



The Place and Importance of Volleyball Teaching in Physical Education Classes

Beden Eğitimi Derslerinde Voleybol Öğretiminin Yeri Ve Önemi

Emre Bilgin¹, *Kübra Kurcan²

¹Bayburt Üniversitesi, Lisansüstü Eğitim Enstitüsü, Bayburt, Türkiye / ebilgin942@gmail.com  0009-0003-1455-6536

²Bayburt Üniversitesi, Spor Bilimleri Fakültesi, Bayburt, Türkiye / krcn4609@gmail.com  0000-0002-2656-4993

* Corresponding author

Abstract: Understanding the role and importance of volleyball in physical education classes in depth. A detailed examination of the effects of volleyball on physical, psychological, and social development. Physical education encompasses all activities carried out without competition, aiming to bring physical, mental, and cognitive qualities to the level of productivity required by age and genetic capacity. Sport, on the other hand, is a set of competitive, socializing, and integrative activities aimed at satisfying human instincts such as winning and being capable. A curriculum encompasses all activities provided by an educational institution aimed at realizing the objectives of the National Education institution for children, youth, and adults. Volleyball is a team sport played by two teams of six players on a court divided by a net. The objective is to hit the volleyball with hands and arms over the net to the opponent's court, aiming to make it land on the ground.

Keywords: Volleyball, Physical, Physical Education, Sport.

Özet: Voleybolun beden eğitimi derslerindeki rolü ve önemini derinlemesine anlamak. Voleybolun fiziksel, psikolojik ve sosyal gelişim üzerindeki etkilerini detaylı olarak incelemek. Beden Eğitimi, İnsan bütününi oluşturan fiziki, ruhi ve zihni niteliklerin bulunduğu yaşın ve genetik kapasitenin gerektirdiği verim gücüne ulaştırılabilmesi için rekabet olmaksızın yapılan faaliyetlerin bütünü olmakla beraber Spor, Yenme ve muktedir olma gibi insan içgüdüsünün tatminini amaç edinen, rekabete dayalı, sosyalleştirici ve bütünlleştirici faaliyetlerin bütünüdür. Bir eğitim kurumunun çocuklar, gençler ve yetişkinler için sağladığı Milli Eğitim kurumunun amaçlarının gerçekleşmesine dönük bütün faaliyetleri kapsar. Voleybol, File ile ikiye bölünmüş bir oyun alanı üzerinde altı kişilik iki takım ile oynanan, voleybol topuna eller ve kollarla vurarak file üzerinden karşı tarafın oyun alanına gönderme ve yere değmesini sağlama esasına dayalı bir takım sporudur.

Anahtar Kelimeler: Voleybol, Fiziksel, Beden Eğitimi, Spor

Received: 10.11.2023 / Accepted: 10.02.2024 / Published: 29.02.2024



Citation: Bilgin, E., & Kurcan, K. (2024). The place and importance of volleyball teaching in physical education classes. *International Journal of Health, Exercise, and Sports Sciences (IJOSS)*, 1(1), 12-18

INTRODUCTION

The school period is a crucial stage where adolescents shape a significant part of their physical, mental, and social development. During this phase, sports activities, particularly volleyball, offer numerous benefits that contribute to their overall development and adoption of a healthy lifestyle. Engaging in volleyball during school years helps adolescents enhance their social skills, boost self-confidence, and alleviate stress. Therefore, including team sports like volleyball in school curricula and providing such opportunities to adolescents positively contributes to their general development.

Adolescence is often a stressful period marked by exams, assignments, and social pressures, which can heighten stress levels. Playing volleyball helps reduce stress by actively engaging in physical activity, increasing endorphin release and improving mood. Moreover, participating in volleyball enables adolescents to unwind mentally and find relief from stress, thereby promoting mental relaxation.

The term "volleyball" is derived from the English word "volley" and originates from the late 19th century. William G. Morgan developed the sport's modern form in 1895 in Massachusetts, USA. Initially named "Mintonette," the game was later rebranded as "volleyball." In English, the term "volley" means a series of rapid movements or exchanges, reflecting the game's fundamental characteristic of the ball

being swiftly passed back and forth between teams. "Ball," on the other hand, refers to the object used in play.

