Study of relationship between Scientific Attitude and Home Environment among secondary school students of Punjab

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Development of Scientific Attitude is an important outcome of science teaching. A vitalized study of science with emphasis on open mindedness, tolerance and objectivity will lead to the development of rational outlook and scientific temperament. Ausekar (1995) defined scientific attitude as Open mindedness, a desire for accurate knowledge, confidence that the problem of solution will come through the use of verified knowledge. Srivastva (1980) had given the following as components of scientific attitude; rationality, curiosity, open mindedness, aversion to superstitions, objectivity- intellectual honesty, suspended judgment, establishing cause and effect relationship, evaluation, seeking evidence, skepticism, problem solving, desire for experimental verification, truthfulness, keen observation, critical mindedness, impartial and accuracy.

Home is viewed as the basic agent of socialization. According to Roe (1951), the emotional climate at home, i.e. interaction between parents and children develops the basic attitudes and interests which they may express in various aspects of daily life and vocational development. Parental attitudes influence the way parents treat their children and they will be better when parental attitudes are favourable.

Review of the related Literature

To make the study effective adequate familiarity with work done up to the time in that field is very essential. Some of the researches related directly or indirectly to the present study are given here.

Dubow, E.F. and Ippolito, M.F. (1994) studied Effects of poverty and quality of the home environment on changes in the academic and behavioral adjustment of elementary school-age children and found that poverty predicted decreases in math and reading scores and increases in antisocial behavior.

Kaur (1997) in her study on the Scientific attitude of adolescents of 11^{th} class revealed that there is significant difference in the scientific attitude of adolescents from rural and urban areas. Urban adolescents possess a higher level of scientific attitude than rural adolescents.

Rationale of the study:

Attitudes determine the negative or positive character of our responses to various kinds of stimuli or diverse type of situations. They are an important motivator of behavior and affect human values. Sood (1984) studied that attitude towards science and scientists among students and teachers and found the understanding of science positively related to it. NPE 1986 stressed the need of developing scientific temper in children, a special emphasis has been given to science education in schools. The investigators were curious to study the relation ship of home environment with scientific attitude. Also the present study focused whether urban or rural area contributes in development of scientific temperament or not.

Objectives of the study:

1. To find the relationship of Home Environment with Scientific Attitude of secondary school students.
2. To examine the difference if any on the variable of Scientific Attitude of secondary school students on account of area.

Hypotheses of the Study

1. There will not be a significant relationship between Home Environment and Scientific Attitude of secondary school students.
2. There will not be any difference between Scientific Attitude of rural and urban area students

Delimitations of the Study

1. The study was restricted to Punjab state only.
2. The present study was delimited to 9th class students only.

Design of the Study

The study is quantitative one and the design of the study is Descriptive survey.

Sample

A sample of 740 students was taken from Govt. and Private Senior secondary school students of Punjab using Multiple randomization technique.

Tools used

1. Scientific Attitude Scale (Kaur, A., Gakhar, S.C. 2002)
2. Home Environment Inventory (Misra, 1993)

Data Collection

The data was collected with help of Scientific Attitude Scale and Home Environment Inventory from 9th class students.

Data Analysis Techniques

Product Moment Correlation and t- ratios technique were used to analyze data.

Data Analysis and Interpretation

Nature of score distribution

Table 1 Values of Mean and median for variables

Sr. No.	Variable	Mean	Median
1	Scientific Attitude	1021.37	1019.43
2	Home Environment	220.57	221.07

As there is little difference in the values of mean and median on variable of Scientific Attitude, so this was indicative of the fact that the distribution of Scientific Attitude score was normal.

The distribution of scores on variable of Home Environment were also put to test of normalcy. Values of mean and median were calculated and negligible difference in values was indicative of the fact that scores of Home Environment are normally distributed.

Table 2 Values of Coefficient of Correlation between independent variable of Intelligence and Home Environment

Sr. No.	Independent Variable	Value of Coefficient of Correlation with dependent variable of Scientific Attitude
1	Home Environment	0.143

Dependent variable of Scientific Attitude was found to be significantly and positively correlated with the independent variable of Home Environment at 0.01 level of significance (r= 0.143 vide table 2) . In other words the findings revealed that more congenial the home environment, more positive is the scientific attitude of the child.

The children with good and congenial environment get the opportunity to think freely, to discuss their curiosity and challenges they are facing in life with other members of the family, can share viewpoints of each other and can develop open mindedness.

Table 3 Values of mean, standard deviation and t- ratios to locate difference in the scientific attitude of students

due to area

Sr. No.	Variable	Group	N	M	SD	SED	t	Level of significance
1	Area	Urban	320	1017.09	106.89			
						7.85	0.96	Not Significant
		Rural	420	1024.64	104.54			

The scientific attitude of two groups i.e. rural and urban was compared. It was noticed (table 3) that insignificant mean difference was obtained in scientific attitude of rural students were slightly higher as compared to urban students, but the area of students did not affect their scientific attitude.

The reasons for the above results may be that educational opportunities and exposures in rural and urban areas are almost same now a day. Rural students also have access to good teachers, ICT facilities etc.

Conclusions:

1. More congenial the Home Environment, more is the Scientific Attitude of the students.
2. Difference of area does not affect the Scientific Attitude of students.

References

Ausekar,P. (1995) An Investigation into the development of scientific attitude among secondary school children, A Quarterl Journal, Volume 10, April 1995, Progressive Educational Trust, Hyderabad.

Dubow, E.F. and Ippolito, M.F. (1994) Effects of poverty and quality of the home environment on changes in the academic and behavioral adjustment of elementary school-age children, Journal of Clinical Psychology, Vol. 23, issue 4.

Kaur, K. (1997) Study of scientific attitude of adolescents in relation to sex, faculty and rural/urban, M.Ed. Disser. Panjab University, Chandigarh.

Sood (1984) Study of attitude towards science and scientists among students and teachers, Indian Psychological abstract, Behavioural Science Centre, Vol. 22,no. 1.

Srivastva (1980) Impact of science teaching on the child's concept of physical causality, Buch Fourth Survey of Research in Education, Vol. 1, NCERT, New Delhi.