

The Effect of Two Obstacle Jump Rope Training on the Results of Long Jump Squatting Style of Class VIII Students of SD Negeri 2 Toman

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Abstract: The purpose of this study was to determine the effect of two-obstacle jump rope training on the results of long jump squatting style of grade VI students of SD Negeri 2 Toman in the 2022/2023 academic year. The variables in the study, namely the exercise of jumping rope two obstacles as the independent variable (X) and the results of long jump squatting style as the dependent variable (Y). The population in this study was 212 male students of grade VI SD Negeri 2 Toman. The samples in this study were taken by 2 classes using cluster random sampling techniques so that class V1a was obtained as an experimental class of 17 students, and V1b as a control class of 17 students. The method used in this study is experimental. Data collection is carried out by means of tests. The data obtained from the tests are analyzed by averaging and using t-test statistics. The results of data analysis showed that the average increase in squatting style long jump ability of experimental group students was better than the control group or $0.12 > 0.05$. The results of hypothesis testing are shown by the value of the calculated test coefficient greater than the t-table coefficient or $3.28 > 1.696$, then H_0 is rejected and H_a is accepted, this means that there is an effect of jumping rope training two obstacles on the results of long jump squatting style of grade VI students of SD Negeri 2 Toman.

Keywords: Jumping Exercise, Squat Style Long Jump, Two-Obstacle Rope

A. Introduction

Physical Education and Sports are part of the standard curriculum for Primary and Secondary Education Institutions. With proper management, its influence on the physical, spiritual and social growth and development of students is never in doubt. This is in line with (Samsudin, 2008) that physical education is a process of education of a person as an individual or member of society which is carried out consciously and systematically through various physical activities to obtain physical growth, physical health and freshness, abilities and skills, intelligence and character development, and harmonious personality in the context of forming quality Indonesian people based on Pancasila.

Sport is a physical activity to enrich and improve ability, skill, and agility of basic movements in sports (Thomas et al., 2020). Activity this includes the ability to move in everyday life, one of which is athletics. Movements in athletics are very suitable for filling physical education programs, such as running, jumping, walking and throwing.

At the same time, athletics also has the potential to develop basic movement skills, as an important foundation for mastering technical skills in sports. Given that athletics is one of the basics Sports coaching and physical movement, so the learning process is very important athletics in students, especially in Junior High School which is adjusted to the ability of students.

The long jump is one part of athletic learning in Junior High School and is contested at the student level (Sari et al., 2021). Long jump learning as one of the components of movement that can support physical freshness (Lopategui et al., 2021) it is hoped that there will be increased attention both from the relevant government agencies and the wider community so that long jump can be attention that is parallel to other sports, because long jump is one of the elements of movement that contributes to building the nation through physical education, sports and health.

Long jump in its implementation aims to get the results of the jump as far as possible (Kamnardsiria et al., 2015). To achieve the farthest jump distance, students must first understand the basic elements of the long jump, such as prefix, repulsion, posture in the air, and landing. In addition, to reach the distance as far as possible, a student must have the explosive power of the limb muscles. The basis of good leg muscle explosive power will facilitate the implementation of good motion in performing jumping movements. This is increasingly evident with the benefits obtained from good strength, namely to make it easier to learn techniques and prevent the possibility of injury. In performing jumps, the work of the leg organs which include joints, bones and muscles. The joints involved are the hip joint, knee joint and ankle. All these joints are involved in a coherent and cohesive manner where the thigh muscles are the driving force at the beginning of the next movement by the calf muscles. Steps that are too far away are not effective enough to make jumping movements, but scrambling is a very important part of jumping. This is because in the long jump, students perform movements that are a combination and development of the start (running), repulsion, posture of hovering in the air, and landing.

Based on observations and information obtained from teachers in the field of physical education, sports and health at SD Negeri 2 Toman, not all students achieve success in athletics in the long jump. There are still many students who are less able to achieve maximum jumping distance, this is due to the weak explosive strength of

the leg muscles, where the leg muscles are the main center of motion for the body as a whole. If the strength of the limb muscles is weak, it does not allow one to be able to reach far jumps. Therefore, students should do exercises in increasing leg muscle strength. Strength is a very important element in sports activities, because strength is the driving force, and the prevention of injury. This is in line with Haskell et al., (1985), exercise is a series of structured and rhythmic physical activities with a certain intensity within a certain period of time that aims to improve physical fitness. One form of exercise used to increase leg muscle strength is jumping rope two obstacles. This exercise is done with the help of two people who hold a rope as an obstacle, then the obstacles are combined with a jumping sequence based on short, long, even varying distances between obstacles. Judging from the movement, the exercise can increase the power or driving power of the leg muscles when doing long jump movements.