Volleyball is a team sport played between two teams of six players on a court divided by a net. Each team aims to score points by sending the ball over the net into the opposing team's court. The game starts with a serve where the ball is hit over the net by hand or arm, and the opposing team attempts to return the ball in play. Points are scored when the ball lands in the opponent's court or when the opponent commits a fault. The game concludes when one team reaches a predetermined score limit (usually 25 or 21 points) or when the specified match time elapses.

Volleyball is characterized by its fast-paced and dynamic nature. Players swiftly transition between offensive and defensive positions, utilizing jumping and hitting abilities to score points. Both individual skills and team collaboration are essential, as successful play requires players to fulfil their roles effectively while communicating efficiently with teammates.

Volleyball is widely recognized as a popular sport globally, with numerous international competitions and tournaments organized at the highest levels. Significant events include the FIVB World Championships, the Olympic Games, the World Cup, and the European Championships.

Volleyball appeals to all age groups, from youth to adults, and is played competitively in leagues and recreationally at amateur levels. Its physical, psychological, and social benefits have led to widespread adoption in physical education programs at schools and community activities. The sport's inclusivity and versatility make it a valuable activity for promoting fitness and teamwork across various demographics.

The Purpose of the Research

This seminar aims to elucidate the place and significance of teaching volleyball in physical education classes and its general characteristics..

The Importance and Justification of the Study

Physical education classes are a crucial component that encourages students' participation in physical activity, teaches healthy lifestyles, and enhances their social skills. The content and practices of these classes are carefully planned to contribute to students' physical, mental, and social development. As a team sport, volleyball promotes collaboration and team spirit among young people. Skills such as playing together, supporting each other, communicating, and taking responsibility strengthen their social relationships. Additionally, team sports reinforce feelings of friendship and solidarity among young people.

Playing volleyball during school years significantly contributes to the physical development of young individuals. Constant movement, jumping, running, and hitting the ball increase muscle strength, endurance, and coordination. This helps young people adopt a healthy lifestyle and prevent health issues like obesity. Therefore, team sports like volleyball are significant in physical education classes and contribute to students' development. This study focuses on the place and importance of teaching volleyball in physical education classes.

Volleyball can be defined as a social sport that enhances the player's personality, intelligence, ability to work collectively, and desire to compete while also boosting self-confidence. It is versatile in its play locations—whether in fields, outdoors, or indoors—with equipment readily available. The sport engages the body, mind, and intellect in a balanced manner, making it suitable for all ages as it effectively utilizes leisure time. The simplicity and clarity of its rules further contribute to its universal appeal as a sport for everyone, irrespective of gender or age, thus also being considered a family sport.

Volleyball allows individuals of all genders and ages to play together, promoting physical and mental development through its multi-dimensional approach to fitness. Players must adhere to rules and adapt to different situations and tactics individually and as part of a team, which requires strategic thinking (Aslan, 1979).

Volleyball is a game where two teams compete by hitting a ball back and forth over a net that divides the court. Players use their hands or arms to spike the ball into the opponent's court. The primary objective is to score points by landing the ball in the opponent's area.

A volleyball match continues until one team reaches a specified score or until a predetermined time expires. Each team is allowed three touches of the ball: the first touch (pass), the second touch (set), and the third touch (spike or other game strategy).

Volleyball is fast-paced and requires constant transitions between offensive and defensive positions. Coordination and communication within the team are crucial. Players employ various skills such as serving, passing, spiking, blocking, and defence to control the game.

Volleyball can be played indoors (court volleyball) or outdoors (beach volleyball). Both versions adhere to similar rules, although beach volleyball involves fewer players and covers less area. Additionally, volleyball is famous internationally, with many countries hosting professional leagues and tournaments.

