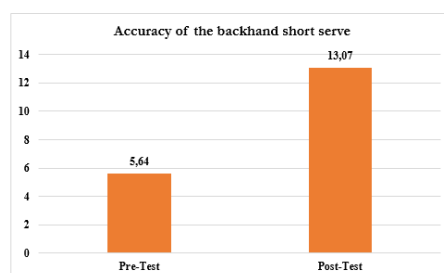


Figure 1. Bar chart showing pretest and posttest results for backhand short serve accuracy among SD IT Al-Kautsar badminton extracurricular participants.

Based on Figure 1 above, the study involved a sample of 14 participants. The mean score for backhand short serve accuracy was 5.64 prior to the drilling practice (pretest) and rose to 13.07 following the drilling practice (posttest). The median score also increased from 6.00 to 13.50. Regarding data dispersion, the standard deviation was 1.45 for the pretest and 1.90 for the posttest; this indicates that the variation in participants' scores after the intervention remained low, suggesting relatively consistent training outcomes. The minimum score rose from 3 (pretest) to 10 (posttest), while the maximum score increased from 8 to 16. The score range also shifted from 5 (pretest) to 6 (posttest).

Discussion

This study aimed to determine the effectiveness of backhand short service drilling training on the accuracy of backhand short serves among badminton extracurricular participants at SD IT Al Kautsar. Based on the results of the data analysis, backhand short service drilling training had a significant effect on improving the participants' backhand short service accuracy.

The results of the descriptive statistical analysis showed an improvement in the participants' performance after the treatment was administered. The mean pretest score of 5.64 increased to 13.07 in the posttest, representing an average increase of 7.43 points, or approximately 131.74%. In addition, the median increased from 6.00 to 13.50, while the minimum score increased from 3 to 10, and the maximum score increased from 8 to 16. These results indicate that nearly all participants experienced an improvement in their ability to perform backhand short serves after participating in the drilling training program.

Before hypothesis testing was conducted, the data were first tested for normality and homogeneity. The results of the normality test using the Shapiro Wilk method showed that the significance values for both the pretest and posttest were greater than 0.05, indicating that the data were normally distributed. Furthermore, the homogeneity test resulted in a significance value of 0.451, which was greater than 0.05. Therefore, the research data met the assumptions for parametric testing using the Paired Samples t Test.



The results of the hypothesis test showed that the t count was 10.81, which was greater than the t table value of 2.160, with a significance value of $0.000 < 0.05$. These results indicate that the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. Thus, it can be concluded that backhand short service drilling training had a significant effect on improving backhand short service accuracy among badminton extracurricular participants at SD IT Al Kautsar.

The improvement in performance was closely related to the characteristics of the drilling training method, which emphasizes continuous and systematic repetition of movements. In backhand short service training, participants were given opportunities to repeatedly practice the same technique, allowing the movement to become more automatic. Furthermore, coordination among hand movements, wrist movements, and racket swings improved, while control over the direction and power of the stroke increased. Repeated practice also helped participants gradually correct technical errors, resulting in more accurate and consistent serves.

In addition to improving technical skills, drilling training also contributed to improvements in participants' concentration and self confidence. During the training process, participants were required to repeatedly direct the shuttlecock toward predetermined targets. This condition trained their focus, precision, and ability to control their movements, enabling them to perform more accurate backhand short serves. The more frequently participants practiced using the correct technique, the higher their level of skill mastery became.

The findings of this study are consistent with motor skill learning theory, which states that repeated practice (drill) strengthens neuromuscular coordination, making movements more efficient, accurate, and consistent. In badminton, the backhand short serve is one of the fundamental techniques that requires a high level of accuracy because it serves as the starting point for developing game strategies. Therefore, training that emphasizes repeated movements is an appropriate method for improving the quality of this technique.

The findings of this study are also consistent with previous studies showing that the drilling training method is effective in improving basic sports skills, including badminton skills. Training conducted in a structured, gradual, and continuous manner has been shown to improve movement accuracy and enhance mastery of basic skills among extracurricular students and beginner athletes. Based on all the results of the analysis, it can be stated that backhand short service drilling training is an effective training method for improving backhand short service accuracy among badminton extracurricular participants at SD IT Al Kautsar. Therefore, this training method can be recommended to coaches and physical education teachers as an alternative training program for improving basic backhand short service skills among students.