Based on the background of the above problems, the author is interested in conducting research entitled The Effect of Two Obstacle Jump Rope Training on the Results of Long Jump Squatting Style of Class VIII Students of SDN 2 Toman.

B. Methods

This research used experimental design with the type of pretest posttest control group design (Zientek et al., 2016; Valente, & MacKinnon, 2017). In this design there are two groups that are randomly selected, then given a pretest to find out the initial state of whether there is a difference between the experimental group and the control group (Sugiyono, 2010).

C. Results and Discussion

Based on data analysis of the results of the study, the average initial test (pretest) of squatting style long jump was three times the opportunity in the experimental group students and control group, where the jump distance taken was the farthest distance (Nasution et al., 2022). The experimental group's pretest results obtained the farthest distance of 2.09 meters, and the closest distance of 1.75 meters with an average of 1.90 meters. While the farthest distance of the control group was 2.08 meters, and the closest distance it was 74 meters with an average of 1.88 meters.

The treatment of two-obstacle jumping rope training in the experimental group was carried out from September 7, 2013 to October 3, 2013. Where in its implementation, students run slowly with knee movements raised high on the edge of the goal, then students lift the thighs of the leading legs to horizontally straighten their knees across the goal, and move the legs that follow on the edge of the goal, and the knees of the legs remain raised during the student's jumping movement.

The final test (posttest) of squatting style long jump is carried out after students take part in a two-obstacle jump rope exercise. The results for the experimental group obtained the farthest distance of 2.19 meters, and the closest distance was 1 meters with an average of 2.02 meters. While the farthest distance of the control group was 2.13 meters, and the closest distance was 1.79 meters with an average of 1.93 meters. The results of hypothesis testing are shown by the value of the calculated test coefficient greater than the t-table coefficient or $3.28 > 1.696$. Then it means, the hypothesis is accepted.

D. Conclusion

The results of data analysis showed that the average increase in squatting style long jump ability of experimental group students was better than the control group. The results of hypothesis testing are shown by the value of the calculated test coefficient greater than the t-table. This means that there is an effect of jumping rope training two obstacles on the results of long jump squatting style of grade VI students of SD Negeri 2 Toman.

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References

- Haskell, W. L., Montoye, H. J., & Orenstein, D. (1985). Physical activity and exercise to achieve health-related physical fitness components. *Public health reports*, 100(2), 202.
- Kamnardsiria, T., Janchaia, W., Khuwuthyakorna, P., Suwansrikhama, P., Klaphajoneb, J., & Suriyachanc, P. (2015). Knowledge-based system framework for training long jump athletes using action recognition. *Journal of Advances in Information Technology Vol*, 6(4).
- Lopategui, I. G., Paulis, J. C., & Escudero, I. E. (2021). Physical demands and internal response in football sessions according to tactical periodization. *International Journal of Sports Physiology and Performance*, 16(6), 858-864.
- Nasution, A. F., Tarigan, F. N., & Tanjung, Y. T. (2022). Traditional Games In Improving Learning Outcomes Of Squat Style Long Jump In Elementary School Students. *Journal Physical Education, Health and Recreation*, 7(1), 14-19.
- Samsudin. (2008). *Learning Physical Education, Sports and Health High School/MA*. Jakarta: Litera Prenada Media Group.

- Sari, Z. N., Darmawan, A., Gemaël, Q. A., & Kristina, P. C. (2021). ZN Games Model To Enhance Long Jump Skill For Junior High School Students. *Halaman Olahraga Nusantara: Jurnal Ilmu Keolahragaan*, 4(2), 226-239.
- Sugiyono. (2010). *Quantitative, Qualitative and R & D*. Bandung: Alfabeta.
- Thomas, E., Bianco, A., Tabacchi, G., Marques da Silva, C., Loureiro, N., Basile, M., ... & Palma, A. (2020). Effects of a physical activity intervention on physical fitness of schoolchildren: the enriched sport activity program. *International journal of environmental research and public health*, 17(5), 1723.
- Valente, M. J., & MacKinnon, D. P. (2017). Comparing models of change to estimate the mediated effect in the pretest-posttest control group design. *Structural Equation Modeling: A Multidisciplinary Journal*, 24(3), 428-450.
- Zientek, L., Nimon, K., & Hammack-Brown, B. (2016). Analyzing data from a pretest-posttest control group design: The importance of statistical assumptions. *European Journal of Training and Development*, 40(8/9), 638-659.