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The Effect of Systematic Learning on Improving Volleyball Underhand Passing Skills Among Extracurricular Students at SDN Cisalak 2

Ridwan Maulana Sidik[1], Entan Saptani[2], Anggi Setia Lengkana[3*]
[1,2,3]Physical Education of Elementary Teacher Program, Universitas Pendidikan Indonesia, Jl. Dr. Setiabudi No.229, Isola, Kec. Sukasari, Kota Bandung, Jawa Barat 40154, Indonesia
e-mail: ridwanms21@upi.edu[1], entansaptani@upi.edu[2], asetialengkana@upi.edu[3*]

Abstract

This study aimed to analyze the effect of systematic learning on improving volleyball underhand passing skills among extracurricular students at SDN Cisalak 2. The study employed a quasi-experimental method using a pretest–posttest control group design. The sample consisted of 20 students selected through total sampling and divided equally into an experimental group and a control group. The experimental group received systematic learning treatment, while the control group was taught using conventional learning methods. The instrument used was the AAHPER underhand passing skill test. Data were analyzed using descriptive statistics, normality tests, paired sample t-tests, and independent sample t-tests. The findings revealed that both groups experienced improvement; however, the experimental group demonstrated significantly higher improvement than the control group. The hypothesis test showed a significance value of 0.000 ($p < 0.05$), indicating a significant effect of systematic learning on students' underhand passing skills. In addition, the effect size analysis produced a Cohen's d value of 3.07, categorized as a very large effect. Therefore, systematic learning can be considered an effective instructional approach for improving basic volleyball techniques among elementary school students.

Keywords: Systematic Learning; Underhand Passing; Volleyball; Physical Education; Extracurricular Students

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A. Introduction

Physical education learning in elementary schools plays an important role in developing students' motor skills, physical fitness, and social attitudes. One of the sports commonly taught is volleyball, which requires not only physical ability but also coordination, concentration, and teamwork. In volleyball, basic techniques serve as the fundamental skills that must be mastered by students, one of which is underhand passing. When learning techniques such as serving or passing that require quick adjustments and sensitivity to context, higher levels of interference can encourage the development of more adaptable motor programs suitable for gameplay (Apidogo et al., 2021; Czyż et al., 2024; Qu et al., 2025). This technique plays a crucial role in receiving serves and controlling the ball to build offensive plays. Mastery of underhand passing is essential as it significantly affects game success and overall team coordination (Pangesti et al., 2024; Riyadi et al., 2023). However, in practice, many students still experience difficulties in performing proper and accurate underhand passing, particularly in extracurricular activities at the elementary school level.

These problems are often caused by the lack of effectiveness in the teaching methods used by coaches or teachers. Traditional teaching approaches may not sufficiently capture students' attention, resulting in low engagement and reduced focus during training sessions (Aini, 2021; Pramdhan, 2023). Unstructured learning, lack of systematic repetition, and limited variation in exercises can hinder the development of students' skills. In this context, a learning approach that provides structured, gradual, and continuous learning experiences is needed. Systematic learning is one alternative that can be applied, as it emphasizes a clear sequence of materials, gradual increases in difficulty, and skill reinforcement through well-planned training. Studies have shown that systematic training in underhand passing significantly improves overall volleyball performance, highlighting its fundamental role in the sport (Astuti et al., 2025; Erianti et al., 2025).

Systematic learning enables students to understand basic techniques more deeply because the learning process is organized from simple to complex stages. Systematic technical and physical training can improve passing ability when properly integrated into training programs (Phytanza et al., 2022). Through this approach, students not only perform movements but also understand the concepts and objectives behind each exercise. In addition, systematic learning can enhance students' self-confidence as they experience gradual improvement in their abilities. When students engage in well-structured learning experiences enriched with feedback, their confidence in completing related tasks increases (Kowalski et al., 2025; Mishra et al., 2023; Woods et al., 2025). This is particularly important in extracurricular activities, where motivation and interest play a crucial role in learning success.

