

The Experimental Study for Increasing the Aerobic Skills of Students

Baharuddin^{1,*}

¹Faculty of Sports Science, Universitas Negeri Makassar, Makassar, Indonesia

*Corresponding author. Email: baharuddin@unm.ac.id

ABSTRACT

This article describes about the implementation of an experimental study for increasing the aerobic skills of the student. There were 62 students in the 8th grade of Secondary High School in Makassar. The focus of research is divided into two variables that basic steps and arm movement. The experimental method is One Group Pretest Post Test Design and using the movement learning method as an experiment. Data analysis used quantitative descriptive methods to compare pretest and posttest values. The results showed an increase in the aerobic skills of students after the application of movement learning.

Keywords: *Movement, learning, basic steps, arm movement*

1. INTRODUCTION

Exercise for younger is useful for repairing important body components, such as the heart and lungs. A regular exercise program will produce physical fitness for everyone. Theoretically, physical fitness is divided into three parts: Firstly, Static Fitness or the balance between physical and mental. Secondly, Dynamic Fitness or ability to do strenuous activities without special skills and dexterity requirements. Thirdly motoric skill or the ability to perform movements that require agility such as aerobics, swimming, and athletics. Besides, sports training is also very instrumental in the formation of perfect posture and gestures. Furthermore, the exercise will impact body strength, the agility of movement, and balance in body organ coordination. Socially, exercise also plays a vital role in instilling habits and discipline. This exercise will also impact students' psychomotor abilities with dexterity training and skill development [1] [2].

In Indonesia, sports training is a formal education subject, especially at secondary high school. As part of education, physical education and sports aim to improve knowledge, personality, skills, health, and physical fitness. Furthermore, in those educational activities, there is one subject, namely aerobic learning. This subject aims to improve student skills in coordinating body movements. Specifically, aerobic training aims to develop students' motor abilities, including strength, speed, and endurance. Also, aerobic exercise can develop

motion coordination and combine it with accompaniment music [3].

The obstacle often faced by sports teachers in aerobic learning is that most students have not demonstrated aerobic skills well. The teacher's difficulty in learning basic aerobic techniques is the difficulty in describing theories and the many different patterns of motion. Also, this subject improves students' cognitive and leads to an increase in their psychomotor aspects. Factually, it was found that many students did awkward aerobic movements such as stepping movements that were not following biomechanics. Students only drag their feet and do not lift properly. Students only drag their feet and do not lift properly. Another fact is that during practice turning hands. The right movement starts with turning from back to front and returning to the hands behind. However, the fact is, most students do not move correctly. The impact of low skill is physical fitness that is not optimal.

In sports learning, physical activity requires skills to produce good performances. Skills are the ability and mastery of movement techniques by utilizing minimum energy and time. These skills' achievement is influenced by various aspects, namely the teaching and learning process, personal and student personal factors, and situational factors. Specifically, in sports learning, skills refer to maximizing achievement, minimizing energy use both physically and mentally, and utilizing time efficiently.

Motion skills or a person's ability to display correct and sequential movements are targets of achievement in sports education. These skills vary by person depending on age, body shape, and motion experience. With these essential aspects, the teacher can develop learning methods that can develop students' movement skills. Therefore, the evaluation of learning activities is students' appearance in presenting the correct aerobic techniques [4] [5].

This study introduces the method of movement learning for basic steps and arm movement. Basic steps are the students' skills in moving their legs correctly, which consist of the path in place, the movement of moving forward and backward, jogging, the movement of lifting the heels and several other movements. The correct marching technique begins with lifting the legs about as high as a calf, chilling the knees perpendicularly. Arm movement exercises aimed at training the arm muscles, body muscles, chest muscles and stomach muscles. Bicep curl or bend elbow joint movements and straighten again aim to improve arm muscles. The chest press or movement to push the arm in front of the chest to train the chest muscles (pectoral).

