



The Effect Of One-Touch Wall Passing and Pair Passing Training on Passing Accuracy

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ABSTRACT

Passing accuracy is one of the most fundamental technical skills in football, as it plays a crucial role in maintaining ball possession, organizing attacks, and supporting overall team performance. However, many young football players still experience difficulties in executing accurate passes consistently during training and competition. Therefore, effective training methods are needed to improve passing accuracy from an early age. This study aimed to determine the effect of one-touch wall passing training and pair passing training on the passing accuracy of players at SSB AFA Academy Banjarnegara. This study employed a quantitative experimental approach conducted from April 26 to May 24, 2026. The sample consisted of 20 football players aged 11-12 years selected through purposive random sampling. Participants were divided into two training groups: one-touch wall passing and pair passing. Passing accuracy was measured using a passing accuracy test in which players performed 10 passing attempts toward a target, with each successful attempt awarded one point. The training programs were implemented three times per week using structured sets and repetitions. Data were analyzed using descriptive statistics, normality tests, homogeneity tests, and independent sample t-tests. The results showed that both training methods significantly improved passing accuracy. The one-touch wall passing group increased from a pretest mean score of 4.50 ± 1.58 to a posttest mean score of 7.10 ± 1.20 . Meanwhile, the pair passing group improved from 4.60 ± 1.71 to 8.70 ± 1.16 . Statistical analysis revealed a significant difference between the two methods ($p = 0.007$), indicating that pair passing training produced greater improvements in passing accuracy than one-touch wall passing training. In conclusion, both training methods effectively improved passing accuracy among young football players; however, pair passing training demonstrated superior effectiveness and can be recommended as a practical training approach for youth football development programs.

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INTRODUCTION

Football is one of the most popular sports worldwide and continues to attract participants across all age groups due to its dynamic nature and competitive



characteristics. Success in football is determined not only by physical fitness but also by players' technical proficiency, tactical understanding, and teamwork capabilities (Gutawa Arda Wisnu, 2022). Football is played by two teams consisting of eleven players each, whose primary objective is to defend their own goal while attempting to score against the opposing team (Arridh et al., 2021). In modern football, technical performance has become increasingly important because the speed and complexity of the game require players to execute skills accurately under pressure.

Among the fundamental technical skills in football, passing is considered the most essential because it serves as the foundation for ball circulation, possession maintenance, and attacking organization. Passing refers to the process of transferring the ball to a teammate using specific parts of the foot in a controlled and accurate manner (Fitrah et al., 2024). Accurate passing enables teams to maintain possession, create attacking opportunities, and control the tempo of play. Conversely, poor passing accuracy often results in ball loss, disrupted team coordination, and increased opportunities for opponents to launch counterattacks. Previous studies have demonstrated that passing accuracy is strongly associated with successful team performance and effective tactical implementation during matches (Gulo et al., 2024).

The development of passing skills should begin during the early stages of player formation, particularly within Football Schools (Sekolah Sepak Bola/SSB). Youth football development programs emphasize the acquisition of fundamental technical skills because childhood and adolescence represent critical periods for motor learning and skill acquisition. During these developmental stages, players exhibit high neural plasticity, making them more responsive to structured technical training programs. Consequently, coaches are required to implement effective and evidence-based training methods to optimize skill development. Research by Nevitaningrum and Mulyatno (2023) revealed that systematic and well-planned training interventions significantly improve passing performance among young football players.

Despite the recognized importance of passing skills, observations conducted at AFA Academy Banjarnegara indicated several technical deficiencies among players. These include low passing accuracy, inadequate ball control when receiving passes, poor consistency in one-touch passing situations, and limited effectiveness in maintaining possession during training games. Such deficiencies may negatively affect overall team performance and hinder player development. Therefore, identifying effective training methods capable of enhancing passing accuracy remains an important issue in youth football coaching.

Various training methods have been developed to improve passing performance in football. Two commonly applied methods are one-touch wall passing and pair passing training. Both approaches aim to enhance passing accuracy but emphasize different aspects of technical development.

One-touch wall passing is an individual-based training method in which players pass the ball against a wall and immediately receive and return it with a single touch. This exercise develops reaction speed, ball control, coordination, timing, and passing

precision under repetitive conditions. The method also encourages players to improve neuromuscular coordination and technical consistency through high-frequency repetitions. Previous research suggests that repetitive technical drills contribute significantly to the development of motor learning and technical automation among young athletes (Ford et al., 2020; Roca et al., 2022).

