Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students of SDN Mattoangin II Makassar

Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]

[1,2,3,4,5] Universitas Negeri Makassar, Sulawesi Selatan, Indonesia

echafahreza07@gmail.com[1], nukhrawi.nawir@unm.ac.id[2], muh.adnan.hudain@unm.ac.id[3], ians.aprilo@unm.ac.id[4], juhanis@unm.ac.id[5]

ABSTRACT

This study aims to describe the application of the Team Games Tournament learning model to improve basketball learning outcomes with the theme of locomotor, non-locomotor and manipulative movements in basketball games for fifth-grade students of SDN Mattoangin II Makassar. This study uses a quantitative descriptive analysis approach, namely classroom action research (CAR) which is carried out in two cycles. Each cycle includes planning, implementation, observation and reflection. The subjects of this study were 20 fifth-grade students of SDN Mattoangin II Makassar. The focus of this study is the application of the Team Games Tournament learning model to improve basketball learning outcomes with the theme of locomotor, non-locomotor and manipulative movements. Data collection techniques used in this study are observation, testing and documentation. Data analysis techniques in this study use quantitative analysis. The results of the study show a significant increase in student learning outcomes at SDN Mattoangin II Makassar in the Physical Education subject of the combination of locomotor, non-locomotor and manipulative movements in basketball games with the application of the Team Games Tournament learning model. In the pre-cycle, student learning completeness only reached 35%. After the action in cycle I, the completion rate increased to 75%. In cycle 2, the student's learning completion rate reached 100%. This shows that the action taken has been effective in improving student learning outcomes.

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

INTRODUCTION

Education is a conscious and planned effort to create a learning environment and learning or training process so that students can actively develop their potential. Through education, self-maturation occurs, so that decision-making regarding problems is always accompanied by a strong sense of responsibility. One of the goals of education is to enlighten the nation, so that students possess spiritual strength, self-control,

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

personality, intelligence, noble character, and the skills necessary for being members of society and citizens.

Education aims to bring out the human elements within students. Education implies teaching. Likewise, teaching implies knowledge. The implementation of physical education and sports is a long-term investment in improving the quality of Indonesia's human resources; the desired results will be achieved over a considerable period. Therefore, physical education and sports must be continuously improved and carried out with patience and sincerity. This certainly requires measures that support the creation of a conducive learning environment.

In some recent cases, physical education and sports lessons in elementary schools have been considered merely free time used for playing. This is not entirely true, as some elementary schools implement learning models that help students understand the core of Physical Education and Sports lessons, preventing them from viewing them as free time or playtime.

Physical Education and Sports lessons in elementary schools should incorporate cooperative and enjoyable learning. Cooperative learning is defined as a learning model with an approach or strategy that involves forming small groups, tailored to the number of students, with a heterogeneous structure. This aims to ensure student-centered learning and maximize the achievement of learning objectives.

Many elementary schools in several areas of Makassar city use conservative learning methods, employing old-fashioned teaching methods. This can be an effective method, depending on the students they are dealing with. Conservative learning methods are sometimes relied upon by teachers to deliver learning materials. It is also undeniable that these methods can sometimes lead to a lack of student motivation during games, especially for elementary school students who tend to prefer playing. Therefore, teachers must expand and enhance learning models and methods to address student lack of motivation or reluctance to participate in learning activities.

However, research conducted on the basketball learning process with the subtheme Combination of Locomotor, Non-Locomotor, and Manipulative Movements in basketball lessons at SDN Mattoangin II Makassar showed that learning outcomes did not meet expectations due to several reasons and problems that arose during the Combination of Locomotor, Non-Locomotor, and Manipulative Movements learning process. These reasons included the implementation of inappropriate methods and the inability to achieve the Minimum Competency (KKM). However, because the school was still adapting its curriculum from the 2013 curriculum to the National Curriculum (Kurikulum Merdeka), the KKM was still applied in the Merdeka Learning curriculum.

