COMPETITOR:
JURNAL PENDIDIKAN KEPELATIHAN OLAHRAGA
e-ISSN: 2657-0734 & p-ISSN: 2085-5389 ‖ Volume 17, Number 2, 2025 ‖ P.1638-1646

Sepak Takraw Playing Skills of SMANOR Athletes

Aldi Pratama[1A-E*], Sardiman[2B-D], Didik Purwanto[3B-D], Hendra Iskandar[4B-D]

[1,2,3,4] Universitas Tadulako, Central Sulawesi, Indonesia

aldipratama2712@gmail.com[1], sardiman425@gmail.com[2], didik@untad.ac.id[3], hendraiskandarh@gmail.com[4]

ABSTRACT

This study aims to determine the level of sepak takraw playing skills among athletes at SMANOR Tadulako, Central Sulawesi. A descriptive quantitative approach was employed, using total sampling techniques involving all 36 sepak takraw athletes. The data collection instrument consisted of a skill test covering six aspects: service (start kick), inside kick (sila kick), horse kick (horse kick), heading, smash, and thigh control (thigh). The results showed that the majority of athletes were in the "moderate" category across almost all skill aspects. In the service test, 44.44% of athletes were classified as moderate, inside kick 41.67%; horse kick 36.11%; headings 44.44%; smash 38.89%; and thigh control 41.67%. These findings indicate that the athletes' mastery of both basic and specific techniques has not yet reached an optimal level. It is concluded that the overall sepak takraw playing skills of SMANOR Tadulako athletes remain at a moderate level, thus requiring more intensive technical coaching, varied training methods, and regular evaluations to improve athletes' performance comprehensively.

ARTICLE HISTORY
Received: 2025/06/20
Accepted: 2025/06/26
Published: 2025/06/29

KEYWORDS
Skills;
Sepak Takraw;
Basic Techniques.

AUTHORS' CONTRIBUTION
A. Conception and design of the study;
B. Acquisition of data;
C. Analysis and interpretation of data;
D. Manuscript preparation;
E. Obtaining funding

Cites this Article : Pratama, Aldi; Sardiman, S.; Purwanto, Didik; Iskandar, Hendra. (2025). Sepak Takraw Playing Skills of SMANOR Athletes. **Competitor: Jurnal Pendidikan Kepelatihan Olahraga**. 17 (2), p.1638-1646

INTRODUCTION

Sepak Takraw is a traditional Southeast Asian sport that combines elements of soccer, volleyball, and martial arts. Recognized for its acrobatic movements and unique rules, the sport requires exceptional coordination, agility, strength, and technical skills. Governed internationally by the International Sepaktakraw Federation (ISTAF), Sepak Takraw has gained recognition in events such as the Asian Games and Southeast Asian Games (Chin et al., 2022). The sport is particularly popular in Malaysia, Thailand, Indonesia, and the Philippines, where it serves not only as a competitive sport but also as a cultural heritage and community identity.

In Sepak Takraw, players use their feet, head, chest, and knees to control and return the ball over a net, often employing spectacular techniques such as the "spike kick" or "roll spike" and the "block" or "counter." Each team typically comprises three players: the tekong (server), feeder (set-upper), and striker (attacker), all of whom must master

specific technical roles. The game's intensity and the skill required at each position make Sepak Takraw both physically demanding and technically challenging (Azmi et al., 2019).

Within the Indonesian sports education system, Sepak Takraw has become an integral part of athletic programs, especially in specialized sports schools such as SMANOR (Sekolah Menengah Atas Negeri Olahraga). SMANOR schools are designed to develop talented athletes in various disciplines by integrating academic education with high-performance training. Students specializing in Sepak Takraw at SMANOR are expected to exhibit a high degree of technical and tactical mastery, including ball control, accurate serving, strategic positioning, and powerful attacking techniques.

