CHAPTER – V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

To get the best possible performance of an athlete at the right time is a very complex process. The results in most sports events are achieved by an acceleration of the body, which means that speed per unit of time is constantly increased. Sprint has varied application in the field of games and sports, particularly in short distance races, horizontal and vertical jumps. Only those trained with proper requisites for enhancement of performance will withstand the wear and tear of competition and put in their best efforts accordingly. Jumping by either or both feet is an essential element demanded by majority or games and sports in the universe.

In the present study the investigator felt the need to investigate the effectiveness of different types of training programme i.e., stair training and Plyometric training programme on speed, Jump and endurance.

The subjects were 192 boys and girls students from Air Force School, Gorakhpur.

The subjects were randomly divided into three groups namely, group A (Stair training group), group B (Plyometric training group) and group C (control group).

The subjects belonging to the two experimental groups under – went training three
times a week that is on Mondays, Wednesdays and Fridays for a period of twelve weeks. No specific training was imparted to the control group.

Tests in speed (50 meters dash), leg strength (vertical jump) and cardio-vascular endurance (copper’s 12 minutes R&W test) were administered to the subjects of all the three groups before and after the experimental period of 12 weeks. Performance in 50 meters dash speed was recorded to the barest $1/10^{th}$ of a second. Vertical jump performance as recorded in centimeters and cardio-vascular endurance performance was recorded up to one meter.

The data was analysed using paired-t test, the level of significance was set the .05 level of confidence. The statistical analysis of data revealed that all the two experimental groups improved in speed performance ($MD = 0.6397$ for group A and $MD = 0.2929$ for group B). Group A proved to be superior to groups B in speed performance.

The ($MD = 23.19$ for group A and $MD = 39.83$ for group B) revealed that the gain in mean performance for the experimental groups in leg strength (vertical jump) performance were significant and for control group it was insignificant. The analysis of data indicated that group B had a highest significant gain in leg strength (V.J.) performance.

We observe the mean of difference between pre and post test data of the statistical analysis of data revealed that all the two experimental groups improve in
cardio-vascular endurance performance (MD = 540.63 for group A and MD = 328.52 for group B). Group A was superior than the group B in Cardio-Vascular Endurance performance.

* MD = mean of difference between pre and post test data.

**Conclusions**

Within the limitations of the present study, the following conclusions may be drawn:

1. All the two training programmes i.e. stair training and plyometric training are effective in improving in speed, leg strength and cardio-vascular endurance performances.

2. Training programme dominated by speed – i.e. stair training programme proved to be most effective in developing speed performance.

3. Training programme dominated by explosive strength i.e. plyometric training programme proved to be most beneficial in developing leg strength (vertical jump) performance.

4. Training programme dominated by endurance i.e. stair training programme proved to be effective in developing cardio-vascular endurance performance.

5. Explosive Strength dominated training programmes are beneficial for the development of speed and leg strength (vertical jump) performance.
6. Absence of improvement in the case of control group could be a reflection of inactivity.

**Recommendations**

In the light of conclusions drawn, the following recommendations have been made:

1. Teachers of physical education and coaches should use combined loads of training namely – stair training and plyometric training for the development of acceleration speed performance.

2. To gain maximum benefits in speed (50 meters Dash), Cardio-Vascular Endurance and followed by Leg Strength performance, the teachers of physical education and coaches must schedule their training programme with an emphases on stair training programme.

3. To gain maximum benefits in leg strength (vertical jump ) performance through plyometric training, the teacher of physical education and coaches must schedule their training programme with an emphases on plyometric exercises.

4. A similar study may be perused by involving athletes of different proficiency levels and using specific types of training which could be favourable for their optimum adaptation to speed, leg strength, cardio-vascular endurance and other physical and physiological variables.
5. A similar study may be replicated to study the effects of combined training programmes on other Track and Field events.

6. A similar study may be replicated to study the effects of combined training programmes on other games and sports.

7. A similar study may be undertaken by involving different training programmes which have not been employed in the present study.

8. The present study may be repeated with subjects of age and sex other than those employed in the study.