Benefits of Volleyball Training

Physical Health: Engaging in regular physical activities from childhood provides significant benefits later in life. The developmental path of young athletes should not be equated with that of adults. Volleyball enhances cardiovascular endurance, muscle strength, and overall body coordination and flexibility. Regular volleyball practice reduces the risk of obesity and enhances overall health levels. Today's criteria for success in sports require physical fitness, which the sport demands. Volleyball offers many benefits, such as physical health, social interaction, mental focus, and enjoyment (Hamilton et al., 1999; Crocker et al., 2000).

Social Development: As a team sport, volleyball fosters collaboration, communication, and team spirit among players. Players learn to work together to achieve a common goal, strengthening their daily social interactions and relationships. Social competence expectation is the belief in

how successful an individual can overcome difficult situations in the present and future.

Psychological Health: Playing volleyball reduces stress, enhances mood, and strengthens mental health. Players improve their concentration, quick decision-making, and problem-solving skills, becoming mentally resilient through the game. Sporting activities provide not only physiological benefits but also psychological relaxation. Sports activities can offer solutions to various psychological problems, including simple mood disorders and anxiety, and are crucial for reducing stress (Moses et al., 1989; Keskin et al., 2018).

Recreation and Leisure: Besides being an enjoyable activity, volleyball is ideal for socializing and having fun with friends. Competitive sports, recreational activities, and exercise training can be subclassified as leisure activities (Özer, 2010). Played at both amateur and competitive levels, volleyball strengthens social bonds and uplifts mood.

Education and Development: Volleyball contributes to the character development of young people. It teaches responsibility, discipline, and the effort required for success (Özlü et al., 2023). Additionally, it enhances leadership skills and boosts self-confidence. Researchers associate the concept of character with individuals' moral aspects, while stakeholders in the sporting environment, such as athletes, coaches, and administrators, associate it with individuals' social aspects (Doty, 2006).

International and Cultural Connection: The popularity of sports is increasing worldwide. They are recognized as a significant tool for character development across all ages, particularly volleyball, and due to their global popularity, they foster connections among different cultures. International tournaments and events unite people from various countries and enhance cultural understanding (Özlü et al., 2023). The International Volleyball Federation (FIVB) estimates that more than 500 million individuals worldwide engage in volleyball, professionally or recreationally (Reeser, 2003).

For all these reasons, volleyball contributes to individuals adopting a healthy lifestyle, improving their social interactions, enhancing psychological resilience, and fostering personal development. In these respects, volleyball positively impacts overall societal well-being and people's quality of life.

IMPORTANCE OF VOLLEYBALL

Physical education classes allow students to explore and learn different sports. Volleyball is one of these sports and is frequently taught as a team sport in physical education classes. Volleyball is a popular game among both men and women, offering numerous benefits through its gameplay.

In physical education classes, volleyball enhances students' teamwork skills and contributes to the development of physical abilities such as coordination, balance, and flexibility. Additionally, playing volleyball improves strategic thinking, decision-making, and communication skills. Therefore, volleyball significantly contributes to students' individual and team development in physical education classes. It is widely accepted that sports participation behaviour contributes to diverse development in many areas, improving individuals' physiological well-being (Gibbons et al., 1995).

IMPORTANCE OF VOLLEYBALL IN PHYSICAL EDUCATION CLASSES:

Physical Development: Volleyball ensures that students remain physically active. Continuous movement, jumping, and striking during the game contribute to muscle strengthening and endurance. This enhances students' overall health and physical fitness. Allison et al. (1999) examined the relationship between physical activity participation, physical education classes, activities with other schools, awareness of and ability to overcome barriers, and social competence expectations among students aged 9-11. They emphasized factors such as gender and age influencing participation in physical activity, highlighting a significant relationship between participation in physical activity and social competence expectations.

Development of Social Skills: Volleyball, being a team sport, requires students to interact with each other and collaborate. This fosters the development of teamwork and cooperation skills. Moreover, playing volleyball helps students motivate each other, enhance leadership skills, and improve communication abilities. In their social lives, individuals constantly interact with their environment by communicating emotions and thoughts (Uzam, 2000). The quality of this communication depends on social skills, defined as the ability to behave appropriately in the social context. Successful social interaction also requires various cognitive and behavioural skills (Erwin, 1999).

