Chapter III

PROCEDURE

In this chapter the selection of subjects, selection of variables, criterion measures, Administration of test, collection of data and statistical techniques for analysing the data have been described.

Selection of Subjects

For the purpose of this study (N=5000) students from different zones of India (South, North, East, West and Central zones) were selected randomly. The subjects included were both boys and girls of the age ranging from 13 to 17 years. The age of subjects were verified from their respective age records available in the school.

Selection of Variables

The research Scholar gleaned through all the scientific literature available in the library of Lakshmibai National Institute of Physical Education, Gwalior and the feasibility criteria in mind the following variable were choosen.

(a) Motor fitness variables

(i) Strength
(ii) Power
(iii) Speed
(iv) Co-ordination abilities
(v) Flexibility
(b) **Anthropometric Variables**

(i) **Height**

(ii) **Weight**

**Criterion Measures**

(i) Age was recorded in completed years according to the birth certificate.

(ii) Height was measured in nearest one tenth of an inch.

(iii) Weight was measured to the nearest one fourth of a kilogram.

(iv) Motor fitness test against the time was recorded in seconds.

**Administration of Test**

**Motor Fitness Variables**

**Hopping**

The subjects were asked to stand with feet together and hands on the waist. On signal the subject hopped with both feet, forward and sideward within the marked zones of 5 meters from the starting line.

**Zig-Zag Running**

The subjects were asked to run around and through the obstacles placed at distance of two meters each. Five obstacles were placed covering a distance of ten meters.

**Standing Board Jump**

The subject stood behind the take-off line, he then swings the arms backward and bends at Knees prior to Jump. The Jump was accomplished by simultaneously extending the knee and swinging of the arms forward. The distance was of two meters and was repeated thrice.
Vaulting

The subjects were asked to mount over the vault or the table, with a jump by placing the hands on the vault and to jump down. The vault was of four and half feet high.

Walking on Balancing Beam

The subjects were asked to step on the balancing beam and walk over it. If the subject fell down due to disbalance he was then asked to restart from where one fell. The balancing beam was of ten meters in length and six inches in width.

Crawling (on fours)

The subject assumed a bent arm front leaning position with the chest closer to the ground and crawls forward without touching the chest and knees to the ground (10 mts).

Backward Running

The subjects were asked to stand with the back facing the forward direction and were instructed to run backward and cover the distance of 25 mtrs.

Sit-up (Bent Knee)

The subjects assumed a supine lying position, knees bent at angle less than 90 degree and hands clasped behind the neck. Then, the subject lifted their trunk with back straight and try to touch the elbows to the knees. Three sit-ups were to be performed by each subject (3 mts).
1. Hopping
2. Zig-Zag run
3. Standing Broad Jump
4. Vault
5. Beam balance
6. Crawling
7. Backward run
8. Sit-ups
9. Sprint

Figure 1: MOTOR PERFORMANCE TEST
Sprint

The subjects were asked to cover the remaining given distance at their fastest, so to cover the distance of 25 mtrs.

Anthropometric Variables

Height

Instrument:
College of Medicine and Broca Plane

Description:
The subjects were asked to assume an erect standing with feet together; heels, buttocks, upper back and rear of the head in contact with the wall scale. They were asked to take a deep breath and to stretch-up to their full height and were recorded to the nearest one tenth of an inch.

Weight:

Instrument:
Weighing Machine (Balance type)

Description:
The subjects were asked to wear shouts and shirts and to stand in the centre of scale platfrom and nearest one fourth of a kilogram was recorded.

Age:
The subjects age was recorded from the record available in the school.
Collection of Data

For the test administration a 100 meter field was marked as shown in fig 1. On the day of test, the students of all the classes selected age wise were instructed to put the best performance. The subjects were asked to perform the test items in continuation to the other and finish against the time. Each test items were demostrated by parts and then continuously and its requirements were explained.

The subjects were asked to stand behind the starting line and on signal they started with both leg hopping forward, running between the obstacles, then standing broad Jump thrice followed by vaulting a height of 4½ feet in continuation they walked on the balancing beam, turns to right and crawled with the help of legs & hands then changed to backward running and after that performend three sit-ups and finally sprinted to the finishing line. Each change of item was marked clearly to distinguish. Each subject were given three trials and the best was recorded.

Statistical Technique

1. The relationship of age and sex related to the motor fitness components was established by Analysis of Variance (Two way) with post-hoc test for comparison.

2. The relationship of height and weight related to the motor fitness components was established by Co-efficient of Correlation Method.