The technical skills required for Sepak Takraw are distinct from other net-based games due to the prohibition of using hands and the emphasis on aerial techniques. Mastery of the instep kick, header, block, serve, and spike is essential. These fundamental techniques must be trained rigorously to ensure competitive readiness. Moreover, tactical awareness, such as player rotation, court positioning, and anticipation of opponents' moves, is crucial in enhancing match performance (Ismail & Saidon, 2020).

For SMANOR athletes, improving playing skills is not merely a matter of athleticism but also a reflection of pedagogical strategies, coaching methods, and access to competitive opportunities. Given the structured environment of SMANOR, understanding the level of proficiency in Sepak Takraw techniques among its students offers valuable insight into the effectiveness of the training framework.

Despite the widespread popularity and institutional support for Sepak Takraw in Indonesia, many challenges remain in developing elite-level performance among junior athletes. One major issue is the inconsistency in basic technical skills among players in youth development programs. Research suggests that even in structured environments like SMANOR, discrepancies often occur between expected and actual player proficiency, which may stem from outdated training methodologies, insufficient individualized instruction, or lack of systematic performance evaluation (Mustafa et al., 2022).

Moreover, Sepak Takraw still suffers from limited empirical research compared to other team sports. While coaching practices continue to evolve based on tradition or anecdotal knowledge, there is a lack of evidence-based frameworks to assess and improve the technical capabilities of adolescent players, particularly within institutional settings like SMANOR. Without such data, it is difficult to identify specific areas of strength and weakness in athletes' skill sets, making training less targeted and less effective.

Although various studies have focused on the biomechanics of Sepak Takraw skills, such as spiking or serving (Bandyopadhyay et al., 2019; Amri et al., 2021), most have centred on elite athletes or national-level competitions. Little attention has been paid to the skill development of players at the junior or school level, particularly those enrolled in sport-specialised institutions like SMANOR. Additionally, few studies have analyzed skill proficiency holistically across multiple aspects of the game, such as serving accuracy, attack success rate, and defensive consistency.

Another critical gap is the lack of comparative data between actual performance in training versus competitive match scenarios. This makes it challenging to assess

whether the training environment effectively translates into competition readiness. Furthermore, there is insufficient integration of modern sports science approaches—such as video-based motion analysis, psychological skill assessments, or functional movement screening, in evaluating Sepak Takraw players' technical development at the youth level (Syahputra et al., 2022).

This study offers a novel contribution by providing an in-depth assessment of the Sepak Takraw playing skills among SMANOR athletes, using a combination of performance-based observation, skill-specific tests, and contextual analysis. It moves beyond traditional descriptive studies by exploring how each technical skill—serving, spiking, passing, and blocking—contributes to overall performance outcomes in a competitive school-based environment.

The research is also novel in its focus on junior athletes within an academic-athletic hybrid setting. While most existing literature focuses on elite or professional players, this study highlights how early technical development shapes long-term athletic potential. By focusing on SMANOR athletes, this research provides insight into the effectiveness of Indonesia's sports education model in producing technically competent players in a traditional sport like Sepak Takraw.

Additionally, this research integrates feedback from coaches and video-based skill analysis to support a multidimensional evaluation of performance. This approach enhances the objectivity of skill assessments and offers actionable insights for curriculum developers, trainers, and sports policymakers.

Based on the significance of technical proficiency in Sepak Takraw and the unique structure of SMANOR's sports development programs, this study aims to evaluate the playing skills of SMANOR Sepak Takraw athletes across a range of technical domains. The primary research question is: What is the current level of technical skill performance among SMANOR Sepak Takraw athletes, and how do these skills translate into match performance outcomes?

This study employs a mixed-method approach combining quantitative assessment of technical execution with qualitative insights from coaching observations. The findings will provide a comprehensive understanding of the athletes' strengths and areas for improvement. In doing so, this research contributes to the development of targeted training strategies, improved instructional design, and a more systematic approach to skill development in Sepak Takraw at the junior level.