This impacted student motivation and interest in learning, which in turn impacted learning outcomes. To address this issue, innovation is needed in the physical education (PJOK) learning process, particularly in basketball. One innovation that can be implemented is the use of engaging and engaging learning methods to maintain student enthusiasm and motivation during physical education lessons during basketball activities. The background of the problem above and the results of previous observations

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students
of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

at school through Formative Assessment indicate that the learning outcomes of fifth-grade students during PJOK learning are still low. Therefore, the author formulated the problem as follows: "Can the Application of the Team Games Tournament (TGT) Learning Model improve the Learning Outcomes of Physical Education, Sports and Health (PJOK) on the combination of locomotor, non-locomotor, and manipulative movements in basketball learning for fifth-grade students at SDN Mattoangin II Makassar?"

Based on the problem formulation found, the purpose of this study is to determine whether the Application of the Team Games Tournament (TGT) Learning Model can improve the learning outcomes of physical education and sports (PJOK) on the combination of locomotor, non-locomotor, and manipulative movements in basketball learning for fifth-grade students at SDN Mattoangin II Makassar.

METHODS

This study used classroom action research, a research method conducted by a teacher or group of teachers in the classroom to address or improve emerging learning problems. This research was conducted in the second (even) semester of the 2024/2025 academic year, in line with ongoing learning. This research took place at SDN Mattoangin II Makassar. The sample size for this study was 20 students.

The Classroom Action Research (CAR) procedure was implemented through four main activities or stages: planning, action, observation, and reflection. Classroom Action Research (CAR) is a valuable tool for teachers to improve their teaching practices and enhance student learning outcomes.

1. Preparation Stage: The research plan must meet two main requirements:
   a. The researcher has a strong understanding of the research plan.
   b. To facilitate the action research, a plan is created.
2. Observation Stage: This stage involves observing the process and outcomes of physical education (PJOK) learning in the classroom or with the students involved. This method is used to obtain research data that reflects the actual situation.
3. Reflection Stage: In this stage, researchers study, observe, and consider the results or impacts of the actions. Based on this reflection, researchers and teachers can improve Classroom Action Research.
4. Evaluation: Students are given evaluations or exercises to improve Basketball Learning Outcomes, specifically the combination of locomotor, non-locomotor, and manipulative movements in Basketball Learning.

The instrument used is a dribbling test.
1. Purpose: To measure dribbling ability (psychomotor).
2. Tools/Equipment: Field, cones, tape measure, basketball, syringe, stopwatch, writing utensils.
3. Implementation: Cones are arranged parallel to each other with a distance of 1 m between them, and a distance of 1 m between the start and finish lines on the

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

cones. The researcher calls each testee. Upon hearing the word "Go," the testee begins dribbling. The testee dribbles the basketball in a zigzag pattern until reaching the finish line. Students dribbled the ball using both hands, using either their right or left hand at the starting point, alternating between using their left and right hands at the first cone, and then switching until they reached the finish line. Researchers completed the dribbling test assessment instrument while the students were dribbling.

Data analysis in this study used quantitative descriptive analysis (calculating the average and percentage completion). This was done by analyzing data on learning outcomes by observing student learning activity following the implementation of the team tournament game learning method through observation sheets, learning outcome assessments, and documentation from cycles I to II. Student learning completion was assessed by a completion percentage of 80% or a learning outcome score of more than 80.