At SDN Cisalak 2, volleyball extracurricular activities serve as a platform for students to develop their interests and talents in sports. However, based on initial observations, students' underhand passing ability is still relatively low. This is evident from the lack of accuracy in ball direction, improper body positioning, and suboptimal movement coordination. This condition indicates the need for innovation in teaching methods to improve students' skills effectively and efficiently. The effectiveness of training methods may vary depending on students' motor abilities and motivation levels. Higher motor ability and motivation are associated with better learning outcomes, especially when combined with contextual teaching and learning strategies (Akhmad et al., 2022; Yulianti et al., 2025).

Based on the background described above, the low level of underhand passing ability among extracurricular volleyball students at SDN Cisalak 2 is presumed to be caused by less optimal teaching methods. Therefore, the research problem is whether systematic learning has an effect on improving underhand passing ability in volleyball among these students. In addition, this study aims to determine the extent of differences in improvement between students who receive systematic learning and those who are taught using conventional methods.

Although several previous studies have examined volleyball learning methods and technical training models, limited studies specifically investigate the effectiveness of systematic learning in improving underhand passing skills among elementary school extracurricular students. Previous studies mostly focused on high school or university athletes and rarely emphasized structured learning progression combined with practical effectiveness analysis using effect size measurements. Therefore, this study attempts to fill the gap by examining the practical and statistical effectiveness of systematic learning among elementary school students.

The novelty of this study lies in the application of systematic learning specifically designed for elementary school extracurricular volleyball activities using structured learning stages and practical effectiveness analysis through Cohen's d effect size. The systematic learning approach was implemented through gradual learning stages, including basic posture introduction, hand positioning exercises, controlled passing drills, partner passing activities, and game-based passing simulations.

In line with this, the purpose of this study is to analyze the effect of systematic learning on improving underhand passing ability in volleyball among extracurricular students at SDN Cisalak 2. The application of systematic learning in the context of elementary school volleyball extracurricular activities is still rarely studied, particularly in relation to improving basic underhand passing skills. Moreover, this study not only examines the statistical effects of the learning method but also emphasizes its practical effectiveness through structured and gradual training approaches. Thus, this research contributes to the development of more effective and applicable physical education learning strategies in elementary schools. The findings are expected to provide insights for physical education teachers and coaches in selecting appropriate teaching methods and serve as a reference for improving the quality of sports learning, particularly in mastering basic volleyball techniques.

B. Methods

This study employed a quasi-experimental research method using a pretest–posttest control group design. A quasi-experimental design is characterized by the presence of treatments, outcome measurements, and experimental units, but does not involve random assignment (Sutono & Pamungkas, 2021). This design was used to examine the effect of systematic learning on improving underhand passing skills in volleyball by comparing changes in learning outcomes between the experimental group and the control group. This design is widely used in educational research due to its practicality in examining causal relationships as it allows for the controlled examination of cause-and-effect relationships.

Table 1. *Pretest–Posttest Control Group Design*

Group	Pre-test	Treatment	Post-test
Experiment group	O_1	X_1	O_2
Control group	O_3	X_0	O_4

Description:
O1, O3 : Pretest of underhand passing ability
X1 : Systematic learning treatment
X0 : Control treatment
O2, O4 : Posttest of underhand passing ability

This design allows for the analysis of differences in the improvement of underhand passing ability between the experimental and control groups. The subjects of this study consisted of 20 students participating in the volleyball extracurricular program at SDN Cisalak 2. The sampling technique used was total sampling, meaning that all members of the extracurricular group were included as research participants. The sample was then divided into two groups: 10 students in the experimental group and 10 students in the control group. The group division was carried out by considering the equivalence of initial abilities based on the pretest results. The experimental group received systematic learning treatment, while the control group was taught using conventional methods commonly applied by the coach.