METHODS

This research uses a quantitative descriptive method to describe the level of sepak takraw playing skills of SMANOR Tadulako Central Sulawesi athletes. The quantitative descriptive approach was chosen because it is appropriate for mapping factual conditions in the field through numerical data obtained from the results of basic and special technical skills tests in sepak takraw.(Sugiyono, 2019).

The population in this study were all sepak takraw athletes registered as active students at SMANOR Tadulako Central Sulawesi, with a total of 36 athletes. The sampling

technique used was total sampling, that is, all members of the population were used as samples because the number is relatively small and allows for comprehensive testing.(Arikunto, 2017).

This study only has one main variable, namely sepak takraw playing skill level, which is operationalised through measuring six technical aspects of skills, including: kick-off (serve), kick-side, kick-horse, heading (heading), smash, memaha (thigh control).

The data collection instrument used a sepak takraw playing skills test that had been modified and adjusted to the standards of(Thamrin et al., 1995)And(Liestiyanto, 2015)Each skill technique is measured through separate test items, with the following implementation procedures and assessment criteria:Kick-off: athletes make 10 attempts to serve into the court divided into zones worth 1–5 points. Kick-off and horse-kick: scored based on the frequency of ball touches within a duration of 1 minute, with 3 attempts. Heading and memaha: scored based on the number of ball bounces using the head and thigh within 1 minute. Smash: 10 attempts into the target point zone; scoring based on accuracy and power of the hit. Each aspect is scored and categorised into five skill levels: very good, good, average, poor, and very poor, based on the norm table.(Trianus, 2020).

The data from the skills test results were analyzed using the method of descriptive statistical analysis, namely by calculating the average value (mean), standard deviation, and frequency distribution. The skill level category is determined based on normative references using the formula:

Table 1.

Category Criteria Based on X Score, Mean (M), and Standard Deviation (SD)

Category	Score Range (X)
Very high	X > M + 1.5 SD
Tall	M + 0.5 SD < X≤M + 1.5 SD
Currently	M - 0.5 SD < X≤M + 0.5 SD
Low	M - 1.5 SD < X≤M - 0.5 SD
Very Low	X≤M - 1.5 SD

The analysis was carried out for each aspect of skill separately, then interpreted comprehensively to obtain a general picture of the athlete's skills in playing sepak takraw.

RESULTS AND DISCUSSION

This study was conducted with the main objective to determine and map the level of sepak takraw playing skills of student athletes at SMANOR Tadulako Central Sulawesi, a special sports school that is a centre for developing young athletes in the region. The measurement of skills in this study was based on six main technical aspects in sepak takraw, namely the initial kick (serve), sepak sila, sepak kuda, heading, smash, and memaha. These six aspects were chosen because they are fundamental skills that must be mastered by every sepak takraw player in order to achieve optimal performance on the field.

Each aspect of these skills represents the athlete's psychomotor domain in performing technical tasks that are directly related to playing ability. Serving and

smashing techniques, for example, are closely related to the ability to attack and score points, while the techniques of cross-legged, horse-footed, heading, and memaha play an important role in ball control, attack distribution, and defence. Therefore, mapping the athlete's abilities in these six components provides a comprehensive picture of their technical readiness to participate in higher competitions.

The results of the data analysis obtained from testing all samples are then presented visually in the form of a clustered column chart or diagram, which displays the distribution of the number of athletes in each category for each skill aspect. This data visualisation aims to facilitate reading and interpretation of the results, as well as help identify technical aspects that still need to be improved in the next coaching program.