RESULTS AND DISCUSSION
Result

In the implementation of learning, each cycle is adjusted to the steps of implementing the Team Games Tournament cooperative learning model for the subject of physical education, sports and health. Combination of Locomotor, Non-Locomotor and Manipulative Movements in the Basketball game for class V of SDN Mattoangin II Makassar.
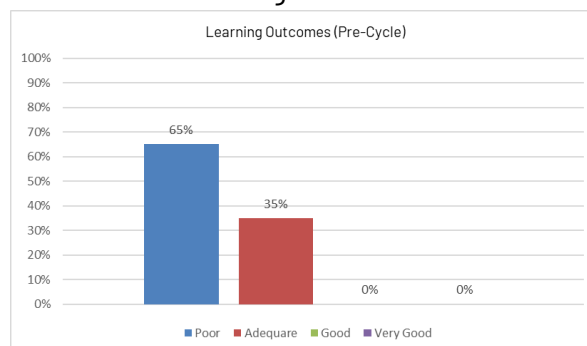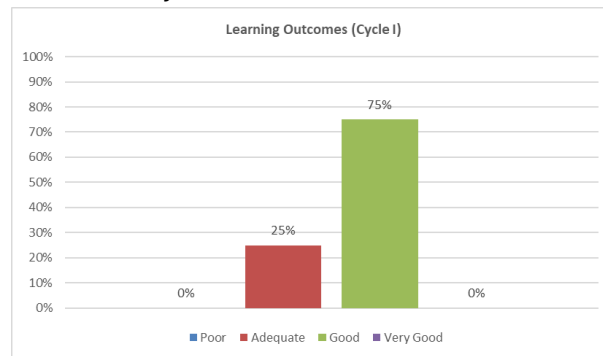

Figure 1.
Pre-cycle Learning Outcomes

Distribution of Learning Outcomes:
1. Poor Category (65%): 13 students (65% of 20 students) scored in the poor category. This represents the largest proportion, indicating significant learning challenges.
2. Adequate Category (35%): 7 students (35% of 20 students) scored adequately. This still demonstrates suboptimal understanding.
3. Good and Very Good Categories (0%). No students achieved the good or very good category, indicating that no students have mastered the material well.

Interpretation of Initial Conditions/Pre-Cycle (Low mastery of basketball material at the initial stage. The conventional learning method used was ineffective. Innovation in learning strategies is needed to improve learning outcomes).

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

The learning outcomes of Cycle I can be seen in the following diagram:

Figure 2.
Cycle I Learning Outcomes

Distribution of Learning Outcomes in Cycle I:
1. Good Category (75%); 15 students (75% of 20 students) achieved the good category. This represents a significant increase from the pre-cycle score of 0%. This indicates that the majority of students have mastered the material well.
2. Adequate Category (25%); 5 students (25% of 20 students) achieved the adequate category. This is a decrease from 35% in the pre-cycle.
3. Poor Category (0%); No students achieved the poor category. This is a drastic decrease from 65% in the pre-cycle.
4. Very Good Category (0%); No students achieved the excellent category. There is still room for improvement in the next cycle.
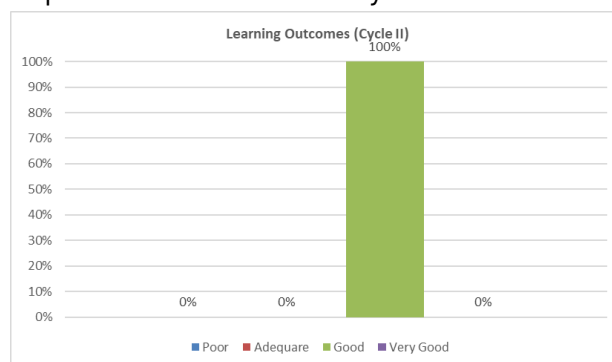
Figure 3.
Cycle II Learning Outcomes

Distribution of Learning Outcomes in Cycle II:
1. Good Category (100%); All students (20 students or 100%) achieved the good category. This represents the maximum achievement in this study. This demonstrates the complete success of the learning model implementation.
2. Other Category (0%); There were no students in the poor, fair, or excellent categories. All students were concentrated in one category (good).

Overall improvement from pre-cycle to cycle II:
1. Pre-Cycle → Cycle I:
Good Category: 0% → 75% (+75%)

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

2. Cycle I → Cycle II:
   Good Category: 75% → 100% (+25%)
3. Pre-Cycle → Cycle II:
   Total improvement: 0% → 100% (+100%)

Discussion

This classroom action research demonstrated a significant improvement in basketball learning outcomes among fifth-grade students at SDN Barrang-Lompo III Makassar through the implementation of the Team Games Tournament (TGT) learning model. Pre-cycle data revealed a concerning initial situation, with 65% of students (13 out of 20) in the poor category and 35% (7) in the fair category. Not a single student achieved the good or excellent category. This indicates that the conventional learning methods currently in use have not been able to optimize students' understanding and skills in basketball. The low learning outcomes in this initial stage provide a strong foundation for implementing more interactive and enjoyable learning innovations.