Prior to data collection, permission was obtained from the school administration and participants' parents. All participants voluntarily agreed to participate in the study.

The treatment was conducted in 8 training sessions. Each session lasted approximately 60 minutes and consisted of warm-up activities, systematic underhand passing drills, feedback sessions, and evaluation.

The systematic learning approach was implemented through gradual learning stages, including basic posture introduction, hand positioning exercises, controlled passing drills, partner passing activities, and game-based passing simulations. The independent variable in this study was systematic learning, while the dependent variable was students' underhand passing skill in volleyball.

The instrument used in this study was the AAHPER (American Alliance for Health, Physical Education and Recreation) passing skill test, which has been validated by experts in the field of volleyball (Irawan & Solih, 2025). This test measures the athlete's ability to perform underhand passing toward a predetermined target. The test procedure was as follows: (1) The participant stands in a designated area at a distance of 4.5 meters from the target wall. (2) A rectangular target area measuring 150 cm × 120 cm is marked on the wall, with the lower boundary set at a height of 350 cm from the floor. (3) Each student is allocated 60 seconds, and the score is determined by the number of successful hits on the target. (4) Each pass that enters the target area is scored.

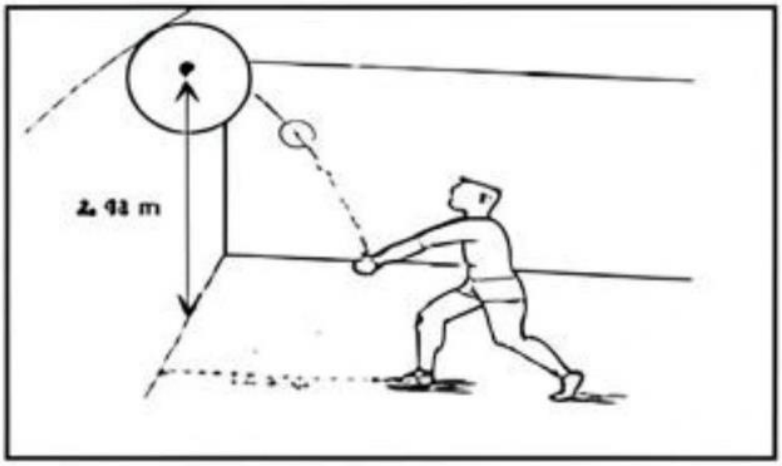


Figure 1. AAHPER Wall Volley Test (*Underhand Passing*)

The instrument validity showed a correlation coefficient of 0.75, which falls into the valid category, while the reliability value calculated using Cronbach's Alpha was 0.87, indicating a high level of reliability (Hermanzoni et al., 2025). Other studies focusing on basic skills such as underhand passing, spiking, and overhead serving have also reported high levels of practicality and effectiveness.

a paired sample t-test to analyze improvements within each group. The decision criterion was that if the significance value (Sig.) < 0.05, then there

Data analysis was conducted using descriptive statistics to determine the mean and standard deviation of each group. A normality test was then performed using the Shapiro–Wilk test to ensure that the data were normally distributed. Hypothesis testing was carried out using an independent sample t-test to examine differences in improvement between the experimental and control groups, as well as is a significant effect of systematic learning on improving underhand passing skills in volleyball among extracurricular students at SDN Cisalak 2.

C. Result and Discussion

Result

The descriptive analysis showed that students in the experimental group achieved greater improvement in underhand passing performance compared to the control group. The increase in posttest scores indicates that systematic learning contributed positively to skill development.