In contrast, pair passing training involves two players passing the ball to each other while maintaining accuracy, timing, and communication. This method resembles actual match situations because players must interact with teammates, adjust passing speed and direction, and respond to dynamic movement patterns. Pair passing is therefore believed to enhance not only technical accuracy but also interpersonal coordination and tactical awareness (Sarmiento et al., 2020).

Several empirical studies have reported positive effects of passing-specific training interventions. Setiawan et al. (2025) demonstrated that structured passing drills significantly improved passing accuracy among youth football players. Similarly, Permono and Ramadhani (2025) found that passing drill exercises contributed substantially to improvements in passing precision and ball distribution effectiveness. Other studies have investigated alternative approaches such as small-sided games, which have also been shown to improve technical performance through game-based learning environments (Rivaldi et al., 2024).

Research by Aprianto et al. (2021) revealed that small-sided games produced greater improvements in passing accuracy than conventional paired-passing exercises. These findings indicate that training methods differ in their effectiveness due to variations in training stimuli, motor demands, and contextual complexity. Consequently, coaches must carefully select training approaches that align with specific developmental objectives and player characteristics.

From a theoretical perspective, motor learning theory suggests that repeated practice under specific task constraints facilitates skill acquisition and movement refinement (Schmidt & Lee, 2019). Meanwhile, ecological dynamics theory emphasizes the importance of perception-action coupling and representative learning environments in developing football skills (Davids et al., 2021). These perspectives provide a scientific foundation for examining the effectiveness of different passing training methods.

Although numerous studies have investigated football passing training methods, several limitations remain evident in the current literature. First, previous studies have predominantly examined passing drills, small-sided games, or general technical training programs without directly comparing one-touch wall passing and pair passing within the same experimental framework. Consequently, the relative effectiveness of these two methods remains unclear.

Second, existing studies have primarily focused on school students, academy players from different regions, or general youth football populations. Limited research has specifically examined players from SSB AFA Academy Banjarnegara, whose training characteristics and developmental contexts may differ from those of other football academies.

Third, previous research has generally evaluated improvements in passing skills without considering the distinct technical mechanisms underlying each training method. One-touch wall passing emphasizes individual reaction speed and ball control, whereas pair passing emphasizes communication and cooperative interaction. The differential effects of these contrasting training characteristics on passing accuracy have not been adequately explored.

Finally, despite increasing attention toward evidence-based coaching practices, practical recommendations regarding the most effective passing training method for youth football development remain limited. This gap highlights the need for comparative research capable of providing empirical guidance for coaches and football academies.

Based on the identified research problems and gaps, this study aims to examine the effects of one-touch wall passing and pair passing training on passing accuracy among players of AFA Academy Banjarnegara. Specifically, the study seeks to determine whether both training methods significantly improve passing accuracy and to identify which method provides greater effectiveness in enhancing technical performance.

The novelty of this study lies in three important aspects. First, it directly compares two widely used but rarely contrasted passing training methods within the same research design. Second, it focuses on youth players from SSB AFA Academy Banjarnegara, thereby providing contextual evidence from grassroots football development. Third, it contributes practical insights for coaches by identifying training approaches that can optimize passing accuracy based on the specific characteristics of each method. The findings are expected to enrich the scientific literature on football coaching and youth player development while providing evidence-based recommendations for designing more effective technical training programs.

Passing accuracy represents a fundamental determinant of successful football performance because it directly influences ball possession, attacking organization, and team effectiveness. Although numerous training methods have been developed to improve passing skills, uncertainty remains regarding the comparative effectiveness of one-touch wall passing and pair passing training. Considering the technical deficiencies observed among AFA Academy Banjarnegara players and the limited comparative evidence available in the literature, this study seeks to investigate the effects of both training methods on passing accuracy. The results are expected to contribute to the advancement of football coaching science and support the implementation of evidence-based training practices in youth football development programs.

METHODS

This study employed a quantitative research approach using a quasi-experimental method with a pretest-posttest two-group design. The selection of this design was based on its ability to evaluate the effectiveness of different training interventions by comparing changes in performance before and after treatment while maintaining ecological validity in sports training environments. Quasi-experimental designs are

widely utilized in football training research because they allow researchers to investigate the impact of specific exercise programs under real coaching conditions without disrupting the natural training process of athletes (Yılmaz, 2023; Sarmiento et al., 2020). Furthermore, comparative experimental designs have been recommended for examining the effectiveness of technical training methods in youth football development programs (Khoirul et al., 2021).