2. METHOD

The experimental method is useful for testing students' aerobic skills in the experimental stages, namely, by implementing movement learning. Movement learning exercise methods include a description of pictures and demonstration of movements by the teacher (Table 1). This training method uses ten meetings with a duration of ninety minutes per meeting.

Table 1. Experimental of Study

| Step | Teacher's activities |
|------|--|
| 1 | Describe verbally several techniques in aerobics |
| 2 | Describe by showing pictures of several techniques in aerobics |
| 3 | Test students' aerobic skills (pretest) |
| 4 | Demonstrating movements in aerobics |
| 5 | Test students' aerobic skills (posttest) |

Study subjects were 62 students in the 8th grade of Secondary High School in Makassar. The student skills test includes indicators of basic steps and arm movements. Skills assessment uses a range of values between 1-10. Data analysis uses quantitative descriptive.

3. RESULTS

Student skills assessment uses various indicators as a basis for assessing basic skills and arm movements.

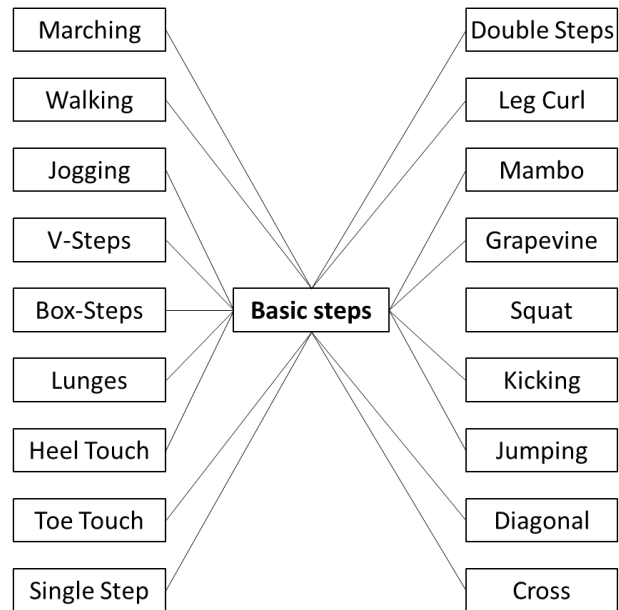


Figure 1 Indicators of Basic Steps

The results of the assessment of student skills on basic steps that include 18 indicators show an increase after a demonstration by the teacher. The results of the analysis showed differences in the value of student skills by 2.21. In detail, the increase in value is presented in Figure 2.

The results of the analysis show that the most significant improvement in students' skills in marching. This movement is the movement of lifting the leg by bending the knee perpendicularly; then, students touch the floor, starting from the football and ending to the heel. In general, students can do this movement correctly after observing demonstrations from the teacher.

The arm movement indicator is divided into eight indicators shown in Figure 3

The assessment of student skills in arm movement showed an increase in student skills by 1,965 after a demonstration by the teacher. In detail, the increase in value is presented in Figure 4.

Based on Fig 4, the significant difference in posttest and pretest scores on students' skills is the bicep curl with an added value of 2.48, while the smallest value added to the butterfly skill is 1.29. This fact illustrates that students are skilled at bending the elbow joint and straightening it again.