Table 2. Descriptive Test Results

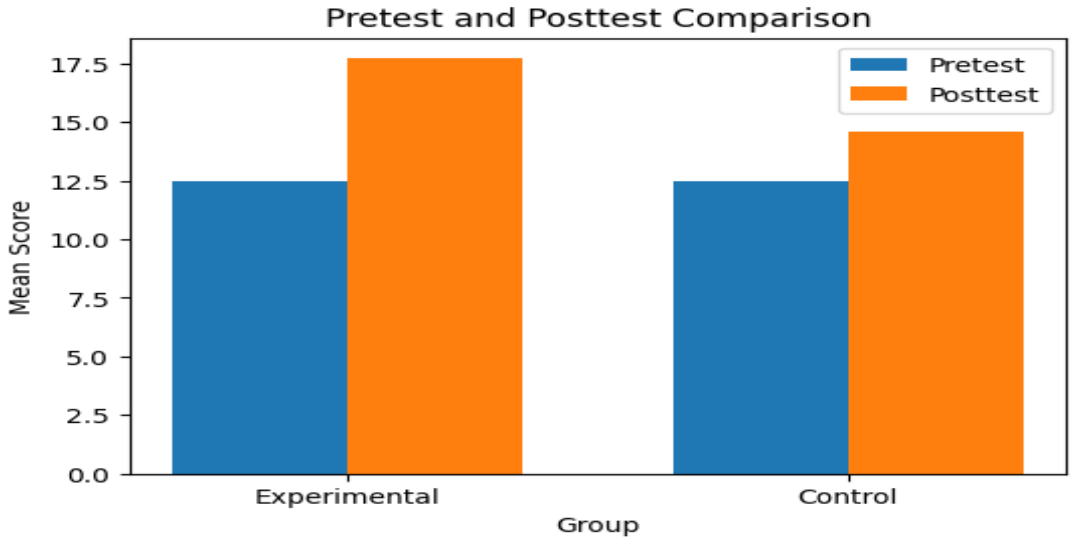
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest Score	20	8	18	12.50	3.086
Posttest Score	20	12	19	16.15	2.059
Score Difference	20	1	7	3.65	1.872
Valid N (listwise)	20				

Based on the results of descriptive statistical analysis, the total number of research participants was 20 respondents. The pretest scores ranged from a minimum

of 8 to a maximum of 18, with a mean of 12.50 and a standard deviation of 3.086. Meanwhile, the posttest scores showed an improvement, with a minimum of 12 and a maximum of 19, a mean of 16.15, and a standard deviation of 2.059. The difference between pretest and posttest scores ranged from 1 to 7, with a mean of 3.65 and a standard deviation of 1.872. These results indicate an improvement in scores after the treatment was administered.

Figure 2. Pretest–Posttest Comparison Graph



This graph illustrates the comparison between the average pretest and posttest scores in the experimental and control groups. The results show that both groups experienced improvement after the learning intervention. However, the experimental group demonstrated a greater increase compared to the control group. These findings indicate that systematic learning was more effective in improving students' volleyball underhand passing skills than the conventional learning method.

Table 3. Normality Test Results

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Group	Statistic	df	Sig.	Statistic	df	Sig.
Score	Experimental Group	.181	10	.200*	.895	10	.191
Difference	Control Group	.240	10	.107	.886	10	.152

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The results of the normality test using the Kolmogorov–Smirnov and Shapiro–Wilk tests indicated that the data on score differences in both groups were normally distributed. In the experimental group, the Shapiro–Wilk significance value was 0.191 (> 0.05), while in the control group it was 0.152 (> 0.05). Since the significance values in both groups were greater than 0.05, it can be concluded that the data on score differences in both the experimental and control groups were normally distributed, thus meeting the assumptions required for parametric statistical testing.

Table 4. Homogeneity Test Results

Levene Statistic	df1	df2	Sig.
0.151	1	18	0.702

The homogeneity test using Levene's Test showed a significance value of 0.702 (> 0.05), indicating that the variance of the data between the experimental and control groups was homogeneous. Therefore, the assumption of homogeneity was fulfilled, and the independent sample t-test could be appropriately conducted. This result indicates that the data distribution between both groups was relatively consistent and did not show significant variance differences. Thus, the statistical analysis performed could provide more reliable and valid results in comparing the outcomes of the two groups.