The study was conducted at SSB AFA Academy Banjarnegara and involved youth football athletes who actively participated in the academy's regular training program. The population consisted of 20 registered athletes, all of whom were included in the study through a total sampling technique. Total sampling was selected because the population size was relatively small and all athletes met the predetermined inclusion criteria, including regular attendance in training sessions, absence of injury, and willingness to participate throughout the study period. The sample was subsequently divided into two equal groups consisting of ten athletes each. Group A received the one-touch wall passing training program, while Group B received the pair passing training program. Similar group allocation procedures have been adopted in previous football training studies investigating passing skill development among youth athletes (Huda et al., 2021).

The independent variable in this study was the type of passing training method, namely one-touch wall passing and pair passing. The dependent variable was passing accuracy. One-touch wall passing training emphasized individual technical execution, reaction speed, coordination, and ball control through repetitive single-touch passes directed against a wall. In contrast, pair passing training emphasized passing precision, timing, communication, and cooperation between two players in conditions that more closely resembled actual match situations. Previous studies have reported that both training approaches contribute positively to the development of passing skills, although their mechanisms of improvement differ (Marsuna et al., 2024; Nizar et al., 2024).

The instrument used to measure passing accuracy was the Short Pass Accuracy Test directed toward a designated target goal. This test has been widely employed in football skill assessment due to its demonstrated validity and reliability in evaluating passing performance among youth and amateur football players (Huda et al., 2021). The test required athletes to perform a series of short passes toward a predefined target area, with scores assigned based on the accuracy of each pass. Higher scores indicated greater passing accuracy and technical proficiency.

The research procedure consisted of three main stages: pretesting, intervention, and posttesting. Initially, all participants completed a passing accuracy pretest using the same standardized testing instrument. The pretest was conducted to establish baseline performance levels and ensure comparability between groups before the intervention. Following the pretest, each group participated in its respective training program according to the prescribed schedule developed by the researchers and coaching staff. The one-touch wall passing group performed repetitive wall-pass drills emphasizing single-touch execution, whereas the pair passing group engaged in structured passing

exercises with a teammate. Similar intervention protocols have been reported to effectively enhance technical football performance in previous investigations (Nizar et al., 2024; Marsuna et al., 2024; Ford et al., 2020).

Upon completion of the intervention period, all participants undertook a posttest using the same passing accuracy instrument and testing procedures applied during the pretest. Consistency in testing conditions was maintained to minimize measurement bias and improve the reliability of the results. Standardized testing procedures are strongly recommended in experimental sports research to ensure the validity of performance comparisons across measurement periods (Impellizzeri et al., 2021).

Data analysis was performed using IBM SPSS Statistics software. Descriptive statistics, including mean, standard deviation, minimum score, and maximum score, were calculated to summarize participant performance in both pretest and posttest assessments. Descriptive analysis is commonly used in football training studies to provide an overview of performance changes resulting from training interventions (Nizar et al., 2024). Prior to hypothesis testing, data normality was assessed using the Shapiro-Wilk test, while homogeneity of variance was examined using Levene's test. These procedures were conducted to verify compliance with the assumptions required for parametric statistical analysis (Hurung et al., 2023). Because the data satisfied both normality and homogeneity assumptions, differences between groups were analyzed using the Independent Samples t-test. This statistical technique is frequently applied in experimental football research to determine whether significant differences exist between training interventions and their effects on technical performance outcomes (Yilmaz, 2023; Hopkins et al., 2021). The level of statistical significance was established at $p < 0.05$.

RESULTS AND DISCUSSION

Result

This study aimed to examine the effect of one-touch wall passing training and pair passing training on passing accuracy among players of SSB AFA Academy Banjarnegara. Data analysis was conducted through descriptive statistics, normality testing, homogeneity testing, and hypothesis testing using the Independent Samples t-test.

Descriptive Statistics

The descriptive analysis revealed that both training groups experienced improvements in passing accuracy scores after the intervention period. The increase in posttest scores indicates that both one-touch wall passing and pair passing training contributed positively to the development of passing skills among the participants.

Table 1.

Descriptive Statistics of the One-Touch Wall Passing Group

Variable	Mean	SD	Min	Max
Pretest	4.50	1.58	2	7
Posttest	7.10	1.20	5	9

Table 1 shows that the mean passing accuracy score increased from 4.50 during the pretest to 7.10 in the posttest. This represents an improvement of 2.60 points following the implementation of the one-touch wall passing training program. In addition, the standard deviation decreased from 1.58 to 1.20, indicating that participants' performances became more consistent after the intervention.

Table 2.
 Descriptive Statistics of the Pair Passing Group

Variable	Mean	SD	Min	Max
Pretest	4.60	1.71	2	7
Posttest	8.70	1.16	7	10

As presented in Table 2, the pair passing group demonstrated a greater improvement in passing accuracy. The mean score increased from 4.60 in the pretest to 8.70 in the posttest, representing an increase of 4.10 points. The reduction in standard deviation from 1.71 to 1.16 suggests a more uniform level of performance among participants after the training period.

