CHAPTER V
SUMMARY, CONCLUSION AND RECOMMENDATIONS

SUMMARY

Mankind, all through the ages, has been trying to transit its acquired knowledge, experiences and skills to the younger generation; and acquaint that with future needs and ideals through education system. "Education is an essential human virtue without which man remains uncivilized."\(^{149}\)

The education system underwent many changes with the change in social attitude towards life; and development of the society. However, these changes have been very rapid during the later half of 20th century.

The educational plant laid emphasis on reconstruction of experiences for healthy and cheerful body with socially acceptable behaviour pattern and joyful attitudes; so that an individual may live a happier life for himself and the society. "Development of health and fitness"\(^{150}\) has been an essential component of the system of education, everywhere in the world.

Health is a fundamental requirement of happy life. Health is a heavenly blessing that has no substitute.

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Importance of games have been highlighted by Cozen and Stumpf\textsuperscript{151} that the games are "the touch stone for understanding how people live work and think," and Willgoose\textsuperscript{152} stated that "people learn to live with others through sports experience. Sports, are an education in themselves".

Fitness wins in peace and war but it depends on health which, in turn, depends on knowledge of health and its application.

India being a land of religious and mystic philosophies, has given rise to several traditions and customs which do not promote development of positive attitudes towards health and fitness and its application. If we have to attain 'health for all by 2000 A.D.', such traditions and customs must give way.

Worldwide emphasis on physical education and health education is increasing WHO and International Olympic Committee\textsuperscript{153} have signed an agreement to launch a 'winner for health programme.' The basic object of these two organisations are similar, WHO has fixed 'Health for all by 2000 A.D.' and IOC has fixed 'Sports for all by 2000 A.D.'

The National Sports Policy (1984), and New Education Policy (1986) has emphasized the need for integration of sports with academics.

There has been an intense nation-wide awareness regarding the importance

\textsuperscript{151} Cozen and Stumpf, \textit{Op. Cit.}


of physical education and sports as an essential element of educational process to promote health, physical fitness and quality of life.

Students of senior secondary schools were considered to be the best media for carrying out the message 'the importance of health, physical fitness and sports'.

In 1977, Central Board of Secondary Education declared physical education a compulsory subject at secondary stage but it was made a subject of internal assessment. The system did not work well. It also offered physical education as an elective subject at the senior secondary stage. But a very small number of schools in Delhi, provide instructions in physical education.

Consequently, classes XI and XII are summarily exempted from physical education and their activities remain limited to participation in various competitions from school to Inter-State levels. Therefore, the researcher resorted to evaluating students' participation in physical activities on the basis of their participation in various level competitions.

Health education at present, is recognised by leading educators as an element of vital importance in education. But health education has yet not established itself as a distinct discipline in our schools on par with other disciplines.

Health is not taught as a distinct discipline in the schools. Therefore, knowledge of health is diffused into other disciplines. However, there is a well defined curriculum content of health education as part of physical education at secondary and senior secondary levels.

At the senior secondary level, health education is a part of curriculum
content of physical education which is an elective subject. Therefore, only those students are benefitted who take-up physical education as an elective subject; and majority of students have to depend on other sources like T.V., radio, press etc. for knowledge of health. Knowledge is essential in helping the individual to make satisfactory responses to new situations; and in furnishing rational motives for attitudes. Knowledge stimulates self-analysis and serve as motivation, it is the type of knowledge desired for health.

It, therefore, presents a difficult situation to ascertain the ambit of knowledge of health. Kilander\(^{154}\) had undertaken the study on health knowledge of high school and college students. The questionnaire on knowledge of health developed by him was though considered to be very appropriate for such studies yet it could not serve as a guide for the preparation of the questionnaire under Indian conditions.

Available literature does not reveal any study of similar nature ever taken up in the past. Therefore, the investigator made use of her own ingenuity, alongwith opinion and observations of professionals and guidance provided by her guide in designing the questionnaire, and demarcating the ambit of knowledge content in health. Therefore, the work of the researcher became a maiden study in the field of physical education, health and sports.

In the same manner, only those games and sports were included in the questionnaire of 'participation in physical activities' which have been approved by School Games Federation of India for National School games.

The world has ever been divided on the relationship between the two, whereas the moderates hold that participation in physical activities is not directly related to academic grade. However, the conservatives still hold the view that participation in physical activities is detrimental to academic achievement of an individual.

Very many studies have been conducted on academic success and athletics, physical ability and academic ability, physical education programmes, facilities, intramurals, health and intelligence quotient, etc. But the review of literature reveals that no comprehensive study seems to have been taken-up with the object of relationship of knowledge of health and participation in physical activities with academic grade.

The researcher's objective was to ascertain the relation of knowledge of health and participation in physical activities to academic grade of senior secondary school students.