Strategic Thinking Ability: Volleyball is a game that requires strategy and tactics. Students must analyze their opponents,

make correct moves, and make strategic decisions during the game. This enhances students' strategic thinking and problem-solving skills (Hakkinen, 1993).

Fun and Motivating Activity: With its dynamic structure and competitive nature, volleyball is fun and motivating for students and spectators. Professionals play volleyball to earn money and spend time in competitions. On the other hand, students release stress, expend energy, and have enjoyable moments while playing volleyball. This increases students' interest in physical education classes. Mental renewal is possible when one manages one's free time effectively and efficiently (Misra & McKean, 2000).

Cardiovascular Health: In team sports like volleyball, technical skills, anthropometric characteristics, and physical performance capacity are important factors that contribute to the overall success of the team (Hakkinen, 1993). Volleyball, a famous team sport that has been part of the Olympics since 1964, aims to improve athlete performance. One indicator of high-level performance in volleyball is jumping ability. Jumping ability is crucial as it forms the basis of spikes, blocks, and serves (Lidor & Ziv, 2010; Ikeda et al., 2018).

Continuous Movement: Volleyball requires constant movement due to the game's fast pace. Jumping high in spikes and blocks is crucial for success in Volleyball (Şimşek et al., 2007).

Heart Health: The dynamic nature of volleyball improves human heart health and strengthens the cardiovascular system.

Endurance: Playing volleyball increases endurance and enhances the capacity to sustain activities that require high effort for extended periods. In volleyball, a player's height and vertical jumping ability are important for defence and offence (This sen-Milder and Mayhev, 1991; Aksen Cengizhan et al., 2019; Okada et al., 2011).

Hand-Eye Coordination: Volleyball enhances hand-eye coordination by hitting the ball, passing, and blocking.

Balance and Agility:

In volleyball, sudden stops and quick direction changes improve balance and overall body coordination. Various jumps and sudden sprints are frequently repeated during the game (Hakkinen, 1993).

Muscle Strength: Actions like jumping, hitting, and blocking in volleyball strengthen leg, arm, and core muscles. Agility, another critical parameter in volleyball, refers to the body's ability to respond quickly and change direction in response to stimuli (Sheppard & Young, 2006). Agility is a significant determinant of performance in team sports (Drake et al.,

2017). In-game, athletes must have significantly higher jumping skills than average to gain an advantage and succeed in volleyball. Therefore, jumping ability is unquestionably recognized by coaches and athletes as a necessity for success in Volleyball (Sheppard et al., 2007; Aksen Cengizhan et al., 2019).

Muscle Endurance: Extended gameplay in volleyball enhances muscle endurance and the ability of muscles to sustain prolonged effort (Adams, 1990). The concept of the core has gained increasing popularity among athletes as a centre of gravity (McGill, 2010). Core muscles play a role in transferring energy and facilitating movements between the lower and upper extremities. Literature review shows studies examining the relationship between core muscle endurance and agility (Doruk et al., 2019; Kocahan et al., 2022), core muscle endurance and vertical jump (Lee et al., 2024; Sharma et al., 2012), and studies investigating the relationship between core muscle endurance, vertical jump, and agility (Santos et al., 2019; Schilling et al., 2013). However, more studies must examine the relationship between core endurance, agility, and vertical jump performance in female volleyball players.

General Strength: Volleyball enhances students' overall muscle strength and physical endurance, enabling them to succeed in other sports activities. Volleyball is a high-tempo, dynamic physical game that emphasizes strength, agility, flexibility, jumping, and endurance, independent of time constraints (Puhl et al., 1982). Rapid reflexes promote the development of fine motor skills and muscle control. Competing with opponents in many sports involves reacting to opponents or the ball to deceive, capture, or outperform them, situations where athletes with better agility often excel (Paul et al., 2016).