Conclusions

Based on the research results, it can be concluded that backhand short serve drilling exercises are effective in improving the accuracy of the backhand short serve among participants in the badminton extracurricular program at SD IT Al Kautsar. This method can be used as an alternative training method to improve backhand short serve skills among elementary school students.

Acknowledgments

The author extends their gratitude to SD IT Al Kautsar and the Bina Guna College of Sports and Health, as well as the researchers and writers who participated in and supported this research project.

Conflict of Interest

The authors declare no conflict of interest.

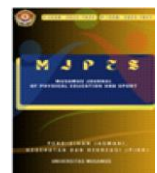
Funding



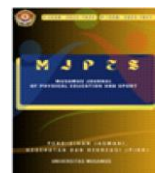
This research received no external funding.

References

- Agustina, A. N., & Raharjo, A. (2025). The Effect of the Service Challenge Drill Method on Improving Short Services in Badminton. *Journal of Physical Education Health and Sport*, 12(2), Article 39197. <https://doi.org/10.15294/jpehs.v12i2.39197>
- Arisandi, E. B. P., Mulhim, H., & Hamid, A. (2024). Analisis tingkat keterampilan teknik forehand dan backhand atlet bulutangkis. *SPRINTER: Jurnal Ilmu Olahraga*, 5(2), 216–223. DOI: <https://doi.org/10.46838/spr.v5i2.541>
- Bailey, R., Hillman, C., Arent, S., & Petitpas, A. (2022). Physical activity: An underestimated investment in human capital? *Journal of Physical Activity and Health*, 19(3), 185–193. <https://doi.org/10.1123/jpah.2021-0456>
- Benu, E., et al. (2024). Kebijakan Pendidikan Jasmani dalam Pendidikan Sekolah Dasar. DOI: <https://doi.org/10.61132/arjuna.v2i4.1081>
- Chen, S., Sun, H., Zhu, X., & Chen, A. (2022). Effects of physical education on students' motivation and physical activity: A meta-analysis. *International Journal of Environmental Research and Public Health*, 19(9), 5231. <https://doi.org/10.3390/ijerph19095231>
- Corbin, C. B., & Lindsey, R. (2017). *Concepts of Fitness and Wellness*. New York: McGraw-Hill.
- Dai, M. (2025). Model pembelajaran problem-based learning untuk meningkatkan hasil belajar servis pendek backhand bulutangkis. *Jurnal Olahraga Pendidikan Indonesia*, 5(1). DOI: <https://doi.org/10.54284/jopi.v5i1.365>
- Darisman, E. K., et al. (2025). Peningkatan kemampuan teknik dan taktik bulutangkis melalui pelatihan terstruktur. *INSAN CENDEKIA*. DOI: <https://doi.org/10.46838/ic.v3i1.809>
- Dudley, D., Okely, A., Pearson, P., & Cotton, W. (2023). Physical education and its role in promoting social and emotional learning. *European Physical Education Review*, 29(2), 312–328. <https://doi.org/10.1177/1356336X221145789>
- Duncan, M. J., Eyre, E., & Bryant, E. (2020). The effect of structured physical activity interventions on motor skill competence in children. *International Journal of Environmental Research and Public Health*, 17(9), 1–12. <https://doi.org/10.3390/ijerph17093157>
- Engel, F. A., et al. (2021). The effects of different training interventions on motor skills and performance in youth sports. *Frontiers in Physiology*, 12, 623. DOI: <https://doi.org/10.3389/fphys.2021.623>
- Faisal, M., et al. (2024). Kurikulum Pendidikan Jasmani Olahraga dan Kesehatan di Sekolah Dasar. DOI: <https://doi.org/10.31004/joe.v7i1.7382>.
- Faude, O., et al. (2020). Training interventions for improving physical and technical performance in youth athletes: A systematic review. *Sports Medicine*, 50(3), 555–572. DOI: <https://doi.org/10.1007/s40279-019-01245-7>
- Grice, T. (2017). *Badminton: Steps to Success* (3rd ed.). Human Kinetics.
- Harahap, M. R. (2024). Pengaruh Pendidikan Jasmani Olahraga dan Kesehatan bagi Kebugaran Tubuh Anak.