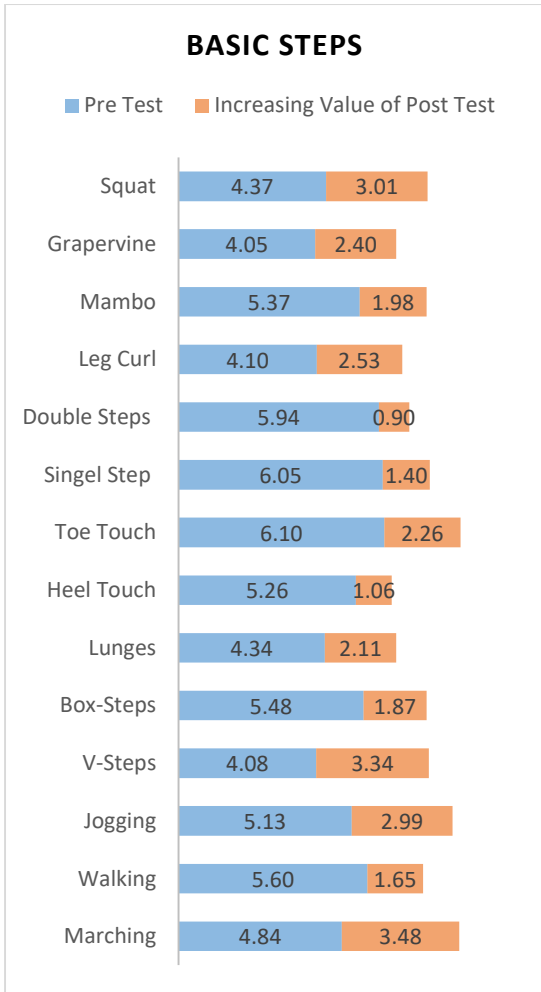


Figure 2 Improvement student skills on basic steps

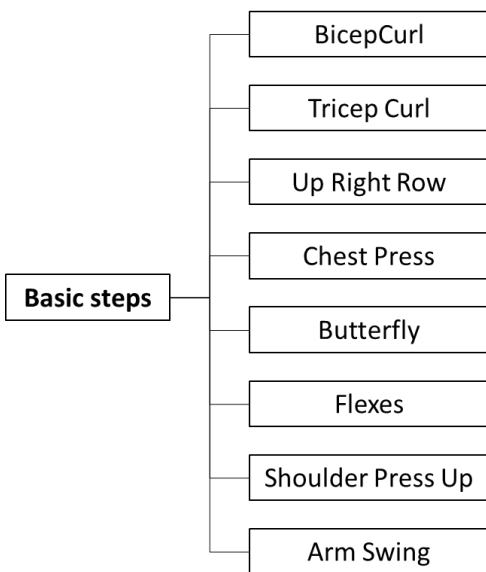


Figure 3 Indicators of Arm Movement

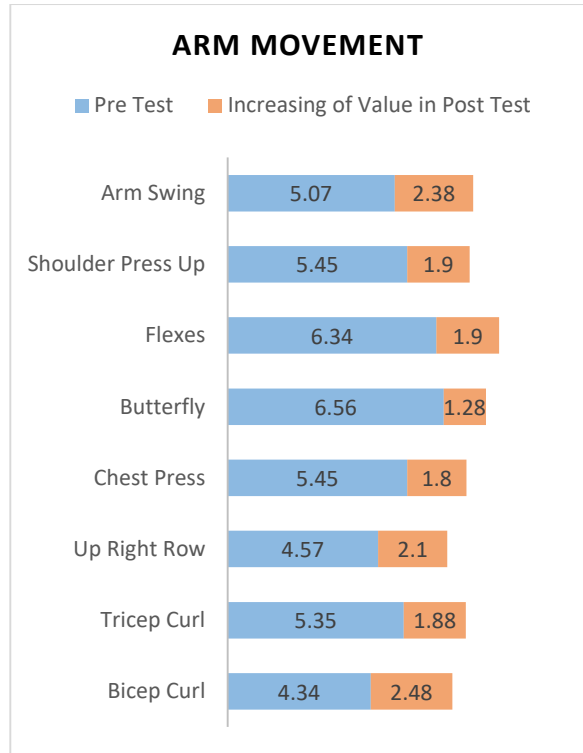


Figure 4 Improvement of students skills arm movement

4. DISCUSSION

The movement learning model effectively improves students' skills in doing aerobic movements. This model combines demonstration methods and training methods. Practically, students practice doing aerobic movements shortly after the teacher gives a demonstration. As a result, student skills are improved through motor skills training and practicing student focus and accuracy. However, this activity requires a longer time and a broader place. Space for each student to practice freely. Thus, the application of this exercise model requires space following the number of students [6].