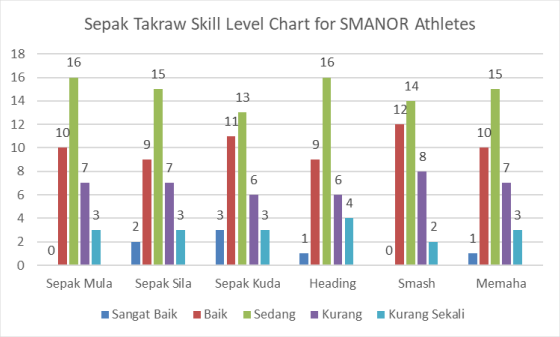

Figure 1.
Sepak Takraw Skill Level Chart for SMANOR Athletes

Based on the results of the analysis visualised through a clustered column diagram, it can be seen that the level of sepak takraw playing skills of SMANOR Tadulako Central Sulawesi athletes is generally still in the "moderate" category for almost all technical aspects measured. In the kick-off aspect, 16 athletes (44.44%) are in the moderate category. The same thing is also seen in the heading aspect, with 16 athletes (44.44%), and in the understanding aspect, with 15 athletes (41.67%) who are also included in the same category. This achievement shows that the mastery of basic techniques by athletes is already at an intermediate level, but has not reached the maximum quality needed in advanced competitions.

The phenomenon of the lack of athletes in the “very good” category is also an important concern. Not a single athlete is included in the very good category in the kickoff and smash aspects, two techniques that have a major influence on scoring points. Meanwhile, in the kickoff aspect, there are only 2 athletes (5.56%), horse kick 3 athletes (8.33%), heading only 1 athlete (2.78%), and memaha also only 1 athlete (2.78%) who are included in the very good category. This shows a lack of explosive skill development, especially in service and attack techniques, which should be the main focus in competitive performance development. Likewise, the “good” category has not become a dominant category in all aspects of skills. In the kickoff aspect, there are only 10 athletes (27.78%) who are in the good category, kickoff 9 athletes (25%), heading 9 athletes (25%), and memaha 10 athletes (27.78%). This indicates that although there is a group of athletes who have demonstrated quite good mastery of technique, their number is still limited and does not reflect even coaching results.

The horse kick aspect showed relatively better results compared to other aspects. As many as 3 athletes (8.33%) were in the very good category, and 11 athletes (30.56%) were in the good category. This proportion indicates that the technique may require more training in daily coaching or have a lower level of difficulty biomechanically for young athletes to master. In contrast, the heading and grasping aspects showed more obvious weaknesses. Each aspect recorded a total of 10 athletes (27.78%) in the "less" and "very less" categories, reflecting weak mastery of ball control techniques using the head and thigh.

Thus, the distribution of skill levels shows an imbalance in technical mastery between skill aspects and emphasizes the need for a more focused and individual-based training strategy. Coaches are advised to apply a performance data-based coaching approach, provide a larger portion of training on aspects with low levels of mastery, and develop a periodic evaluation program that is oriented not only to the final result but also to the process of technical development. This data visualisation in the form of a diagram not only clarifies the distribution of abilities, but can also be used as a comprehensive diagnostic tool in developing an adaptive, targeted, and sustainable coaching program.

This study reveals a number of important tendencies in sepak takraw playing skill patterns among student athletes of SMANOR Tadulako, Central Sulawesi. From the analysis of the basic technique test results, it appears that the ongoing coaching process has provided a sufficient basis for ability, but has not been fully successful in bringing athletes to advanced skill mastery. In the context of competitive sports training, these findings reflect the challenges in the transition from technique mastery to performative application on the field.

One of the fundamental issues that can be identified is the lack of differentiation in the training approach to each skill aspect. Training programs that are too general in their treatment of all athletes have the potential to ignore the specific needs of individuals, especially in techniques that have different motor complexity or characteristics. As stated by Pump & Haff (2009) an effective training approach in the development of young athletes must consider variables such as playing position, dominant motor preferences, and athlete experience history. The absence of an athlete profile-based approach may explain the disparity in mastery between skill aspects.