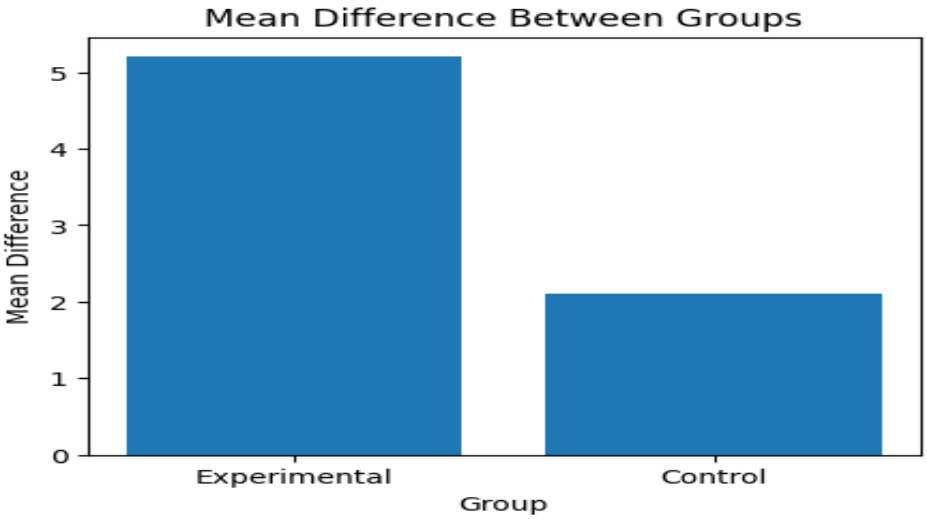
Table 5. Comparative Test Results

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Score Difference	Experimental Group	10	5.20	1.033	.327
	Control Group	10	2.10	.994	.314

Based on the group statistics table, the experimental group, consisting of 10 participants, had a mean score difference of 5.20 with a standard deviation of 1.033. Meanwhile, the control group, also consisting of 10 participants, had a mean score difference of 2.10 with a standard deviation of 0.994. These results indicate that the improvement in scores in the experimental group was higher than that in the control group. This finding suggests that the treatment applied to the experimental group was more effective in improving participants' performance compared to the conventional method used in the control group.

Figure 3. Mean Difference Graph



The mean difference graph presents the average score improvement (the difference between posttest and pretest scores) in each group. The experimental group obtained a mean difference of 5.20, while the control group achieved a mean difference of 2.10. This result indicates that students who received systematic

learning treatment showed greater improvement in underhand passing skills compared to those in the control group.

Table 6. Independent Samples Test

		t-test for Equality of Means			
		df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score Difference	Equal variances assumed	18	.000	3.100	.453
	Equal variances not assumed	17.974	.000	3.100	.453

The results of the independent sample t-test showed a significance value (Sig. 2-tailed) of 0.000, which is less than 0.05. This indicates that there is a significant difference in the score differences between the experimental and control groups. The mean difference value of 3.100 indicates that the average improvement in scores in the experimental group was 3.10 higher than that of the control group. Thus, it can be concluded that the treatment applied to the experimental group had a significant effect on improving scores compared to the control group.

Table 7. Effect Size

Variable	Experimental Mean	Control Mean	Mean Difference	Cohen's d	Description
Score Difference	5.20	2.10	3.10	3.07	Very Large

Based on the calculation of effect size using Cohen's d, a value of 3.07 was obtained. This value falls into the category of a very large effect size, indicating that the treatment given to the experimental group had a very strong effect on improving outcomes compared to the control group. This finding suggests that the intervention was not only statistically significant but also had a substantial practical impact on improving the participants' scores.