The Importance of Teamwork in Volleyball and Its Benefits for Students

Volleyball is about sending the ball across the net and achieving success through cohesive teamwork with fellow players. Each player has a designated role and responsibility on the court, but true success comes from the team functioning as a unified whole. Volleyball teaches students the importance of working together, strategizing collectively, and understanding their roles within the team dynamics.

Known as a sport based on collaboration, volleyball requires players to synchronize their movements and play together. Several points underscore the significance of teamwork and collaboration in volleyball. Particularly critical is communication on the court, where players must signal

intentions to receive the ball or execute an attack. Effective communication ensures team coordination and minimizes errors. Working with teammates fosters the ability to achieve common goals through coordinated efforts.

In volleyball, each player has a specific role on the court. Players must focus on their designated roles and strive to perform their best for the team's success. A libero, for instance, must excel in defence, while attackers lead the offence, and players collaborate in blocking. Assuming different roles within the team enhances leadership and responsibility-taking skills.

In volleyball, trust and support among teammates are crucial for children who play the sport. While individual players may make mistakes, others must refrain from demoralizing them. The team wins and loses together. Consistent training and thorough preparation are vital for the team's success. Training sessions foster teamwork and mutual understanding among players.

There are numerous advantages to teamwork and collaboration in volleyball. Effective collaboration enhances team performance. With coordination and communication intact, the team plays more effectively and contributes to achieving stronger performances. Good teamwork helps reduce errors as players support each other and compensate for weaknesses. A strong team spirit maintains high morale and boosts motivation among players, considering the productivity that can be achieved through their efforts. Even in challenging situations, facing them together becomes more accessible.

Volleyball requires not only individual skills but also teamwork and collaboration. A team that moves together overcomes difficulties and achieves success. Each player should see themselves as part of the team and appreciate the power of working together.

Volleyball gives individuals a sense of achievement and recognition for their efforts, enhancing their self-confidence. The desire to win and improve increases people's motivation towards sports and their general life goals. The stress-reducing effect of sports helps individuals be more relaxed and focused.

During volleyball games, continuous communication is essential. This helps students develop practical communication skills. It enhances their ability to make quick decisions and communicate them rapidly to teammates. It also improves their ability to support teammates and empathize with their emotional states.

Volleyball contributes to the inclusion of different sports in physical education programs. The diversity of sports allows

individuals to explore different interests and develop their talents. Learning various sports expands people's sports culture and understanding.

CONCLUSION AND DISCUSSION

The volleyball discipline increases physical activities and enhances students' teamwork, leadership, communication, and social skills. Teaching volleyball in physical education classes plays an active role in the specialization phase of students in choosing and exploring sports disciplines. Moreover, teaching the fundamental techniques of volleyball is crucial for enhancing its positive effects on human health.

Lifelong Sport: Sports like volleyball help students develop healthy lifestyle habits. Developing a habit of regular physical activity has long-term positive effects on health. Alongside physical exercise, emphasizing proper nutrition and adequate rest is crucial. Physical activity enhances the release of endorphins, reducing students' stress and anxiety levels. Engaging in sports supports students' mental health and improves their overall mood. Team sports strengthen social bonds, contributing to students feeling supported and secure.

Discipline and Responsibility: Volleyball is played within specific rules, fostering student discipline. The responsibilities inherent in the game help students learn both individual and team responsibilities. Regular training sessions and matches encourage students to adopt a disciplined lifestyle.

Social Integration: Volleyball enables students to interact with peers from diverse socio-cultural backgrounds. These interactions enhance students' empathy and understanding of different cultures. Sports contribute to students' social integration processes and support social harmony.

Teaching volleyball in physical education classes significantly improves students' physical, mental, and social development. This sport enhances students' teamwork, physical fitness, communication, and strategic thinking skills. Moreover, teaching volleyball increases students' interest in physical education classes and promotes healthy lifestyle habits. Therefore, volleyball holds a significant place and importance in physical education curricula.