In addition, it should be noted that sepak takraw skills are complex and multidimensional, covering technical, tactical, and neuromuscular coordination aspects. Skill development cannot only depend on mechanical repetition of techniques, but must be accompanied by a situational approach and match simulation. This is in accordance with the concept of deliberate practice put forward byEricsson et al. (1993), which emphasizes the importance of deliberate, structured, and feedback-filled practice as the foundation for building performance excellence. Therefore, coaches are required not only to teach techniques but also to create training conditions that resemble the demands of real matches.

From a sports pedagogy perspective, it is also important to review the structure of training stages in sports schools such as SMANOR. If most athletes remain at an

intermediate skill level for a long time, then this indicates a less-than-optimal application of the principle of skill periodization or motor learning progression. As explained byMagill & Anderson(2017), motor development requires not only increasing technical difficulty, but also adaptive variations in training contexts. In other words, training progression needs to be directed not only in terms of quantity, but also the quality of cognitive complexity and tactical decisions. (Purwanto, 2022).

Furthermore, the findings of this study also highlight the importance of ongoing monitoring and evaluation as part of athlete coaching. Quantitative evaluation of athlete skills—as used in this study—plays an important role as an objective diagnostic tool that can be the basis for adjusting training programs. Outcome-based evaluation allows coaches to map abilities, set realistic targets, and provide more accurate training interventions. In this case, coaches need to integrate evaluation results into the training process, not just make it an administrative report. (Udomtaku & Konharn, 2020).

Thus, more effective sepak takraw skill development needs to combine a multidimensional approach: personalisation of training, increasing situational complexity, integration of performance evaluation, and long-term program design that is adaptive to athlete development. This type of development model not only focuses on instant results, but also builds a foundation of sustainable skills and is ready to compete at a higher level of competition.

CONCLUSION

Based on the results of the study, it can be concluded that the level of sepak takraw playing skills of SMANOR Tadulako Central Sulawesi athletes is generally still in the moderate category in almost all aspects of the basic techniques measured, such as sepak muka, sepak sila, sepak kuda, heading, smash, and memaha. Mastery of explosive techniques such as service and smash is still relatively low, while ball control skills such as heading and memaha also show weaknesses. This shows that although the training process has been running, there has not been an optimal distribution of technique mastery among athletes. Therefore, it is recommended that the training program be more focused on developing techniques that have not been mastered optimally with an individual approach, strengthening the data-based evaluation system, and integrating situational training that matches conditions. Adaptive long-term coaching planning for the development of athlete abilities is needed so that their skills can improve comprehensively and be ready to compete at a higher level of competition.

REFERENCES

Amri, S., Nurdin, S., & Ahmad, D. (2021). Analysis of spike kick biomechanics in sepak takraw. Journal of Sports Science and Physical Education, 10(2), 134–141.

Arikunto, S. (2017). Development of Research Instruments and Program Assessment. Yogyakarta: Pustaka Pelajar.

Azmi, M., Mustafa, M. A., & Khalid, A. (2019). Exploring tactical understanding in sepak takraw: A qualitative insight. Movement, Health & Exercise, 8(2), 77–84. https://doi.org/10.15282/mohe.v8i2.359

Bandyopadhyay, A., Saha, G. C., & Mazumdar, D. (2019). A kinematic analysis of sepak takraw services. International Journal of Health, Physical Education and Computer Science in Sports, 34(1), 12–18.

Bompa, T.O., & Haff, G.G. (2009). Periodization: Theory and Methodology of Training (5th ed.). Human Kinetics.

Chin, M. K., Wong, A. S., & Wong, C. (2022). Sport development in Asia: Sepak Takraw and its cultural relevance. Asian Journal of Sport and Exercise Psychology, 2(1), 35–42. https://doi.org/10.1016/j.ajsep.2021.10.004

Ericsson, K.A., Krampe, R.T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. Psychological Review, 100(3), 363–406.

Hatmoko, J. (2017). Sepak Takraw: Basic Techniques and Playing Strategies. Andi Offset.

