

Effect of Plyometric and Speed Training on Kinetic Energy and Jumping Performance of High School Broad Jumpers of Pune

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Introduction

Physical Education

The term physical education is unfortunate. In contemporary usage physical implies the medium through which the education takes place. One acquires an education in many ways and from many sources, not only through reading books but also the through other important experiences. The adjective physical it's developing physical skills solely for their own sakes. Modern physical education sees these skills more as a means to an end than as absolute or continuing in themselves.

Biomechanics is used in the field of sports because it helps to understand the nature of sports movements on the basis of laws and principles of mechanics. This analysis provides a quantitative and qualitative measure of motion, it indicates facts in execution, it helps to prepare mechanical model of technique and for perfection and optimization of human performance.

Man as a moving, living body obeys the scientific laws of the universe, with adequate knowledge of scientific treats and application of them to his efforts, man can move more efficiently.

Statement of the Problem

The statement of this study is to find out the effect of plyometric and speed training on the kinetic energy and jumping performance of high school broad jumpers of Pune

Delimitation

The present study will be restricted to high school boys Broad Jumpers of Pune only. Only seventy five Broad jumpers will be selected at random as subjects.

Limitation

1. Regular activities pertaining to their day – to – day affairs which will have an effect on the performance are not controlled.
2. The atmospheric temperatures are not taken in to account while collecting data.
3. The food habit of the subjects which may affect the result was considered as limitation.

Objectives of the Study

In this study the researcher has decided to see, as much as the effects of plyometric training and speed training on kinetic energy and broad jump performance, which will be the main purpose of this study.

Hypothesis

1. It will be hypothesis that speed training may improve the kinetic energy significantly than plyometric training.
2. It will also hypothesis that plyometric training may improve the jumping performance than speed.

Materials and Methods

The procedure for method of experimental, collection and data and then statistical technique used for analysing the data have been described in this chapter.

Selection of the Subjects

The investigator selected seventy five jumpers of the high schools in the Pune region at random. Who have participated in the Inter school as subjects of the study. The age group of the subjects will be 14 – 17 years.

Design of the Experiment

The group decided to be selected in this study was on the basis of their performance for the broad jump. The group was divided in three equal groups, twenty five of each. Then the first group of twenty students was selected for as the control group and will be designed as the experimental group. Then the remaining fifty students of the study will be kept as the stable group which does its regular practice for broad jump.

Selection of the Variables

The investigator studied the following variables of the topic like:

1. Speed
2. Plyometric
3. Kinetic energy
4. Broad jump performance.

Statistical Technique

In order to find out the improvement in kinetic energy and Broad Jumping performance, Analysis of co-variance (ANACOVA) technique used as suggested by Clark and Clarke of the F – ratio was significant, the Scheffe's post hoc test was used to find out the paired mean difference.

Overview

The purpose of this study it will be to find out the effect of plyometric and speed training on kinetic energy and jumping performance of high school broad jumpers. To achieve this purpose, Seventy – five Broad jumpers will be selected at random and they will be divided into three groups namely control group, speed training group and plyometric training group.

References / Bibliography

Abraham R., "Effect of selected training on the Kinetic Energy and the Jumping Ability of Broad Jumpers", Unpublished Master of Philosophy, Dissertation (1989)

Ashok, "An Analysis of Angle of Projection in Long Jump performance of men Athletes at University, District and Inter Collegiate Level", Unpublished Master of Philosophy Dissertation Alagappa University (1991)

Armstrong, Charles W., "Relationship of Final Phase Stride Pattern to Distance Jumped in Championship Long Jumpers", Abstracts of Research Papers. (1981)

Bloom Field John, the Specifying of Interval Training Track Technique 19: 1276, 1970.

Bob Teel, Track and Field coaching manual, U. S. A., University of Missouri,

Variorum Multi-Disciplinary e-Research Journal
Vol.,-04, Issue-II, November 2013

Bunn, John W. Scientific Principles of coaching, Englewood Cliffs, New

Jersey: Prentice Hall, Incl., 1970.

Clarke, David H and Harrison Clarke, Research Process in Physical Education

Recreation and Health, Englewood Cliffs, New Jersey: Prentice Hall, Incl., 1970.

Cambell, Donal E., "Velocity Curve of the Horizontal Approach of the Competitive long jumpers", Research Quarterly, 42 (December 1971).

Clutch, David, "The effect of Depth Jumps and Weight training on leg strength and Vertical Jump", Research Quarterly, 54 (March 1983)

Finch, Alfred E., "Relationship of Segmental to Total Body Momentum in the standing Broad Jump", Completed Research in Health Physical Education and Recreation, (1979)

Fleshiman, Edwin A. The Structure and Measurement of Physical Educations.

Englewood Cliffs, N. J., Prentice Hall, Inc., 1984.

Fox, Edward L. Sport Physiology Japan: Saunders College Publishers, 1984.