REFERENCES

1. Aagaard H., & Jorgensen, U. (1996). Injuries in elite volleyball. *Scand J Med Sci Sports*, 6(4), 228-232
2. Adams G. M. (1990). *Exercise Physiology Laboratory Manual*, Dubuque: W m C Brown Publishers, 1990

3. Aksen Cengizhan, P., Çobanoğlu, G., Gökdoğan Ç.M., Zorlular, A., Akaras, Esedullah., Erikoğlu Örer, G., Kafa, N., & Atalay Güzel, N.(2019). The relationship between postural stability, core muscle endurance and agility in professional basketball players. *Annals of Medical Research* , 26(10), 2181-6
4. Allison, KR. Dwyer, JJ, Makin, S. Self-Efficacy And Participation in Vigorous Physical Activity By Highschool Students. *Health Education&Behavior*, 1: 26, 1999.
5. Aslan, N. Okullarda ve Kulüplerde Voleybol. *Ankara Bilim Matbaası*, 18-19, 1979.
6. Crocker PRE, Eklund RC and Kowalski KC. Childrens' physical activitiy and physical selfperceptions. *Journal of Sports Sciences*, 2000;18:383-394.
7. Doruk, M., Mustafaoğlu, R., Yıldız A., & Öztürk M. (2019). Tekerlekli sandalye basketbol oyuncularında core kas dayanıklılığı ile aerobik kapasite, hız, çeviklik ve spora özgü beceriler arasındaki ilişkinin incelenmesi. *Spor Bilimleri Dergisi*, 30(3), 96-106.
8. Doty, J. (2006) Sports build character. *Journal of College and Character*, 7, 1-9.
9. Erwin, P. Çocuklukta ve Ergenlikte Arkadaşlık. Çeviren: Akinhay, O. İstanbul Alfa Basım Yayım Dağıtım Ltd. Şti., sayfa 138-139, 1999.
10. Gibbons, S., Ebbeck, V. ve Weiss, M. (1995). Fair play for kids: Effects on the moral development of children in physical education. *Research Quarterly for Exercise and Sport*, 66(1), 247-255.
11. Hakkinen K.(19930.) Changes in physical fitness profile in female volleyball players during the competitive season. *J Sports Med Phys Fitness* 1993; 33:223-32.
12. Hamiltan M, Goodway J, Haubenstricker J. Parent-assisted instruction in a motor skill program for at risk preschool children. *Adapted Physical Activity Quarterly*, 1999;16:415-426.
13. İked, Y., Sasaki, Y., & Hamano, R. (2018). Factors influencing spike jump height in female college volleyball players. *The Journal Of Strength And Conditioning Research*, 32(1), 267-273.
14. Keskin, Ö., Demir, A., & Şenol, B. (2018). Reviewing assertiveness level of elite male and female athletes in different sports branches. *Journal of Human Sciences*, 15(4), 1924–1932.
15. Kocahan, T., Güraslan, H., Rengül, B.F., Kabak B., Akinoğlu, B., & Hasanoğlu, A. (2022). Karate sporcularında kor dayanıklılığı ile reaktif çeviklik arasındaki ilişkinin incelenmesi: Bir deneysel çalışma. *Türkiye Klinikleri J Sports Sci*, 14(2), 199-205.
16. Lee, J., Wang, L., & Zhang, X. (2024). Exploring the relationship between core stability and vertical jump in recreationally active male college students based on a suite of novel core stability assessments. *Heliyon*, 10(3),
17. Lidor, R., & Ziv, G. (2010). Physical and physiological attributes of female volleyball players-a review. *The Journal of Strength & Conditioning Research*, 24(7), 1963-1973
18. McGill, S. (2010). Core training: evidence translating to better performance and injury prevention. *Strength and Conditioning Journal*, 32(3), 33-46.
19. McGill, S. M., Childs, A., & Liebenson, C. (1999). Endurance times for low back stabilization exercises: clinical targets for testing and training from a normal database. *Arch Phys Med Rehabil.*, 80, 941-944.
20. MEB, Milli Eğitim Bakanlığı, (2024). <https://mufredat.meb.gov.tr>
21. Misra, R., and McKean, M. (2000). College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction. *American journal of Health studies*, 16(1), 41.
22. Moses, J., Steptoe, A., Mathews, A. and Edwards, S. (1989). The effects of exercise training on mental well-being in the normal population: a controlled trial. *J. Psychosom. Res.* 33, 47-6.
23. Okada, T., Huxel, K. C., & Nesser, T. W. (2011). Relationship between core stability, functional movement, and performance. *Journal of strength and conditioning research*, 25(1), 252–261.
24. Özer, A.K. (1994). Sürekli öfke (sl-öfke) ve öfke ifade tarzı (öfke-tarz) ölçeklerinin ön çalışması. *Türk Psikoloji Dergisi*, 9(31), 26-35
25. Özlü, C., Solmaz, D. Y., & Güven, G. (2023). 15-18 Yaş aralığındaki sporcuların karakter düzeylerinin incelenmesi. *Spor Eğitim Dergisi*, 7(3), 266-278.
26. Paul, D. J., Gabbett, T. J., & Nassis, G. P. (2016). Agility in team sports: testing, training and factors affecting performance. *Sports Medicine*, 46(3), 421-442.
27. Puhl, J., Case, S., Fleck, S., & Handel, P. V. (1982). Physical and physiological characteristics of elite volleyball players. *Res. Quart*, 53: 257–262.
28. Reeser, J. C. (2003). Volleyball injury epidemiology. *Handbook of Sports Medicine and Science: Volleyball*, 81-86.
29. Santos, M.S., Behm, D.G., Barbado, D, DeSantana, J.M., & Da Silva-Grigoletto, M.E.(2019). Core endurance relationships with athletic and functional performance in inactive people. *Front Physiol.*, 10,1490.