- Hidayat, T., Pratama, D., & Suryadi, R. (2021). Development of badminton skill test for junior athletes. *Journal of Physical Education and Sport*, 21(3), 1345–1352. <https://doi.org/10.7752/jpes.2021.03169>
- Hidayatullah, R., Palmizal, & Decheline, G. (2025). Analisis tingkat keterampilan teknik dasar pemain bulutangkis. *YASIN Journal*. DOI: <https://doi.org/10.58578/yasin.v5i5.7323>
- Herman, H., Misnia, & Sahabuddin. (2022). Peningkatan servis pendek backhand bulutangkis melalui metode team games tournament pada mahasiswa jurusan PKO FIK UNM. *Hanoman: Jurnal Pendidikan dan Olahraga*, 3(2), 91-104. <https://doi.org/10.37638/hanoman.v3.i2.724>
- Ikadarny, F., Hasanuddin, M. I., & Zainuddin, M. S. (2024). Analisis Tingkat Keberhasilan Servis pendek backhand Forehand Dalam Permainan Bulutangkis. *Jurnal Dunia Pendidikan*, 4(3), 1471–1480. <https://doi.org/10.55081/jurdip.v4i3.2101>
- Jongu, A. (2023). Pengaruh model pembelajaran problem based learning terhadap kemampuan berpikir kritis siswa. *JB&P: Jurnal Biologi dan Pembelajarannya*, 10(2), 123-135. <https://ojs.unpkediri.ac.id/index.php/biologi/article/download/19584/3250>
- Latifah, A. U., et al. (2023). Pendidikan Jasmani dan Olahraga di Sekolah Dasar Menuju Gaya Hidup Sehat. DOI: <https://doi.org/10.59024/bhinneka.v2i3.861>
- Muharam, A. R., Dimyati, A., & Effendi, R. (2024). Tingkat pengetahuan siswa tentang permainan bulutangkis. *Jurnal Pendidikan Tambusai*, 8(1). DOI: <https://doi.org/10.31004/jptam.v8i1.14532>
- Mustafa, P. S. (2022). Peran Pendidikan Jasmani untuk Mewujudkan Tujuan Pendidikan Nasional. DOI: <https://doi.org/10.5281/zenodo.6629984>
- Parmadi, M., & Lestari, F. A. (2025). Survei pukulan short servis backhand bulutangkis pada PB Talenta Kabupaten Kebumen Jawa Tengah. *Jurnal Edukasi Riset dan Kebijakan Olahraga (JERKIN)*, 2(2), 1105-1112. <https://jerkn.org/index.php/jerkn/article/download/608/400>
- Poole, J. (2016). *Badminton for Beginners*. Crowood Press.
- Ramos-Campo, D. J., et al. (2022). Effects of structured training programs on performance and skill development in young athletes. *International Journal of Environmental Research and Public Health*, 19(4), 2130. DOI: <https://doi.org/10.3390/ijerph19042130>
- Ruslan, R., Rusli, R., Sarifin, S., et al. (2024). The Influence Of The Forehand Grip On Short Service Ability In Badminton. *COMPETITOR: Jurnal Pendidikan Kevelatihan Olahraga*, 17(1), Article 71189. <https://doi.org/10.26858/cjpko.v17i1.71189>
- Sadzali, M. (2023). Koordinasi Mata Tangan Terhadap Keterampilan Servis pendek backhand Dalam Permainan Bulutangkis Siswa Kelas X SMA Negeri 1 Polewali Mandar. *Journal Physical Health Recreation (JPHR)*. <https://doi.org/10.55081/jphr.v4i2.2365>
- Sari, Y. Y., et al. (2024). Pentingnya Pendidikan Jasmani terhadap Anak Usia Sekolah Dasar.
- Setiawan, H., Mury Syafei, M., & Suherman, A. (2024). Pengaruh Model Teaching Games for Understanding Terhadap Peningkatan Kemampuan Pukulan Servis pendek backhand dalam Pembelajaran Bulutangkis. *Jurnal Porkes*, 7(2), 847–858. <https://doi.org/10.29408/porkes.v7i2.27222>



Starzak, M., et al. (2024). Attentional focus strategies in racket sports: A systematic review. PLOS ONE, 19(6), e0285239. <https://doi.org/10.1371/journal.pone.0285239>.

Wuest, D. A., & Bucher, C. A. (2019). Foundations of Physical Education, Exercise Science, and Sport. New York: McGraw-Hill.