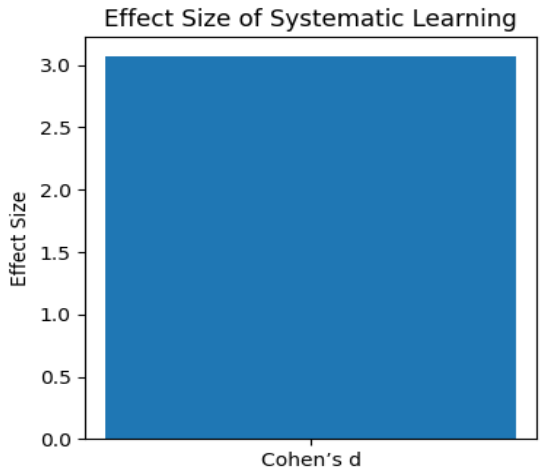


Figure 4. Effect Size Graph

The effect size graph illustrates the magnitude of the influence of systematic learning on improving volleyball underhand passing skills. The Cohen's d value of 3.07 falls into the very large effect category. This finding indicates that systematic learning not only produced statistically significant results but also had a very strong practical impact on improving students' underhand passing performance.

Discussion

The results of this study indicate that systematic learning has a significant effect on improving underhand passing skills in volleyball among extracurricular students at SDN Cisalak 2. This is evident from the clear increase in mean scores between the pretest and posttest, as well as the greater improvement observed in the experimental group compared to the control group. The average improvement in the experimental group was 5.20, while the control group showed an increase of only 2.10. Furthermore, the results of the independent sample t-test revealed a significance value of 0.000 ($p < 0.05$), indicating a significant difference between the two groups. The very large effect size (3.07) further demonstrates that systematic learning has a strong influence not only statistically but also practically in enhancing students' abilities.

These findings directly address the research problem, confirming that systematic learning has an effect on improving underhand passing skills in volleyball. In addition, the results show that there is a difference in improvement between students who received systematic learning and those who were taught using conventional methods, with systematic learning proving to be more effective. These results can be explained through the systematic learning approach, which emphasizes instructional principles that enhance teaching materials, learning activities, and evaluation processes (Acesta, 2023). Thus, it can be affirmed that structured and gradual learning methods yield more optimal outcomes compared to unsystematic approaches. From a physiological perspective, continuous practice can improve movement regulation during training and stimulate the development of specific muscle capacities required in sports, thereby contributing to better performance (Safari & Saptani, 2019).

From the perspective of motor learning theory, systematic learning facilitates skill acquisition through repetition, progression, and feedback. These components are essential in improving coordination and movement automation among elementary school students.

Theoretically, these findings are consistent with motor learning concepts that emphasize the importance of repetition, progression, and feedback in improving movement skills. The appropriate selection of methods can enhance basic sports technique skills, requiring strong conceptual understanding and structured motor practice (Sahabuddin et al., 2025). Systematic learning allows students to progress gradually from simple to more complex movements, facilitating adaptation and mastery of techniques. This reflective practice contributes to a continuous development cycle, helping educators refine their approaches to better support student learning outcomes (Knobbout & Stappen, 2020). In the context of underhand passing in volleyball, structured training helps students improve body positioning, movement coordination, and accuracy of ball direction. Moreover, continuous feedback in systematic learning plays a crucial role in accelerating error correction and improving movement quality (Wulf & Lewthwaite, 2016).

The findings of this study are also supported by previous research indicating

that systematic training can improve performance in basic volleyball techniques. Earlier studies have shown that structured and progressive training approaches significantly enhance motor skills and learning outcomes. These findings strengthen empirical evidence that systematic learning is an effective method for improving basic technical skills, particularly underhand passing in volleyball among elementary school students. One of the main advantages of systematic learning lies in its focus on developing a deeper understanding of subject matter through clearly defined objectives, efficient instruction, and well-planned assessment mechanisms (Chang et al., 2024). This approach also facilitates collaboration between educators and students, where feedback can be provided constructively to improve learning quality. A structured environment fosters greater accountability and motivation among team members, thereby enhancing overall performance (Wang, 2023).