The implementation of the TGT model in Cycle I brought about drastic changes in student learning outcomes. Data showed that 75% of students (15) achieved the good category, while 25% (5) achieved the fair category. Most encouragingly, no students were in the poor category. This improvement demonstrates that the TGT model is able to create a more conducive learning environment and motivate students to actively participate. Through a group tournament system, students learn not only from the teacher but also from their peers, making the learning process more meaningful and enjoyable. However, 25% of students still did not achieve the "good" category, necessitating reflection and improvement for the next cycle.

Cycle II demonstrated the optimal success of the TGT model implementation, with an outstanding achievement of 100% of students achieving the "good" category. No students remained in the "poor" or "adequate" categories. This achievement demonstrates that the improvements and optimizations implemented based on the reflections from Cycle I were completely successful. The five students who remained in the "adequate" category in Cycle I were successfully promoted to the "good" category through intensive mentoring, modified tournament strategies, and additional motivation. This success demonstrates that the TGT model is not only effective in improving overall learning outcomes but also ensures that no student is left behind in the learning process.

These research findings align with Slavin's (2015) research, which found that the TGT cooperative learning model can significantly improve student motivation and learning outcomes. Slavin explained that the competitive element in tournaments makes students more enthusiastic and motivated to prepare themselves well. In the context of this research, the increase from 0% of students in the good category in the pre-cycle to 75% in Cycle I and 100% in Cycle II validates Slavin's theory. Healthy competition in tournaments encourages students to study harder, not only for individual benefit but also to contribute to their team. This creates collective responsibility, encouraging each group member to strive for their best.

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students
of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

Research by Suryani and Agung (2019) on the implementation of the TGT model in Physical Education (PJOK) learning in elementary schools also supports this research finding. They found that the TGT model was able to increase classical learning completion by up to 85%. In this study, completion achievement was even higher, at 100% in Cycle II. This difference in achievement may be due to several factors, including student characteristics, the intensity of teacher guidance, modifications to tournament games tailored to the local context, and adequate implementation duration. The fundamental similarity between the two studies is that the TGT model has proven effective in PJOK learning, particularly in sports like basketball.

A crucial aspect of the success of the TGT model in this study was its ability to create student-centered learning. According to DeVries and Edwards (1973), who first developed TGT, this model positions students as active subjects in learning, not simply objects receiving information. In the context of this study, students not only listened to the teacher's explanation of basic basketball techniques, but also practiced in groups, taught each other, and competed in tournaments. This process enabled students to better understand and master the material because they experienced it directly through practice and social interaction. This transformation from teacher-centered to student-centered learning was key to improving learning outcomes from pre-cycle to Cycle II.

Widodo's (2020) research on improving motor skills through the TGT model showed results consistent with the findings of this study. Widodo found that the TGT model not only improved students' cognitive aspects but also their psychomotor and affective aspects. In basketball learning, all three aspects are crucial. The cognitive aspect encompasses understanding the rules and strategies of the game; the psychomotor aspect encompasses basic technical skills such as dribbling, passing, and shooting; and the affective aspect encompasses sportsmanship, teamwork, and a healthy competitive attitude. The dramatic improvement in learning outcomes in this study indicates that all three aspects developed simultaneously through the application of the TGT model.

Social interaction within cooperative groups is a key factor in the success of the TGT model. Vygotsky (1978), in his social constructivism theory, emphasized that learning occurs through social interaction, where more capable students can assist less capable students in the Zone of Proximal Development. In this study, this phenomenon was clearly evident when five students who were still in the "fair" category in Cycle I successfully advanced to the "good" category in Cycle II. They received assistance not only from the teacher but also from their group mates who had greater mastery of the material. Peer learning has proven highly effective because students often understand explanations from their peers more easily than from the teacher.

