Chapter V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The present study was designed to examine the relative effects of cross training and complex training on strength and speed parameters such as arm strength, explosive strength, strength endurance, acceleration, speed and speed endurance. To achieve the purpose of the present study, forty five men students studying in RVS College of Engineering and Technology, Coimbatore, Tamil Nadu, India were selected as subjects and they were ranged from 18 to 21 years.

The present chapter is organized in three main sections. The first section presents the summary and conclusions, the second section suggests implications for educators, and the third section proposes implications for future research. The selected subjects were randomly (Simple Random Sample) assigned to one of the three groups of fifteen each (n=15) such as two experimental groups and a control group. Group A (n=15) underwent cross training, Group B (n=15) underwent complex training for a duration of 12 weeks with alternative three days per week in addition to the regular schedule of the college and Group C acted as control which was asked to refrain from any special training except their leisure time pursuit as college students.
Among the strength and speed parameters, the following dependent variables were selected for this study such as arm strength, explosive strength, strength endurance, acceleration, speed and speed endurance.

The pre test and post test random group design was used as experimental design in which forty five men subjects were divided into three groups of fifteen each at random. No attempt was made to divide the groups in any manner. The collected data from the three groups prior to and immediately after the training program on selected criterion variables were statistically analyzed with dependent ‘t’ test to find out the significant improvement between pre and post-test means of both groups, and analysis of covariance (ANCOVA) was used to find out the significant difference between experimental and control groups. Whenever the ‘F’ ratio for adjusted test was found to be significant, the Scheffe’s test was applied as post-hoc test to find out paired mean difference. In all the cases 0.05 level of significant was fixed to test the hypothesis.
CONCLUSIONS

1. This study found that the cross training group improved the subjects’ arm strength, explosive strength, strength endurance, acceleration, speed and speed endurance.

2. This study also found that the complex training group improved the subjects’ arm strength, explosive strength, strength endurance, acceleration, speed and speed endurance.

3. The experimental groups namely cross and complex training groups had significant difference towards improving the subjects’ arm strength, explosive strength, strength endurance, acceleration, speed and speed endurance.

4. Complex training outperformed the cross training on arm strength, explosive strength, strength endurance, acceleration, speed and speed endurance.

IMPLICATIONS FOR EDUCATORS

From the discussion on the findings, it is evident from this study that complex training is effective in supporting participants’ strength and speed performance. A close examination of the results revealed that speed training alone is insufficient as a form of training for speed and strength. Also it is inferred that the strength, plyometrics and speed trainings were particularly effective in supporting strength and speed parameters. Therefore, complex training can be integrated with speed training to develop strength and
speed parameters in turn it will improve the overall strength and speed of the participants.

The complex training should be included in speed training programs.

In this study, the findings revealed that the complex training and cross training were particularly effective in supporting strength and speed parameters. Therefore, Physical educators, Trainers and Coaches should give more attention to complex and cross trainings.

**IMPLICATIONS FOR FUTURE RESEARCH**

The following recommendations for future research are presented on the basis of the results of this investigation and the related literature.

1. It is recommended that further research be designed to investigate the effects of training programs based on gender.

2. It is recommended that further research be designed to investigate the effects of training in an elite subject population.

3. It is recommended that further research be designed to investigate the effects of training on both previously endurance and resistance trained subjects.

4. It is recommended that further research be conducted using more strenuous training programs.
5. It is recommended that future studies be included using the analysis of skeletal muscle morphology, skeletal muscle capillarization, muscle metabolic enzymes, hormone concentrations, with all the dependent variables measured in this investigation.