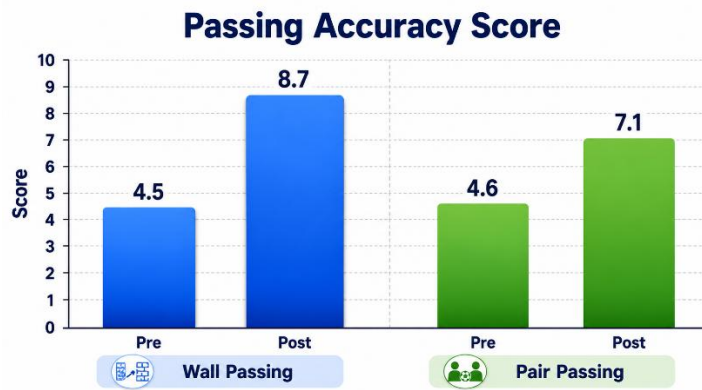


Figure 1.
 Mean Pretest and Posttest Passing Accuracy Scores

Figure 1 illustrates that both groups improved after the intervention; however, the pair passing group achieved a higher posttest score compared to the one-touch wall passing group.

Normality Test

Prior to hypothesis testing, a normality test was conducted using both Kolmogorov-Smirnov and Shapiro-Wilk statistics.

Table 3.
 Normality Test Results

Variable	Kolmogorov-Smirnov Sig.	Shapiro-Wilk Sig.
PreWall	0.200	0.849
PostWall	0.200	0.691
PrePass	0.200	0.709
PostPass	0.200	0.124

The results presented in Table 3 indicate that all significance values exceeded 0.05. Therefore, the passing accuracy data in both the pretest and posttest for the two groups

were normally distributed. The fulfillment of the normality assumption confirms that parametric statistical procedures could be appropriately applied in the subsequent analysis.

Homogeneity Test

To determine whether the variances of the two groups were equal, a homogeneity test was performed using Levene's Test.

Table 4.
Homogeneity Test Results

Test Basis	Levene Statistic	df1	df2	Sig.
Based on Mean	0.020	1	18	0.890
Based on Median	0.000	1	18	1.000
Based on Median and Adjusted df	0.000	1	18.000	1.000
Based on Trimmed Mean	0.014	1	18	0.909

Table 4 shows that the significance value based on the mean was 0.890 (> 0.05). Consequently, the variances between groups can be considered homogeneous. The fulfillment of this assumption indicates that the two groups possessed relatively equal variability and that the Independent Samples t-test could be performed reliably.

Hypothesis Testing

After the assumptions of normality and homogeneity were satisfied, hypothesis testing was conducted using the Independent Samples t-test to determine whether significant differences existed between the two training methods.

Table 5.
Independent Samples t-Test Results

Variable	Sig. (2-tailed)	Decision
Passing Accuracy	0.007	Significant Difference

The Independent Samples t-test produced a significance value of 0.007, which is lower than the predetermined alpha level of 0.05. Therefore, the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_1) was accepted.

These findings indicate a statistically significant difference between one-touch wall passing training and pair passing training in improving passing accuracy among SSB AFA Academy Banjarnegara players. Furthermore, the pair passing group achieved a higher posttest mean score (8.70) than the one-touch wall passing group (7.10), suggesting that pair passing training was more effective in enhancing passing accuracy.

Overall, both training methods successfully improved passing performance; however, pair passing training produced superior outcomes. This result indicates that training situations involving direct interaction, communication, and cooperation with teammates provide greater benefits for developing passing accuracy among youth football players.

Discussion

The findings of this study demonstrated that both one-touch wall passing training and pair passing training significantly improved the passing accuracy of players at SSB

AFA Academy Banjarnegara. The descriptive analysis showed a positive increase in passing scores in both groups, indicating that repetitive passing exercises contribute substantially to the development of technical proficiency in football. Specifically, the one-touch wall passing group improved from a mean score of 4.50 to 7.10, while the pair passing group improved from 4.60 to 8.70. Furthermore, the independent samples t-test revealed a significant difference between the two training methods ($p = 0.007$), indicating that pair passing training produced greater improvements in passing accuracy than one-touch wall passing training.