Practically, the findings suggest that physical education teachers and extracurricular coaches should implement structured and progressive learning strategies rather than relying solely on conventional repetitive drills. This study has several limitations, including the relatively small sample size and short treatment duration. Future studies are recommended to involve larger samples and longer intervention periods. Future studies may investigate the effectiveness of systematic learning on other volleyball techniques such as serving, setting, and spiking.

Overall, it can be concluded that systematic learning has a significant and effective impact on improving underhand passing skills in volleyball among extracurricular students. This method not only produces statistically significant improvements but also yields meaningful practical benefits in the learning process. Therefore, systematic learning can be recommended as an appropriate method for implementation in physical education, particularly in improving basic sports skills at the elementary school level.

D. Conclusion

Systematic learning significantly improves volleyball underhand passing skills among extracurricular students at SDN Cisalak 2. Students who received systematic learning treatment demonstrated higher improvement compared to those taught using conventional methods. In addition, the very large effect size indicates that systematic learning provides substantial practical benefits in volleyball learning. Therefore, systematic learning can be recommended as an effective instructional strategy for elementary school physical education and extracurricular sports programs.

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F. Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

References

Acesta, A. (2023). Science Teaching Materials Based on Multiple Intelligences. *Jurnal Ilmiah Sekolah Dasar*, *7*(2), 302–315. https://doi.org/10.23887/jisd.v7i2.53989

Aini, K. (2021). Improving Passing Skills on Volleyball Using Target Games Approach. *Journal Sport Area*, *6*(1), 28–36.

https://doi.org/10.25299/sportarea.2021.vol6(1).5288

Akhmad, I., Suharjo, Hariadi, Dewi, R., & Supriadi, A. (2022). The Effects of Learning Strategies on Senior High School Students' Motivation and Learning Outcomes of Overhead Passing in Volleyball. *International Journal of Education in Mathematics, Science and Technology*, *10*(2), 458 – 476. https://doi.org/10.46328/ijemst.2291

Astuti, Y., Erianti, Lawanis, H., Orhan, B. E., Ikhlas, A., & Govindasamy, K. (2025). Implementing technical training models to enhance basic volleyball skills in students; [Implementar modelos de capacitación técnica para mejorar los niveles básicos de habilidades de voleibol en estudiantes]. *Retos*, *63*, 1075 – 1083. https://doi.org/10.47197/retos.v63.111190

Chang, Y. K., Chen, K., & Li, Z. (2024). Systematic Framework for Esports Training: Informing eSports Training with the Learning Sciences. *Simulation and Gaming*, *55*(1), 82–108. https://doi.org/10.1177/10468781231219938

Erianti, Astuti, Y., Lawanis, H., Orhan, B. E., & Govindasamy, K. (2025). Volleyball Basic Abilities Improving With Technical Training Models in the Students. *Annals of Applied Sport Science*, *13*(Special-Issue), 229 – 232. https://www.scopus.com/inward/record.uri?eid=2-s2.0-105005523110&partnerID=40&md5=c0430cd9b4969ba14537647fd27d3452

Hermanzoni, Rifki, M. S., Ilham, Ariston, A., Hanifah, R., Orhan, B. E., Karaçam, A., Adigüzel, N. S., & Geantă, V. A. (2025). A comprehensive instrument for evaluating advanced volleyball techniques in sport science students: design, reliability, and validity; [Un instrumento integral para evaluar técnicas avanzadas de voleibol en estudiantes de ciencias del deporte: diseño, fiabilidad y validez]. *Retos*, *62*, 379 – 387. https://doi.org/10.47197/retos.v62.109456

Irawan, Y. F., & Solih, A. W. (2025). *Analisis Keterampilan Passing Atas Atlet Klub Bola Voli Khanas Jaya Tahun 2025*. *9*, 10481–10485.