The study was confined to XII class students only. Forty-eight 'randomly' selected recognised and government senior secondary schools of Delhi Administration, affiliated to Central Board of Secondary Education, were taken-up for the study. The boys' and girls' schools were equal in number.

A multiple choice questionnaire was developed on knowledge of health, covering the areas of nutrition, anatomy and physiology, community health, communicable diseases and personal health and hygiene for the collection of raw data.

In case the questionnaire on participation in physical activities, the students participation was encountered from school to national level. The students were
instructed to tick (✓) their best performance in two games as per rules of School Games Federation of India and School Sports and Activity Board of Delhi.

The formal requirements were carefully observed; and systematically applied to finalize the questionnaire, which was subsequently administered to 4,568 students. However, 2,125 boys and 2,443 girls appeared in the test. Consequently, the consolidated response was 98.24%.

The academic grades were procured from gazette notification of Central Board of Secondary Education; and converted into percentage. The fractions were rounded off to the nearest whole number.

Participation in physical activities was assessed on one hundred score scale. Likewise knowledge of health was also assessed on one hundred score scale by allotting two marks to each correct response.

After collecting the raw data, on three variables i.e. academic grade, participation in physical activities and knowledge of health, the descriptive analysis and inter-correlations, partial and multiple correlations were obtained between the three variables. Pearson Product Moment Co-efficient of Correlation formula was used in working out correlations. Zero order correlations, partial correlations and multiple correlations were also computed to ascertain the influence of one variable over the others. The 't' test was also applied to find out the mean difference between the two sexes with regard to academic grade, participation in physical activities and knowledge of health. So also, degree of predictive value was worked out to find the contribution of each independent variable on the dependent variables in order of merit.
Conclusions

1. Significant inter-correlations were found among three variables - academic grade, participation in physical activities and knowledge of health on the whole sample, taken two at a time.

2. Significant inter-correlations were found among three variables related to the boys only.

3. Significant correlations were found among the three variables related to the girls only.

4. Significant relationship was found in academic grades and knowledge of health; knowledge of health and participation in physical activities. However, the relationship between academic grade and participation in physical activities was found insignificant when their relationship was calculated in terms of 'partial correlation' on the whole sample.

5. 'Partial correlation' in case of boys, reflected a significant relationship between academic grade and participation in physical activities; academic grade and knowledge of health. However, it was insignificant between participation in physical activities and knowledge of health.

6. Value of 'partial correlation' in case of girls, was insignificant between academic grade and participation in physical activities. Whereas, the results related to academic grade and knowledge of health; and knowledge of health and participation in physical activities, were significant.

7. 'Multiple Correlation' between dependent and independent variables of the whole sample was found significant.
8. A significant 'multiple correlation' was also observed between dependent and independent variables of boys' and girls'.

9. The contribution of knowledge of health dominated in acquisition of academic grade on all three samples i.e. boys, girls and whole sample. A notable, but moderate contribution of participation in physical activities towards academic grade was also observed.

10. The 't' value was worked out between boys' and girls', which was found significant as far as academic grade and knowledge of health were concerned, it was insignificant as regards participation in physical activities is concerned.

Observations

Within the constraints and limitations of the study, the following observations have been made:

1. Physical education and health education occupy an insignificant position in comparison with other disciplines in the Indian school education system and knowledge of health needs to be well defined and graded as is the case with other disciplines.

2. In spite of the fact that participation in physical activities and knowledge of health are not essential components of curriculum content, yet academic grade, participation in physical activities and knowledge of health are significantly inter-correlated.

3. Girls show higher achievement in terms of academic grade than boys, but participate in physical activities to a lesser degree than boys.
Consequently, girls concentrate more and this influences their academic grade.

4. Scores related to knowledge of health and participation in physical activities reflect a higher trend in case of boys than girls; and both the variables exercise their influence on one another in case of boys' sample.

**Recommendations**

In the light of findings of the study, the following recommendations are made:

1. Health and physical education should be a compulsory subject for all the classes because knowledge of health has proved a potent contributory factor in the acquisition of academic scores.

2. Health and physical education should be offered as a core subject also at the senior secondary level so as to cover the total student population at this stage.

3. Evaluation process of health and physical education should be integrated with other subjects for the purpose of promotion to higher standards.

4. Infrastructure, especially in girls schools, should be improved on priority basis so as to provide increased opportunity for girls.

5. Evaluation criterion for students of each standard should be developed and well publicised to facilitate the teachers, students and the parents alike.
6. Similar type of study should be undertaken in other States.

7. Provision of more time be made in school time table, so as to ensure continuity in practices and programmes.

8. A comprehensive programme of reorientation of in-service physical education teachers may be evolved to keep them abreast with latest developments in health and physical education; and improve their professional skill.