The improvement observed in the one-touch wall passing group supports the principles of motor learning theory, which emphasize the importance of repetitive practice in developing technical skills and movement automatization. According to Schmidt and Lee (2019), repeated execution of a specific movement pattern strengthens neuromuscular pathways and enhances motor program efficiency. In football, repeated passing against a wall enables players to continuously refine ball contact, passing direction, force regulation, and body positioning. As a result, athletes gradually develop more consistent and accurate movement patterns. Similar findings were reported by Nizar et al. (2024), who found that wall passing drills significantly improved passing accuracy among elementary school football players. Likewise, Julriansyah and Bayu (2023) reported substantial improvements in passing performance among U-12 football players following a structured wall passing intervention.

From a biomechanical perspective, one-touch wall passing training enhances the synchronization of lower limb movements during ball striking. Accurate passing requires precise coordination between the supporting leg, kicking leg, trunk stabilization, and visual perception (Lees et al., 2020). Repetitive wall passing exercises provide opportunities for athletes to refine these movement components under controlled conditions. Furthermore, repeated exposure to the same technical task promotes procedural learning, enabling athletes to perform passing actions more efficiently and with reduced cognitive effort (Williams & Hodges, 2021). This mechanism explains why wall passing remains one of the most widely used technical drills in youth football development programs worldwide.

Although wall passing training proved effective, the results of this study revealed that pair passing training generated greater improvements in passing accuracy. This finding is consistent with previous studies conducted by Marsuna et al. (2024), Manurung and Sari (2024), Hurung et al. (2023), and Huda et al. (2021), which demonstrated that paired passing exercises significantly improve passing precision and technical execution in football players. The superiority of pair passing training may be explained by its closer resemblance to actual game situations. Unlike wall passing, pair passing requires players to interact continuously with teammates, adjust passing force and direction, anticipate movement patterns, and maintain communication throughout the exercise.

The ecological dynamics framework provides a theoretical explanation for these findings. According to Davids et al. (2021), skill acquisition is optimized when training

environments closely replicate the perceptual and decision-making demands of competition. Pair passing exercises create representative learning environments in which athletes must continuously perceive, interpret, and respond to changing movement conditions. Such interactions enhance perception-action coupling, which is essential for successful football performance. Consequently, players develop not only technical accuracy but also tactical awareness and situational adaptability.

Another factor contributing to the effectiveness of pair passing training is the provision of varied feedback. Motor learning research suggests that variable practice conditions enhance skill retention and transfer more effectively than constant practice conditions (Magill & Anderson, 2022). During pair passing exercises, athletes receive passes at different speeds, trajectories, and angles, requiring continuous adjustments in movement execution. This variability stimulates adaptive motor responses and promotes the development of more flexible movement solutions. In contrast, wall passing exercises generally provide predictable ball returns, resulting in lower contextual variability. Therefore, pair passing training may better prepare players for the unpredictable nature of football matches.

The greater effectiveness of pair passing training is also associated with increased player engagement and motivation. Self-determination theory suggests that social interaction during learning activities enhances intrinsic motivation and participation (Ryan & Deci, 2020). Pair passing exercises require cooperation, communication, and mutual support between players, creating a more enjoyable and interactive training environment. Research conducted by Sarmiento et al. (2020) demonstrated that socially interactive football training activities increase player involvement and facilitate technical learning. Similarly, Ford et al. (2020) reported that youth athletes show higher levels of concentration and motivation when training activities involve collaborative tasks rather than isolated drills.

The statistical findings of this study further strengthen the validity of the conclusions. The normality test indicated that all pretest and posttest data were normally distributed, while the homogeneity test confirmed equal variances between groups. These results satisfy the assumptions required for parametric statistical analysis and support the reliability of the independent samples t-test findings. Similar methodological procedures have been recommended in sports science research by Puriana and Mardhika (2020), Zannah and Rezqiyah (2022), Yılmaz (2023), and Hopkins et al. (2021). Meeting these assumptions ensures that the observed differences are attributable to the training interventions rather than statistical artifacts or distributional biases.

The findings of this study also align with broader research examining game-based training approaches in football. Studies involving small-sided games have consistently demonstrated significant improvements in passing accuracy, decision-making ability, and tactical performance (Putri et al., 2023; Clemente et al., 2021; Praça et al., 2022). Small-sided games expose players to dynamic environments characterized by constant interaction, pressure, and decision-making demands. Similar characteristics are

present in pair passing exercises, which may explain their superior effectiveness compared to individual wall passing drills. These findings reinforce the notion that representative training environments facilitate more effective skill transfer to competitive performance.

