A STUDY OF SCIENTIFIC ATTITUDE AND ACADEMIC ACHIEVEMENT OF HIGH SCHOOL STUDENTS

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ABSTRACT

The present study was planned to find male and female relationship in scientific attitude and academic achievement in science among 9th class students. The data were collected by administering Scientific Attitude Scale on 400 secondary school students of Kangra district of Himachal Pradesh by adopting purposive sampling technique. Student's aggregate academic achievement and academic achievement in science were assessed in turns of their 8th class board examination scores taken from their school records. To see the relationship in scientific attitude, academic achievement and academic achievement in science, Pearson's Product Moment correlation technique was used. The findings of the present study revealed that there is significant and positive relationship between scores on Scientific Attitude, Aggregate Academic Achievement and Aggregate Academic Achievement in science of high school boys and girls.

INTRODUCTION

Modern society is being influenced by the scientific environment and its application and science has become an integral part of our daily life. Science has occupied almost all spheres of human life and living. Our society is completely drawn into the scientific environment. Now, mankind cannot think of a world without science. A citizen of modern India sees the countless manifestations of science all around him. There is no aspect of man's life today which has not been influenced by science in one way or the other. Gupta (2003) concluded a study on a topic entitled "Scientific attitude and science achievement" and found that science achievement has a significant role to play in predicting scientific attitude. Scientific attitude is one of the key objectives of science teaching and it is also one of the major outcomes of it. Scientific attitude makes the people lives as efficient citizen in the present "Scientific Society".

Understanding the role of scientific attitude in the life of a successful man, it incorporated in all types of instructions and in all walks of education as a compulsory part, directly or indirectly, many ways and means are used and applied to develop scientific attitude at various levels of education. Sharma (2007) Identified a study on a topic entitled "Problem solving ability and scientific attitude as determinants of academic achievement of higher secondary students" that the boys and girls high and average scientific attitude was not significant. Academic achievement refers to the knowledge attained and skill developed in different subjects during the course of academic year. It is considered as the primary goal of education. All these factors which affect academic achievement can be classified under two main heads Subjective and Objective factors. Subjective factors are those which lie within the individual e.g. intelligence, aptitude, attitude, motivation, interest etc. while objective factors are those which lie within the environment e.g. socio-economic conditions, teaching methods, evaluation system, educational facilities etc. Out of large number of factors affecting academic achievement, intelligence is considered as the single largest factor. Academic achievement has been defined as something accomplished especially by superior ability, special effort and great value. Yadav & Bharati (2007) found a study on a topic entitled "A study of relationship between environmental awareness and scientific attitude among higher secondary students "that there is no significant difference between the environmental awareness scores of higher secondary students having parents in Government service. The null hypothesis that there is no relationship between the environmental awareness and scientific attitude among higher secondary students is rejected at b0.05 level of significance. Shaya & Paul Raj (2008) concluded a study on a topic entitled "Attitude of upper primary students towards

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science learning" that the factors domicile gender, locality of school, and size of the family do not influence their scientific attitude and achievement in science. But the age and religion of the students influence their scientific attitude and the achievement in science. It shows that the age and religion influence the upper primary students' attitude towards science learning.

OBJECTIVES OF THE STUDY

1. To study the relationship between scores on the variables of Scientific Attitude and Aggregate Academic Achievement for high school boys.
2. To study the relationship between scores on the variables of Scientific Attitude and Aggregate Academic Achievement for high school girls.
3. To study the relationship between scores on the variables of Scientific Attitude and Aggregate Academic Achievement for total sample of high school students.
4. To study the relationship between scores on the variables of Scientific Attitude and Academic Achievement in Science for high school boys.
5. To study the relationship between scores on the variables of Scientific Attitude and Academic Achievement in Science for high school girls.
6. To study the relationship between scores on the variables of Scientific Attitude and Academic Achievement in Science for total sample of high school students.

HYPOTHESES OF THE STUDY

1. There is significant and positive relationship between scores on Scientific Attitude and Aggregate Academic Achievement of high school boys.
2. There is significant and positive relationship between scores on Scientific Attitude and Aggregate Academic Achievement of high school girls.
3. There is significant and positive relationship between scores on Scientific Attitude and Aggregate Academic Achievement of total sample of high school students.
4. There is significant and positive relationship between scores on Scientific Attitude and Academic Achievement in Science of high school boys.
5. There is significant and positive relationship between scores on Scientific Attitude and Academic Achievement in Science of high school girls.
6 There is significant and positive relationship between scores on Scientific Attitude and Academic Achievement in Science of total sample of high school students.