30. Schilling, J. F., Murphy, J. C., Bonney, J. R., & Thich, J. L. (2013). Effect of core strength and endurance training on performance in college students: randomized pilot study. *Journal of bodywork and movement therapies*, 17(3), 278–290.
31. Senemoğlu, N. Gelişim Öğrenme ve Öğretim Kuramdan Uygulamaya. Ankara Özen Matbaası, 235-236, 1998.
32. Sheppard J, Newton R, Mcgigan M. The effects of accentuated eccentric load on jump kinetics in high-performance volleyball players. *International Journal Of Sports Science And Coaching* 2007; 2, (3) 267-284
33. Sheppard J, Newton R, Mcgigan M. The effects of accentuated eccentric load on jump kinetics in high-performance volleyball players. *International Journal Of Sports Science And Coaching* 2007; 2, (3) 267-284.
34. Sheppard, J. M., & Young, W. B. (2006). Agility literature review: Classifications, training and testing. *Journal of Sports Sciences*, 24(9), 919-932.
35. Şimşek, B., Ertan, H., Göktepe, A. S., & Yazıcıoğlu K. (2007). Bayan Voleybolcularda Diz Kas Kuvvetinin Sıçrama Yüksekliğine Etkisi. *Egzersiz*, 1 (1), 36-43.
36. This sen-Milder M . , J.L. Mayhev: Selection and classification of high school volleyball players from performance tests. *J Sports Med. Phy. Fitnes* 1991, 31 . 380-384.
37. This sen-Milder M . , J.L. Mayhev: Selection and classification of high school volleyball players from performance tests. *J Sports Med. Phy. Fitnes* 1991, 31. 380-384.
38. TVF, Türkiye Voleybol Federasyonu, (2024). <https://tvf.org.tr/wp-content/uploads/2023/01/Voleybola-Ozgu-Hareket-Egitimi-1.-Kademe-1.pdf>
39. Uzamaz, F. Sosyal Beceri Eğitiminin Ergenlerin Kişilerarası İlişki Düzeylerine Etkisi, Çukurova Üniversitesi Yüksek Lisans Tezi, Adana, 2000. 9.
40. Viitasalo Anthropometric and physical performance characteristics of male volleyball players. *Can J Appl Spt sci* 1982; 7 (3): 182-188.