The movement learning model refers to several previous studies that revealed that the training method improves motor skills/movements, both using assistive devices and without assistive devices. Besides, this learning method can develop students' intellectual abilities, namely connecting aerobic movements with the body muscles that are moved [7].

Teachers, as student trainers in sports education, play a significant role in achieving learning objectives. The professionalism of a sports teacher increases students' knowledge and skills related to sports training. Besides, in aerobic learning sports, teachers must also explain the anatomy and physiology of sports, psychology and mental health, and biomechanics.

In the method of movement learning, the teacher uses interactive learning strategies. This strategy is often used in planning physical education learning experiences. This method guides the teacher to inform, show, or direct a group of students about the activities that the student

must carry out, and the teacher evaluates the students' knowledge and skills. However, in interactive teaching, the teacher must be a stimulant of student responses to the teacher's previous movements. The ability of the teacher to be the focus of student attention becomes a determinant of learning achievement. In this training model, the teacher becomes the center of learning and is very dominant throughout the training activities.

In addition, aerobic learning also requires teachers to be able to present lesson material. Various studies describe the presentation techniques correctly, namely: Firstly, sports teachers must be able to attract the attention of students [8]. This is very important because demonstration activities sometimes provoke student uproar, so the teacher's voice is not heard and the focus of divided students. Also, learning activities in open spaces sometimes break students' concentration due to diverse outside interference. Secondly, the teacher must be able to communicate well. The best technique is the teacher doing induction sets or outlining the learning orientation. [9]. Student attention at the beginning of learning activities will determine student attention in the next period. A logically sequential presentation also characterizes good teacher communication skills. At the beginning of the lesson, the teacher displays a movement or an essential part of the movement. This method can prove students' memory of the material training. The correct learning technique can increase students' knowledge and skills

5. CONCLUSION

The method of presenting images combined with demonstration methods and training methods is the principle of movement learning training. The results showed an increase in the aerobic skills of students after the application of movement learning.

REFERENCES

- [1] E. Yafie, "The Influence of Motoric Ability Development on Child Aggressive Behavior is Reviewed from Social Class Level," in 3rd International Conference on Education and Training (ICET 2017), 2017.
- [2] T. J. Cleary, B. J. Zimmerman, and T. Keating, "Training physical education students to self-regulate during basketball free throw practice," *Res. Q. Exerc. Sport*, vol. 77, no. 2, pp. 251–262, 2006.
- [3] C. J. Fuller, "A descriptive analysis of aerobic instructor behaviors and related student responses.," 1999.
- [4] A. M. Gurieieva and R. V Klopov, "Factor structure of the physical state of female students of higher education institution," *Pedagog. Psychol. medical-biological Probl. Phys. Train. Sport.*, no. 7, pp. 7–12, 2014.
- [5] E. P. Balitskaya, "Students' motivation to fitness classes at technical university," *Pedagog. Psychol. medical-biological Probl. Phys. Train. Sport.*, no. 6, pp. 3–6, 2013.
- [6] B. J. Zimmerman and A. Kitsantas, "Self-regulated learning of a motoric skill: The role of goal setting and self-monitoring," *J. Appl. Sport Psychol.*, vol. 8, no. 1, pp. 60–75, 1996.
- [7] M. H. McTeigue and A. Zias, "Methods and apparatus for sports training." Google Patents, Dec-1994.
- [8] R. A. Mechikoff, "A history and philosophy of sport and physical education: From ancient civilizations to the modern world," 2006.
- [9] R. M. Nideffer, P. DuFresne, D. Nesvig, and D. Selder, "The future of applied sport psychology," *J. Sport Exerc. Psychol.*, vol. 2, no. 3, pp. 170–174, 1980.