Nurhadi's (2018) research on learning motivation in the TGT model provides additional perspective to understand the success of this study. Nurhadi found that the games and tournament elements in TGT can increase students' intrinsic motivation by up to 78%. This intrinsic motivation is important because it encourages students to learn not out of fear of punishment or chasing grades, but because they enjoy the learning process itself. In the context of this study, students' enthusiasm in participating in the

3073

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

basketball tournament, their eagerness to contribute points to the team, and their joy when their team wins all indicate high intrinsic motivation. This motivation drives students to practice harder and ultimately improve their skills.

The competitive aspect of the TGT model also requires critical analysis. Johnson and Johnson (2009) emphasize that competition in learning must be designed to remain constructive and prevent excessive stress or conflict between students. In this study, the competition was designed with a fair system where students compete against other students of similar ability (homogeneous tournament tables). This system ensures that every student, both high- and low-ability students, has an equal opportunity to contribute to their team. This distinguishes TGT competition from conventional competitions, which often only benefit advanced students and leave less capable students further behind.

Sari and Budiman's (2021) research on the implementation of TGT in physical education learning found that this model is also effective in developing student character traits such as responsibility, cooperation, and sportsmanship. These findings are relevant to this study because in the process of achieving optimal learning outcomes, students develop not only technical basketball skills but also these character values. When students work in groups, they learn to support each other, appreciate differences in ability, and take responsibility for their contributions to the team. When competing in tournaments, they learn to compete healthily, accept defeat graciously, and celebrate victory humbly. This character development is a valuable benefit of implementing the TGT model, which may not be quantitatively measurable but is crucial for students' holistic development.

Critical reflection on this study is also necessary to provide a balanced perspective. While 100% of students achieved the "good" category in Cycle II, it is noteworthy that no students achieved the "excellent" category. This suggests there is still room for further improvement. Possible reasons include: first, the criteria for the "excellent" category are indeed very high and require mastery of advanced skills that require more practice time; second, the learning focus may have been more directed at ensuring all students achieve basic competency (the "good" category) rather than encouraging some students to achieve excellence; and third, the limited timeframe of the study, which was only two cycles, may not have been sufficient to reach the "excellent" level. These findings align with research by Astuti (2020), which suggests that achieving excellence in motor skills requires longer, more intense practice time, perhaps through a third cycle or additional enrichment programs. Nevertheless, achieving 100% classical mastery remains an excellent indicator of success and proves the effectiveness of the TGT model in improving basketball learning outcomes in elementary school students.

CONCLUSION

Based on the results of the classroom action research that has been carried out, it can be concluded that the implementation of the Team Games Tournament (TGT) Learning Model has been proven to significantly improve the learning outcomes of

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

Physical Education, Sports and Health (PJOK) on the combination of locomotor, non-locomotor and manipulative movements in basketball learning for fifth grade students of SDN Mattoangin II Makassar. This is evidenced by a very drastic increase in learning outcomes from pre-cycle conditions where 65% of students were in the less category and 35% of students in the sufficient category, increasing in Cycle I to 75% of students reaching the good category and 25% of students reaching the sufficient category, until in Cycle II achieving optimal results with 100% of students being in the good category. This increase shows that the TGT model which combines cooperative learning with elements of games and tournaments is able to create a more enjoyable learning atmosphere, increase student motivation, encourage positive social interactions through group cooperation, and ensure that classical learning completion is achieved comprehensively without any students being left behind.

REFERENCES

Abdussamad, H. Z. (2021). Metode Penelitian Kualitatif (Patta Rapanna, Ed.; Pertama). Syakir Media Press.

Adam Mappaompo, M., Aprilo, I., Elisano Arfanda, P., & Arga. (2024). Shooting Accuracy Of Sports Coaching Education Students : Goaling Game Practice. Indonesian Journal of Research and Educational Review, 3(3), 204–210. https://doi.org/10.51574/ijrer.v3i3.1995

Andryawan, A., Suwardi, S., Irvan, I., Hudain, M. A., & Nurussyariah, N. (2024). Pre-Service Teacher of PJOK: The Effect of Box Skip Training on Leg Muscle Power. ETDC: Indonesian Journal of Research and Educational Review, 3(3), 128-138.