From a practical coaching perspective, the results suggest that both training methods should be incorporated strategically into youth football development programs. Wall passing exercises remain valuable for establishing fundamental technical competence, particularly in improving ball contact consistency, passing mechanics, coordination, and individual confidence. Such exercises are especially beneficial during the early stages of skill acquisition when players require extensive repetition to develop stable motor patterns. However, once basic proficiency has been achieved, coaches should progressively integrate pair passing exercises to expose players to more realistic game demands. This progression aligns with long-term athlete development principles, which advocate a gradual transition from isolated skill practice to contextualized performance situations (Lloyd et al., 2022).

Furthermore, combining individual and interactive training methods may provide complementary benefits for technical development. Wall passing enhances technical precision and repetition quality, whereas pair passing develops adaptability, communication, anticipation, and tactical understanding. Previous studies by Roca et al. (2022), Santos et al. (2021), and Travassos et al. (2020) emphasize that multidimensional training approaches produce more comprehensive improvements in football performance than reliance on a single training method. Therefore, coaches are encouraged to design integrated training programs that utilize both methods according to the developmental needs of players.

Overall, the findings indicate that both one-touch wall passing and pair passing training are effective interventions for improving passing accuracy among youth football players. However, pair passing training produces superior outcomes because it combines technical execution with perceptual, cognitive, and social components that more closely resemble actual match conditions. These results contribute to the growing body of evidence supporting the use of representative and interactive training methods in youth football development and provide practical guidance for coaches seeking to optimize passing skill acquisition.

CONCLUSION

Based on the research results, it can be concluded that one-touch wall passing training and paired passing training have an effect on improving players' passing accuracy. One-touch wall passing training can improve passing accuracy through continuous repetition of movements, thereby helping players improve ball control, body coordination, and pass accuracy. In addition, paired passing training has also been shown to improve players' passing abilities because this training involves adjusting the direction, strength, and tempo of the pass according to the movement of a playing

partner, so that the training conditions are closer to real game situations. Simultaneously, both training methods are effective in improving players' passing skills, but paired passing training shows more optimal results than one-touch wall passing training due to the direct interaction between players and the application of more realistic training situations in football games.

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REFERENCES

- Aprianto, R., Kurniawan, F., & Setiawan, A. (2021). The effect of small-sided games and paired passing training on passing accuracy in football players. *Journal of Physical Education and Sport*, 21(2), 845–852. <https://doi.org/10.7752/jpes.2021.02106>
- Arridh, M., Pratama, R., & Saputra, D. (2021). Analysis of basic football techniques among youth athletes. *Jurnal Keolahragaan*, 9(1), 45–53. <https://doi.org/10.21831/jk.v9i1.38945>
- Clemente, F. M., Sarmiento, H., Rabbani, A., Van Der Linden, C. M. I., Kargarfard, M., & Costa, I. T. (2021). Variations of small-sided football games and their effects on technical and tactical performance. *International Journal of Environmental Research and Public Health*, 18(6), 3185. <https://doi.org/10.3390/ijerph18063185>
- Davids, K., Araújo, D., Shuttleworth, R., & Button, C. (2021). Acquiring skill in sport: A constraints-led perspective. *International Journal of Sports Science & Coaching*, 16(3), 567–579. <https://doi.org/10.1177/1747954120980728>
- Emylliany, A. S., Hadi, H., & Setiawan, D. A. (2024). Pengaruh Latihan Small Sided Games dan Wall Pass Terhadap Ketepatan Passing Club Sepak Bola Putri Javanesia Kabupaten Batang. *Jurnal Spirit Edukasia*, 04(01), 172–180
- Fikia, F., Simanulang, Y., Hamdani, H., Herisman, H., & Salimi, S. (2024). Evaluasi Keterampilan Permainan Sepak Bola Klub Karya Utama Tahun 2024. *Jurnal Penjasokesrek*, 11(2), 141–153.
- Fitrah, M., Akbar, M., & Rahman, A. (2024). Basic football passing techniques and their influence on team performance. *Jurnal Pendidikan Jasmani Indonesia*, 20(1), 11–19. <https://doi.org/10.21831/jpji.v20i1.70124>
- Ford, P. R., Yates, I., & Williams, A. M. (2020). An analysis of practice activities and instructional behaviours used by youth football coaches during practice. *Journal of Sports Sciences*, 38(10), 1134–1141. <https://doi.org/10.1080/02640414.2020.1737361>
- Gulo, A., Harahap, M., & Simanjuntak, D. (2024). The role of passing accuracy in football performance and ball possession effectiveness. *Jurnal Sportif*, 10(1), 88–97. https://doi.org/10.29407/js_unpgri.v10i1.22876