METHODOLOGY AND SAMPLING DESIGN

In the present study, "Descriptive survey method" is used. The sample for the present study was drawn from 10 government high/senior secondary schools situated in district kangra Himachal Pradesh. All these schools were selected purposively. Out of total 10 schools 5 were in urban areas while 5 were situated in rural areas. In present study the researcher has decided, to take a large sample of 400 pupils studying in various Govt. senior secondary schools of Nurpur, Dharmshala and Kangra blocks 9th class students were taken from each school.

TOOL USED

In order to fulfill the objectives of present study, the standardize Scientific Attitude Scale developed by Dr. S.C. Gakhar and Dr. Amandeep Kour was used to measures the Scientific Attitude level of 9th class students. But in present study Scientific Attitude Scale was translated English to Hindi language by Investigator with the help of language expert and other research scholars. Student's aggregate academic achievement and academic achievement in science were assessed in turns of their 8th class board examination scores taken from their school records.

STATISTICAL ANALYSIS

To see the relationship in scientific attitude, academic achievement and academic achievement in science, Pearson's Product Moment correlation technique was used for analysis of data.

ANALYSIS AND INTERPRETATION OF DATA

Studying the Relationship between Scientific Attitude and Aggregate Academic Achievement

Table1. Presents the relationship in terms of Product Moment Correlation between the variables of Scientific Attitude and Aggregate Academic Achievement for boys, girls and total sample

The values of Product Moment Correlation between Scientific Attitude and Aggregate Academic Achievement

The Group	Coefficient of Correlation
Boys	0.30**
Girls	0.50**
Total Sample	0.47**

** Significant at 0.01 level of confidence

INTERPRETATION

It is revealed from table1. that the relationship between Scientific Attitude and Aggregate Academic Achievement in terms of Product Moment Correlation between boys, girls and total sample came out to be significant at 0.01 level of confidence indicating that change in Aggregate Academic Achievement in these groups is associated with a similar change in their level of Scientific Attitude. Hence, the hypotheses that "There is significant and positive relationship between scores on Scientific Attitude and Aggregate Academic Achievement of high school boys"; "There is significant and positive relationship between scores on Scientific Attitude and Aggregate Academic Achievement of high school girls" and "There is significant and positive relationship between scores on Scientific Attitude and Aggregate Academic Achievement of total sample of high school students" are accepted.

Studying the Relationship between Scientific Attitude and Academic Achievement in Science

Table 2. presents the relationship in terms of Product Moment Correlation between the variables of Scientific Attitude and Academic Achievement in Science for boys, girls and total sample.

The values of Product Moment Correlation between Scientific Attitude and Academic Achievement in Science

The Group	Coefficient of Correlation
Boys	0.04
Girls	0.35**
Total Sample	0.20**

** Significant at 0.01 level of confidence

INTERPRETATION

It is revealed from table2. that the relationship between Scientific Attitude and Academic Achievement in Science in terms of Product Moment Correlation did not come out to be significant for high school boys. It may be interpreted from this that the change (increase or decrease) in Academic Achievement in Science among boys does not correspond with any change (increase or decrease) in their level of Scientific Attitude. Hence, the hypothesis that "There is significant and positive relationship between scores on Scientific Attitude and Academic Achievement in Science of high school boys" is rejected. However, in case of girls and total sample came out to be significant at 0.01 level of confidence indicating that change in Academic Achievement in Science these groups is associated with a similar change in their level of Scientific Attitude. Hence, "There is significant and positive relationship between scores on Scientific Attitude and Aggregate Academic Achievement of high school girls" and "There is significant and positive relationship between scores on Scientific Attitude and Aggregate Academic Achievement of total sample of high school students" are accepted.

FINDINGS AND CONCLUSIONS

After discussing the results the researcher has reached the following conclusions- There is significant and positive relationship between scores on Scientific Attitude and Aggregate Academic Achievement of boys, girls and total students of high school. It shows that there is a positive and significant relationship between scientific attitude and aggregate academic achievement of high school boys, girls and total students. There is no significant and positive relationship between scores on Scientific Attitude and Academic Achievement in Science of high

school boys.There is significant and positive relationship between scores on Scientific Attitude and Academic Achievement in Science of girls and total high school students. It found that there is a positive and significant relationship between scientific attitude and academic achievement in science of high school girls and total students.

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