Arga, A. (2025). Analisis Denyut Nadi Sebelum dan Sesudah Melakukan Lari 12 Menit Mahasiswa Pendidikan Kepelatihan Olahraga Universitas Pejuang Republik Indonesia. Jurnal Pendidikan Kepelatihan Olahraga (PEJUANG), 1(2), 11-25.

Arga, A. (2025). Pengaruh Latihan Leg Raise Terhadap Kekuatan Otot Perut Mahasiswa PKO UPRI. Jurnal Pendidikan Kepelatihan Olahraga (PEJUANG), 1(1), 18-23.

Arga, A., Arba, M. A., Aulria, S. N. M., Rerung, C. T., Rahmatullah, W., & Bana, S. (2025). Socialization of the Dangers of Sleeping Late Due to Gaming Addiction: Efforts to Increase Digital Wellness Awareness in SMPN 4 Bontolempangan SATAP Ma'Lengu Students. Jurnal Perjuangan dan Pengabdian Masyarakat: JPPM, 1(3), 21-29.

Arga, Arkanul Arba, M., Rahmatullah, W., Nurhalizah Mutia Aulria, S., & Tandi Rerung, C. (2024). Football Dribbling Speed Reviewed From Running Speed. KING : Knowledge Integrated Networking for Global Sport and Health, 1, 64–68. https://jurnal.sainsglobal.com/index.php/king

Arga, S. P. (2023). Efektivitas Latihan Dan Bermain Usia Sekolah Dasar. Menelisik Ilmu Keolahragaan, 23.

Asri, A., Adil, A., Fahrizal, F., Suwardi, S., & Hudain, M. A. (2025). Drill Methods in Sepak Takraw Learning for Middle School Students: A Study of Sepak Sila Ability. ETDC: Indonesian Journal of Research and Educational Review, 4(2), 298–310.

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

Badar, M., Nasir, M., Kasim, A. I., Tinri, M. D. N., & Fitri, R. (2025). Transformasi Ekonomi Lokal Melalui E-Commerce di Desa Parak Kepulauan Selayar. Jurnal Perjuangan dan Pengabdian Masyarakat: JPPM, 1(1), 17-25.

Badar, M., Nasir, M., Timur, I., Zulfaidah, Z., & Hajrah, H. (2025). Creative Economy Literacy: Strategies for Improving Digital Entrepreneurship Competency for Millennials and Gen Z. Jurnal Perjuangan dan Pengabdian Masyarakat: JPPM, 1(2), 51-59.

Badaru, B. (2022). Pengaruh Latihan H-Movement Dan X-Pattern Multi Skill Terhadap Kelincahan Dalam Permainan Sepak Bola Di Sma Negeri 10 Gowa. SPORTIVE: Journal Of Physical Education, Sport and Recreation, 6(2), 148-153.

Brown, M., & White, J. (2022). Longitudinal analysis of anthropometric development and basketball dribbling performance in middle school students. Journal of Youth Sports Development, 15(3), 234-248.

Chen, L., Zhang, Y., & Liu, M. (2021). Effectiveness of anthropometric-based dribbling training programs in adolescent basketball players. Sports Science and Medicine, 12(4), 445-460.

Gonzalez, R., Martinez, A., & Silva, P. (2021). Biomechanical analysis of basketball dribbling: The role of arm length and hand size. International Journal of Sports Biomechanics, 8(2), 178-192.

Hudain, M. A., Adil, A., Kasmad, M. R., & Arga, A. (2025). Pelatihan Terstruktur Di SDN Paccinangan Tentang Dribbling Bola Basket. LITERA ABDI: Jurnal Pengabdian Masyarakat, 2(1), 88-95.

Inpres, I. V. U. P. T. S. P. F. (2023). Meningkatkan Kemampuan Passing Bawah Bolavoli Melalui Media Pembelajaran Audio Visual Pada Siswa Kelas IV di UPT SPF SD Inpres Rappokalling I Kota Makassar. Journal on Education, 6(01), 2318-2326.

