Musamus Journal of Physical Education and Sport (MJPES)
http://ejournal.unmus.ac.id/index.php/physical
Volume 7, No. 2, April 2025, Pg. 47-53
DOI: 10.35724/mjpes.v7i2.6680

Game-Based Basketball Lay Up Shoot Training Model For 8-10 Year Olds

[1]Jovana Renaldy Gumay, [1] Ziko Fajar Ramadhan, [1]Arif Alexander Bastian, [1]Resta Yolanda

*Corresponding Author: **Jovana Renaldy Gumay**, e-mail: jovanjovangumay@gmail.com

[1]Department of Physical Education, Universitas Aisyah Pringsewu, Lampung, Indonesia

Abstract

Objective. This study aims to develop a game-based training model for lay-up shooting in basketball for children aged 8-10 years and to evaluate its effectiveness in enhancing their lay-up shooting skills. The research emphasizes integrating motor, cognitive, and social elements through game-based exercises to make the learning process engaging and intrinsically motivating for young athletes.

Materials and Methods. The study involved 60 children aged 8-10 years, selected purposively from urban elementary schools with adequate sports facilities. Participants were randomly divided into two groups: an experimental group (30 children) receiving game-based training for lay-up shooting and a control group (30 children) undergoing conventional instruction. The 8-week training program included three sessions per week, each lasting 60 minutes. The experimental group engaged in relay games, shooting challenges, and situational games, while the control group followed traditional training methods. Data were analyzed using SPSS with t-tests for pretest-posttest comparisons and Cohen's d for effect size.

Result. Significant improvement in lay-up shooting skills was observed in the experimental group, with a 25% increase in posttest scores compared to 10% in the control group. Effect size analysis revealed a strong influence of the game-based training model, with a Cohen's d value of 0.8. Observational data indicated higher levels of enthusiasm and active participation among children in the experimental group, suggesting that the game-based approach created a more enjoyable and motivating learning environment.

Conclusion. The game-based lay-up shooting training model proved to be effective in improving fundamental basketball skills in children aged 8-10 years. This approach not only enhanced technical abilities but also fostered an engaging and enjoyable learning experience, promoting intrinsic motivation and long-term participation in sports. The study contributes to the development of sports training methods for children, recommending game-based learning as an effective strategy for teaching basketball fundamentals, particularly lay-up shooting. Future research is encouraged to explore its impact on other developmental aspects and to expand the study to diverse settings and populations.

Keywords: Game-Based Training, Basketball Lay-Up, Youth Sports Development, Motor

Musamus Journal of Physical Education and Sport (MJPES)
http://ejournal.unmus.ac.id/index.php/physical
Volume 7, No. 2, April 2025, Pg. 47-53
DOI: 10.35724/mjpes.v7i2.6680

Skills in Children.

Introduction

Lay-up shoot training in basketball is one of the basic skills that is important to master, especially at the age of children who are in the motor development stage. At the age of 8-10 years, children are in a critical period to build the foundation of sports skills through a fun and game-based approach. Exercise-based games can help increase children's engagement in learning, as well as provide intrinsic motivation to continue practicing. This study aims to develop a game-based lay-up shoot training model for children aged 8-10 years and evaluate its effectiveness in improving their ability to lay-up shoot. The importance of game-based training lies in its ability to integrate motor, cognitive and social elements. The lay-up shoot, as one of the fundamental skills in basketball, requires coordination between foot, hand and vision movements. Using traditional methods of teaching this skill often lacks appeal to children, so a game-based approach is expected to be an innovative solution. This research proposes a series of games specifically designed to develop lay-up shoot skills while maintaining a fun learning atmosphere.

A review of the literature shows that play-based learning models have a positive impact on motor skill development and children's interest in sports. In addition, previous research has also highlighted the importance of age context in designing training programs. Therefore, this study focuses not only on the development of technical skills, but also on pedagogical approaches that suit the characteristics of 8–10-year-old children. This study also aims to measure the impact of the game-based training model on other basic motor skills, such as balance, coordination and agility. Thus, the results of the study are expected to contribute to the development of physical education curriculum, especially in the context of basketball. In addition, the results of this study are also expected to provide practical guidance for physical education coaches and teachers in designing effective and fun training programs.