Knobbout, J., & Stappen, E. (2020). Where is the Learning in Learning Analytics? A Systematic Literature Review on the Operationalization of Learning-Related Constructs in the Evaluation of Learning Analytics Interventions. *IEEE Transactions on Learning Technologies*, *13*(3), 631–645. https://doi.org/10.1109/TLT.2020.2999970

Kowalski, S., Rahman, A. S., & Bergström, L. (2025). *Engagement, Satisfaction, and Self-Efficacy in Virtual Reality-Based Nursing Education: A Protocol for a Systematic Review of Qualitative Studies*. https://doi.org/10.1101/2025.10.30.25339147

Mishra, R., Hemlata, H., & Trivedi, D. (2023). Simulation-Based Learning in Nursing Curriculum- Time to Prepare Quality Nurses: A Systematic Review and Meta-Analysis. In *Heliyon*. https://doi.org/10.1016/j.heliyon.2023.e16014

Phytanza, D. T. P., Burhaein, E., Lourenço, C. C. V., & Andika, A. (2022). The Effect of Net Play on Forearm Passing Ability on Junior High School Level Inclusion Schools. *International Journal of Human Movement and Sports Sciences*, *10*(5), 1067–1074. https://doi.org/10.13189/saj.2022.100525

Pramdhan, K. (2023). Modification of Learning Media Using Rubber Balls for Volleyball Learning Outcomes at The High School Level. *Journal of Physical and Outdoor Education*, *5*(2), 1–9. https://doi.org/10.37742/jpoe.v5i2.211

Safari, I., & Saptani, E. (2019). *Jurnal Keolahragaan Metode latihan dan koordinasi mata tangan meningkatkan akurasi forehand sidespin service tenis meja Method of exercise and hand-eye coordination improves the accuracy of the*. *7*(2), 174–181.

Sahabuddin, Lengkana, A. S., & Sofyan, D. (2025). *PENGARUH MEDIA VISUAL INTERAKTIF DALAM PEMBELAJARAN TEKNIK DASAR BOLA VOLI TERHADAP MINAT BELAJAR SISWA THE EFFECT OF INTERACTIVE VISUAL MEDIA IN LEARNING BASIC VOLLEYBALL Indonesian Journal of Physical Activity PENDAHULUAN Pendidikan jasmani memiliki per*. *5*(1), 94–107.

Sutono, S., & Pamungkas, A. P. (2021). Penerapan Metode Eksperimen Semu Pada Sistem Informasi Persediaan dan Penjualan Obat di Apotek Berbasis Web-Base. *Media Jurnal Informatika*, *12*(2), 44. https://doi.org/10.35194/mji.v12i2.1225

Wang, L. (2023). Factors Influencing Athlete Engagement in High-Level Athletes: A Systematic Review. *International Journal of Scientific and Management Research*, *06*(12), 32–44. https://doi.org/10.37502/ijsmr.2023.61203

Woods, A., Lotherington, F., Steffensen, P., & Theophilos, T. (2025). Peer-Assisted Learning for First-Year Nursing Student Success and Retention: Findings From a Regional Australian Study. In *Nursing Reports*. https://doi.org/10.3390/nursrep15070252

Wulf, G., & Lewthwaite, R. (2016). Optimizing performance through intrinsic motivation and attention for learning : The OPTIMAL theory of motor learning. *Psychonomic Bulletin & Review*, 1382–1414. https://doi.org/10.3758/s13423-015-0999-9

Yulianti, M., Subagyo, Sujarwo, & Nevitaningrum. (2025). Comparative Effects of Drill and Play Methods on Volleyball Underhand Passing and Learning Motivation Across Motor Educability Levels; [Вплив методів відпрацювання елементів та ігрової практики на якість нижньої передачі та мотивацію учнів у волейболі з урахуванням їх рухових здібностей]. *Slobozhanskyi Herald of Science and Sport*, *29*(4), 338 – 350. https://doi.org/10.15391/snsv.2025-4.05