Ismail, S., & Saidon, M. (2020). Technical skill development among sepak takraw youth athletes. International Journal of Academic Research in Business and Social Sciences, 10(12), 66–74. https://doi.org/10.6007/IJARBSS/v10-i12/8270

Kamal, M. A., & Rahman, M. R. (2021). Training system development in Malaysian sepak takraw. Journal of Physical Education and Sports Management, 8(1), 14–22.

Khulfani, A. (2016). The Level of Sepak Takraw Playing Skills of Extracurricular Students in Elementary Schools in Sidoarjo District. Journal of Sports Education and Health, 4(2), 117–123.

Kurniawan, D., & Hidayat, R. (2022). Pelatihan teknik dasar sepak takraw pada pelajar. Jurnal Olahraga Prestasi, 18(1), 40–49.

Latif, R., & Jusoh, A. (2020). Coaching style and motivation in sepak takraw. Asian Journal of Coaching Science, 3(1), 1–10.

Liestiyanto, AN (2015). Sepak Takraw Playing Skills of Elementary School Students. Indonesian Journal of Physical Education, 11(1), 27–34.

Magill, R. A., & Anderson, D. (2017). Motor Learning and Control: Concepts and Applications (11th ed.). McGraw-Hill Education.

Mustafa, M., Ahmad, N., & Osman, S. (2022). Evaluating coaching effectiveness in youth sepak takraw development. International Journal of Sports Science and Coaching, 17(3), 543–552. https://doi.org/10.1177/17479541221077928

Purwanto, D. (2022). Quality of the physical condition and basic techniques of sepak takraw. SPORTIF Journal: Journal of Learning Research, 8(2), 241–258. https://doi.org/10.29407/js_unpgri.v8i2.18447

Rahim, F., & Safwan, R. (2018). Analysis of serving skills in elite sepak takraw players. Journal of Human Movement and Sports Sciences, 6(1), 50–55.

Rubiyanto, R. (2012). Evaluation of Basic Sepak Takraw Technique Skills of Elementary School Students in Plaosan. Journal of Achievement Sports, 8(1), 13–20.

Said, M. A., & Yusof, A. (2020). Tactical understanding in Malaysian youth sepak takraw.

International Sports Studies, 42(2), 110–120.

Samsudin, A., & Hanif, S. (2021). Performance analysis of sepak takraw in school-level competitions. Jurnal Pendidikan Jasmani Indonesia, 2(3), 179–185.

Siswoyo, D. (2015). The Basics of Sepak Takraw Coaching. FKIP UNS Press.

Syahputra, F., Siregar, R., & Arifin, Z. (2022). Implementation of sports science in sepak takraw: A systematic review. Sport Science Review Indonesia, 5(1), 21–30.

Sugiyono. (2019). Qualitative Quantitative Research Methods and R&D. Bandung: PT Alfabeta.

Sulaiman, H. (2008). The Basics of Sepak Takraw Game. Directorate General of Higher Education.

Thamrin, MH, Nasution, A., & Sofyan, M. (1995). Sepak Takraw Basic Training Guide. Department of Education and Culture.

Trianus, Y. (2020). Evaluation of the Level of Basic Sepak Takraw Technique Skills of Students of Special Sports Talent State High Schools in South Sulawesi. Journal of Sports Science, 9(1), 35–41.

Udomtaku, K., & Konharn, K. (2020). Energy expenditure and movement activity analysis of sepaktakraw players in the Thailand league. Journal of Exercise Science and Fitness, 18(3), 136–141. https://doi.org/10.1016/j.jesf.2020.04.001

Wahyuni, T., & Fadhilah, M. (2020). Effectiveness of basic technique training in sepak takraw extracurricular. Jurnal Keolahragaan, 8(2), 89–97. https://doi.org/10.21831/jk.v8i2.34892

Zainuddin, M., & Nor, S. (2019). Profiling physical fitness and skill level among adolescent sepak takraw players. Journal of Physical Education Research, 6(3), 45–51.