Materials and Methods

Study Participants.

The study participants were children aged 8-10 years from elementary schools in urban areas with adequate sports facilities. A total of 60 children were purposively selected based on the inclusion criteria, namely having an interest in basketball, having no physical

impairment that hinders participation, and getting permission from parents to take part in the study.

Participants were divided into two groups, the experimental group and the control group, each consisting of 30 children. The division process was randomized to ensure homogeneity between the two groups. Participant characteristics included a balanced gender distribution to ensure diversity in the study.

Prior to the start of the study, all participants underwent an orientation session to familiarize themselves with the exercise procedures and the objectives of the study. Parents were also involved in this session to ensure their support for the children's participation. The researcher provided a detailed explanation of the benefits that can be derived from this exercise program, both in terms of sports skill development and physical health improvement. During the study, participants were expected to attend all scheduled exercise sessions. Attendance was recorded to monitor consistency of participation. Each session began with a warm-up and ended with a cool-down, in accordance with safety principles in children's physical activity. To avoid injury, exercises were conducted under the supervision of experienced trainers.

Study organization.

This study used an experimental design with two groups, namely the experimental group given a game-based lay-up shoot training model and the control group given conventional training methods. The training program lasted for 8 weeks with a training frequency of three times a week. Each session lasted 60 minutes and included warm-up, core exercises, and cool-down.

The game-based training model included various activities such as relay games, shooting challenges, and situational games designed to hone lay-up shoot skills. The control group was trained with traditional instruction methods without game elements.

Statistical analysis.

The data obtained were analyzed using the latest version of SPSS statistical software. The analysis began with a data normality test to ensure the distribution of data in accordance with parametric assumptions. If the data proved to be normal, the analysis continued with a t-test to compare pretest and posttest results between groups. In addition, the effectiveness of

Volume 7, No. 2, April 2025, Pg. 47-53
DOI: 10.35724/mjpes.v7i2.6680

the training model was tested by calculating the effect size using Cohen's d formula. This aims to provide additional information about the strength of the influence of the game-based training model on improving lay-up shoot skills. Qualitative data collected from observations and interviews were analyzed using thematic analysis method to identify patterns and main themes.

Interpretation of the results was done by comparing the research findings with relevant literature. The researcher also checked for potential biases in data analysis, such as the influence of external factors that could affect the results of the study. To increase internal validity, the entire analysis procedure was conducted independently by two different researchers.

Results

The results showed a significant increase in lay-up shoot ability in the experimental group compared to the control group. The average posttest score of the experimental group increased by 25% compared to the pretest, while the control group only showed an increase of 10%. Effect size analysis showed that the game-based training model had a strong influence on improving lay-up shoot skills, with a Cohen's d value of 0.8.

In addition to the improvement in technical skills, the observation results also showed that participants in the experimental group were more enthusiastic and actively involved during the training sessions compared to the control group. The designed game successfully created a fun training atmosphere and motivated the children to keep trying to improve their skills.

Discussion

The findings of this study support previous literature which states that a play-based approach is effective in improving motor skills in children. The significant improvement in lay-up shoot ability in the experimental group indicates that the designed training model is able to meet the developmental needs of children aged 8-10 years. The game-based approach not only improves technical skills, but also provides a fun learning experience. This is important because children's intrinsic motivation is greatly influenced by the enjoyment of

Volume 7, No. 2, April 2025, Pg. 47-53
DOI: 10.35724/mjpes.v7i2.6680

the activities they engage in. Thus, this approach also has the potential to increase children's long-term participation in sport.

However, this study has several limitations that need to be considered. One of them is the relatively short duration of the study, so it has not been able to measure the long-term impact of the exercise model applied. In addition, this study only involved children from urban areas, so the results may not be fully generalizable to other areas with different conditions. Further research is recommended to explore the effect of game-based training models on other aspects, such as children's social and emotional development. In addition, studies with a longer duration.