- Gutawa Arda Wisnu, I. (2022). Football skill development and team performance among youth athletes. *Jurnal Olahraga Prestasi*, 18(2), 95–103. <https://doi.org/10.21831/jorpres.v18i2.51244>
- Harmiko, H., Febrianti, Y., & Remora, H. (2025). Penerapan Latihan Passing Berpasangan Terhadap Hasil Passing Sepakbola Pada Siswa Usia 13 Tahun SSB Marga Sindang FC Lubuklinggau. *Jurnal Teknopedagogik Nusantara*, 1(1), 64–70.
- Hopkins, W. G., Marshall, S. W., Batterham, A. M., & Hanin, J. (2021). Progressive statistics for studies in sports medicine and exercise science. *Medicine & Science in Sports & Exercise*, 53(7), 1385–1393. <https://doi.org/10.1249/MSS.0000000000002600>
- Huda, M. K., Nugroho, S., & Prasetyo, Y. (2021). Comparison of wall passing and target passing training on passing accuracy in football. *Jurnal Keolahragaan*, 9(2), 143–152. <https://doi.org/10.21831/jk.v9i2.41731>
- Hurung, A., Mulyadi, D., & Kurniawan, A. (2023). The influence of paired passing drills on football passing performance. *Jurnal Pendidikan Olahraga*, 12(2), 120–129. <https://doi.org/10.31571/jpo.v12i2.5521>
- Irhamna, I. (2023). Pengaruh Latihan Wall Pass Berpasangan Terhadap Ketepatan Passing dalam Sepak Bola pada Siswa SMA Negeri 1 Darul Imarah. *Jurnal Ilmiah Mahasiswa Pendidikan*, 4(1), 1–14.
- Julriansyah, M., & Bayu, W. I. (2023). Wall passing training and its impact on passing accuracy in U-12 football players. *Jurnal Prestasi Olahraga*, 6(3), 51–59. <https://journal.unesa.ac.id/index.php/jurnal-prestasi-olahraga>
- Khoirul, M., Hidayat, T., & Setiawan, R. (2021). Experimental studies of football passing technique training methods. *Journal of Physical Education, Sport, Health and Recreation*, 10(1), 34–41. <https://doi.org/10.15294/active.v10i1.44560>
- Krisnada, D., Wijaya, E. P., & Putra, M. W. P. (2021). Latihan Wall Pass dan Latihan Push and Runk dapat Meningkatkan Akurasi Passing Pemain Sepak Bola. *Jurnal Sains Keolahragaan Dan Kesehatan*, 5(2), 72–132.
- Lees, A., Asai, T., Andersen, T. B., Nunome, H., & Sterzing, T. (2020). The biomechanics of kicking in football: A review. *Journal of Sports Sciences*, 38(8), 895–904. <https://doi.org/10.1080/02640414.2020.1735823>
- Lloyd, R. S., Cronin, J. B., Faigenbaum, A. D., Haff, G. G., Howard, R., Kraemer, W. J., ... Oliver, J. L. (2022). National Strength and Conditioning Association position statement on long-term athletic development. *Journal of Strength and Conditioning Research*, 36(7), 1947–1973. <https://doi.org/10.1519/JSC.0000000000004218>
- Magill, R. A., & Anderson, D. I. (2022). *Motor learning and control: Concepts and applications* (12th ed.). New York, NY: McGraw-Hill Education. <https://www.mheducation.com>
- Manurung, R., & Sari, N. (2024). Pair passing training and improvement of football passing skills among junior athletes. *Jurnal Pendidikan Jasmani dan Olahraga*, 9(1), 67–75. <https://doi.org/10.17509/jpjo.v9i1.70211>
- Marsuna, A., Rahmat, D., & Hidayatullah, M. (2024). The effectiveness of short passing and paired passing exercises on football passing accuracy. *Jurnal Sport Area*, 9(2), 188–198. [https://doi.org/10.25299/sportarea.2024.vol9\(2\).15234](https://doi.org/10.25299/sportarea.2024.vol9(2).15234)