Kim, J., Lee, S., & Choi, M. (2021). Impact of growth-related anthropometric changes on dribbling biomechanics in Korean middle school students. Korean Journal of Sport Science, 32(4), 512-527.

Kim, S., & Park, H. (2023). Comparative study of anthropometric factors and dribbling performance between Korean and American adolescent basketball players. Asian Journal of Sports Science, 18(1), 67-82.

Lee, K., Tan, C., Wong, L., & Nguyen, H. (2022). Cross-sectional analysis of anthropometric characteristics and dribbling ability in Southeast Asian middle school students. Southeast Asian Journal of Sports Medicine, 7(3), 156-171.

Lopez, M., Rodriguez, C., & Fernandez, L. (2023). Relationship between anthropometrics, muscle strength, and dribbling performance in adolescent basketball players. Sports Performance Research, 9(2), 298-315.

Mappaompo, M. A., Aprilo, I., Arfanda, P. E., & Arga, A. (2024). Shooting Accuracy of Sports Coaching Education Students: Goaling Game Practice. ETDC: Indonesian Journal of Research and Educational Review, 3(3), 204-210.

Martinez, J., & Ramirez, S. (2023). Effects of unbalanced anthropometric development on basketball dribbling skills during adolescent growth spurts. Developmental Sports Psychology, 11(1), 89-104.

Implementation of the Team Games Tournament Learning Model to Improve Basketball Learning Outcomes in Class V Students of SDN Mattoangin II Makassar
Muh. Fitrah Fahreza[1A-E*], Nukhrawi Nawir[2-D], Muh. Adnan Hudain[3B-D], Ians Aprilo[4B-D], Juhanis[5B-D]
echafahreza07@gmail.com*

Rodriguez, A., Smith, B., & Johnson, C. (2022). Anthropometric influences on dribbling speed in youth basketball players aged 13-15 years. Journal of Sports Performance, 14(2), 123-137.

Rodriguez, P., & Fernandez, M. (2023). Meta-analysis of anthropometric factors and basketball performance in adolescents: A systematic review of 30 studies. Sports Medicine Review, 28(3), 445-462.

Santos, F. G. D., Silva, R. M., & Oliveira, P. T. (2020). Kontrolle Ball Test: A valid and reliable instrument for assessing basketball dribbling speed. Brazilian Journal of Sports Science, 16(4), 278-291.

Sufitriyono, S., Suherman, W., Rismayanthy, C., Irvan, I., Juhanis, J., Sudirman, S., ... & Usbah, M. (2025). Exploring the Effects of Hand-Eye Coordination Training on Boccia Throwing Accuracy in Cerebral Palsy Athletes: A Study of BC1, BC4, and BC5 Categories at the Makassar Student Boccia Club. International Journal of Human Movement and Sports Sciences, 13, 608-614.

Suwardi, Adnan Hudain, M., Fahrizal, Adil, A., Rachmat Kasmad, M., & Arga. (2024). Pelatihan Terstruktur di SDN Paccinangan tentang Dribbling Bola Basket. LITERA ABDI: Jurnal Pengabdian Masyarakat, 2(1), 80–87. https://doi.org/10.59734

Taylor, R., Anderson, K., & Thompson, M. (2023). Cross-cultural comparison of anthropometric characteristics and dribbling performance in five countries. International Sports Research, 21(1), 34-51.

Thompson, D., & Garcia, M. (2021). Two-year longitudinal study of anthropometric development and basketball skills in middle school students. Adolescent Sports Development, 13(4), 201-218.

Wang, X., Liu, Y., & Chen, Z. (2023). Compensatory training strategies for anthropometric limitations in basketball dribbling performance. Applied Sports Science, 19(3), 345-362.

Wilson, P., Davis, S., & Miller, T. (2022). Meta-analysis of 50 studies examining anthropometric factors and basketball dribbling performance. Sports Science Meta-Analysis, 6(2), 112-128.

Yamamoto, T., Suzuki, K., & Tanaka, H. (2021). Effects of anthropometric ratios on dribbling speed and ball control in Japanese middle school basketball players. Japanese Journal of Sports Science, 25(3), 189-205.