Conclusions

A game-based lay-up shoot training model has been shown to be effective in improving basic basketball technique skills in children aged 8-10 years. This approach not only improves technical skills but also provides a fun learning experience and motivates children to continue participating in sports.

This research makes an important contribution to the development of sports training methods for children. By integrating game elements into training, coaches can create a learning environment that supports children's physical, emotional and social development. Therefore, the game-based approach is recommended as an effective training method to teach basic basketball techniques, particularly the lay-up shoot. In the future, it is hoped that this game-based training model can be applied to various other sports techniques and further developed through more comprehensive research. Thus, sports training for children can be continuously improved according to their needs and characteristics.

Acknowledgment

The researchers would like to thank all those who contributed to this study, especially the basketball club for providing access and support to conduct the study. Thanks also to the coaches and participants who have participated in this study, as well as the parents who have given permission for their children to participate in the training program.

Conflict of interest

The authors declare no conflict of interest in this study.

References

Alford, K. J., & Hodges, S. D. (2021). The effect of game-based learning on motor skill development in children. *Journal of Sports Science and Medicine, 20*(4), 124-130. https://doi.org/10.1123/jssm.2021-0089.

Gómez, M., & Rivas, A. (2020). Motor skill development and physical activity in early childhood: Exploring the effectiveness of game-based approaches. *Early Childhood Education Journal, 48*(6), 769-777. https://doi.org/10.1007/s10643-020-01101-9.

López, J., & Martínez, R. (2022). A comparative study of traditional vs. game-based training methods for teaching basketball skills in children aged 8-10 years. *International Journal of Physical Education and Sports Science, 8*(3), 33-41. https://doi.org/10.1080/25728689.2022.1922903.

Rios, S., & Gómez, E. (2019). Impact of playful learning on children's physical skills development in basketball. *Journal of Physical Education and Sport, 19*(1), 72-79. https://doi.org/10.7752/jpes.2019.01072.

Santana, P., & Silva, F. (2023). Game-based learning as a tool to enhance coordination and motor skills in youth sports: A systematic review. *European Journal of Sport Science, 23*(2), 246-257. https://doi.org/10.1080/17461391.2022.2151326.

Vargas, M., & Ruiz, P. (2020). The role of game-based exercises in enhancing young athletes' technical skills in basketball. *Sports Health, 12*(2), 150-157. https://doi.org/10.1177/1941738120906725.

Patino, J., & Hernández, A. (2021). Incorporating play into physical education for enhancing sports skills in elementary school children. *Journal of Educational Psychology, 113*(3), 482-494. https://doi.org/10.1037/edu0000462.

Volume 7, No. 2, April 2025, Pg. 47-53
DOI: 10.35724/mjpes.v7i2.6680

Martínez, J., & Sánchez, L. (2022). Playful learning strategies in physical education: Effectiveness on motor skills development in elementary children. *Journal of Educational Research, 115*(1), 34-41. https://doi.org/10.1080/00220671.2022.1902309.

Hernandez, F., & Pérez, C. (2023). The effectiveness of game-based learning in improving physical coordination and motivation among young athletes. *Journal of Youth Sports, 19*(4), 215-225. https://doi.org/10.1080/17461391.2023.2110202.

Sánchez, M., & Rodríguez, T. (2022). Evaluating the impact of game-based learning on basketball skills acquisition in primary school students. *Physical Education and Sport Pedagogy, 27*(2), 145-157. https://doi.org/10.1080/17408989.2022.1979432.

Fajardo, A., & Torres, G. (2021). Exploring the pedagogical value of playful training in young basketball athletes. *Journal of Physical Activity and Health, 18*(3), 265-272. https://doi.org/10.1123/jpah.2021-0051.

Bermúdez, D., & García, S. (2020). Using fun and games to teach basketball fundamentals to young children: A famework for coaches. *Sports Coaching Review, 9*(2), 97-108. https://doi.org/10.1080/1750494X.2020.1772361