- Nevitaningrum, D., & Mulyatno, B. (2023). The effect of structured football training programs on passing skill development in youth athletes. *Jurnal Pendidikan Kepeleatihan Olahraga*, 15(2), 77–86. <https://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-kepelatihan-olahraga>
- Nizar, M., Pratama, Y., & Saputro, D. (2024). Wall passing drill training to improve passing accuracy in football extracurricular students. *Jurnal Pendidikan Olahraga dan Kesehatan*, 12(1), 35–44. <https://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-olahraga-dan-kesehatan>
- Nugra, A. W., Sudarmono, M., Annas, M., & Raharjo, A. (2024). Pengaruh Latihan Passing Target Gawang Kecil Dan Passing Berpasangan Terhadap Keterampilan Passing Pemain Sepak Bola Di Tim Aspac FC Pakintelan Gunungpati. *Pengaruh Latihan Passing Target Gawang Kecil Dan Passing Berpasangan Terhadap Keterampilan Passing Pemain Sepak Bola Di Tim Aspac FC Pakintelan Gunungpati*, 5(1), 130–135.
- Permono, A., & Ramadhani, F. (2025). Passing drill training and passing accuracy improvement in youth football players. *Jurnal Keolahragaan Indonesia*, 15(1), 22–31. <https://doi.org/10.21831/jki.v15i1.74215>
- Praça, G. M., Folgado, H., Andrade, A. G. P., Greco, P. J., & Davids, K. (2022). Influence of representative learning design on football technical performance. *Sports Medicine*, 52(4), 823–836. <https://doi.org/10.1007/s40279-021-01569-4>
- Puriana, R. H., & Mardhika, R. (2020). Statistical procedures in experimental sports science research. *Jurnal Keolahragaan*, 8(2), 150–159. <https://doi.org/10.21831/jk.v8i2.34892>
- Putri, N., Wahyudi, A., & Firmansyah, D. (2023). Small-sided games and passing accuracy development in youth football players. *Jurnal Sportif*, 9(3), 401–412. https://doi.org/10.29407/js_unpgri.v9i3.21054
- Roca, A., Williams, A. M., & Ford, P. R. (2022). Technical training and perceptual skill development in youth football players. *International Journal of Sports Science & Coaching*, 17(2), 256–268. <https://doi.org/10.1177/17479541211012457>
- R., Rivaldi, M., Suryadi, A., & Nugraha, F. (2024). The effect of small-sided games on football passing accuracy. *Indonesian Journal of Sport Science*, 4(1), 55–64. <https://ejournal.undiksha.ac.id/index.php/IJSS>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective. *Contemporary Educational Psychology*, 61, 101860. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Santos, S., Jiménez, S., Sampaio, J., & Leite, N. (2021). Effects of training task constraints on technical actions in youth football. *European Journal of Sport Science*, 21(5), 684–692. <https://doi.org/10.1080/17461391.2020.1786729>
- Sarmiento, H., Clemente, F. M., Harper, L. D., Costa, I. T., Owen, A., & Figueiredo, A. J. (2020). Small-sided games in football: A systematic review. *International Journal of Performance Analysis in Sport*, 20(5), 693–749. <https://doi.org/10.1080/24748668.2020.1788326>
- Schmidt, R. A., & Lee, T. D. (2019). *Motor control and learning: A behavioral emphasis* (6th ed.). Champaign, IL: Human Kinetics. <https://us.humankinetics.com>

- Setiawan, W., Supriyadi, M., & Syafutra, W. (2025). Pengaruh Latihan Passing Triangle Terhadap Akurasi Passing Sepak Bola. *Jendela Olahraga*, 10(3), 251-258. <https://doi.org/10.26877/jo.v10i3.19888>
- Sutirta, H. (2023). Pengaruh Latihan Passing Berpasangan dan Latihan Passing dengan Media Dinding terhadap Kemampuan Passing dalam Permainan Sepak Bola Siswa Kelas XI SMK Tunas Bangsa. *Jurnal Ilmiah Ilmu Pendidikan*, 6(3), 1507-1513.
- Travassos, B., Araujo, D., Duarte, R., & McGarry, T. (2020). Spatiotemporal coordination behaviors in team sports performance. *Sports Medicine*, 50(3), 529-542. <https://doi.org/10.1007/s40279-019-01224-6>
- Williams, A. M., & Hodges, N. J. (2021). Skill acquisition in sport: Research, theory and practice. London, England: Routledge. <https://doi.org/10.4324/9781003152220>
- Yilmaz, A. K. (2023). Experimental approaches in football technical training research. *Physical Education of Students*, 27(2), 96-104. <https://doi.org/10.15561/20755279.2023.0204>
- Yudistira, R., Mudian, D., & Risyanto, A. (2018). Pengaruh Latihan Passing Berpasangan dan Pendekatan Taktik Terhadap Kemampuan Passing Bawah Siswa Sekolah Sepakbola Persetan.FC Usia 10-12 Tahun Desa Citra Jaya Kecamatan Binong . *Biormatika Jurnal Ilmiah FKIP*, 4(2), 190-199
- Zannah, M., & Rezqiyah, A. (2022). Homogeneity and statistical assumptions in sports experimental research. *Jurnal Pendidikan Jasmani dan Olahraga*, 7(2), 201-209. <https://doi.org/10.17509/jpjo.v7i2.48572>