A STUDY ON SCIENTIFIC ATTITUDE OF ADOLESCENT STUDENTS IN VISAKHAPATNAM DISTRICT

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Abstract

The present study was aimed at investigating the scientific attitude of adolescent students in Visakhapatnam District and observing the influence of gender, locality medium of instruction and type of management. A sample of 300 adolescent students was selected using random sampling technique. A standardized tool using a scientific attitude questionnaire was constructed and standardized by Dr. D.N. Dani. Data so collected was analyzed using mean, S.D. and t-test. Findings of the study revealed significant differ in their scientific attitude of gender, locality, medium of instruction and type of management. Result also indicates that the means score the self-finance school students are better than government and aided school students in their scientific attitude.

Key Words: Scientific Attitude, Adolescent and Secondary

Introduction

The development of scientific attitude and interest should not be left to chance. To succeed in their efforts relevant activities in day to day teaching must be from significant areas of living which correct their erroneous ideas and misconceptions. Science educators are interested in the development of scientific attitude among students. Fragment changes in the science curriculum consistently aim at the development of scientific attitude among students. Though attitudes were studied and defined, they were not distinctly differentiated from scientific thinking and problem solving skills. Actually scientific attitude remained peripheral and observe in teaching plans. Recently the development of attitude has received a considerable surge of interest as it is evidenced by the increasing number scientific and research studies dealing with their description, measurement, learning and influence on cognitive learning and science.

Objectives of the Study

1) To assess the scientific attitude of adolescent students.

2) To study the influence of gender, locality of school, medium of school, and type of school on scientific attitude of adolescent students.

Hypotheses of the Study

The following Null hypotheses have been set in the present study.

1. There is no significant difference between Boys and Girls in their scientific attitude.

2. There is no significant difference between Rural and Urban School students in their scientific attitude.

3. There is no significant difference between Telugu and English Medium School students in their scientific attitude.

4. There is no significant difference between Government, Aided and self-finance school students in their scientific attitude.

Methodology

The investigator adopted survey method for the present study.

Sample

The sample of the present study comprised of IX standard students studying in Visakhapatnam District. In the present study stratified random sampling technique was used to select the samples. A sample to 300 students were selected from ten schools and divided into three types, namely government, aided and self-finance schools. 122 students were from Government Schools, 116 students from aided schools, and 62 students from self-finance schools.

Tool used

The data for the present study were collected using a scientific attitude questionnaire, which was constructed and standardized by Dr. D.N. Dani. This tool consists of 60 statements on scientific attitude of adolescence. The reliability of the tool was 0.768 as by split-half method. The researcher also ensured the validity of the tool by using content validity. It means to get opinion from the area experts in Educational Research. The author of the tool also found the construct validity.

Analysis of the data

To find the meaningful interpretation of the raw scores, data is analyzed using mean, S.D., t-test and F-Ratio.

Null Hypothesis: 1

There is no significant difference between boys and girl students in their scientific attitude.

Table-1: t-value of boys and girl students in their scientific attitude

Variable	Gender	N	Mean	SD	't' Values	5% Level of significance
Scientific Attitude	Boys	156	139.47	9.650	2.222	Significant
	Girls	144	141.67	7.421		

df=298

From the above table the calculated t-value (2.222) is higher than the table value (1.96) at 0.05 level of significant. Therefore the null hypothesis is rejected. It is concluded that there is significant difference between boys and girl students in their scientific attitude. Compare the mean scores of the boys and girls, it is found that the mean score of the girls are better than the boys in their scientific attitude.

Null Hypothesis: 2

There is no significant difference between Rural and Urban school students in their scientific attitude.

Table-2: t-value of rural and urban students in their scientific attitude

Variable	Locality	N	Mean	SD	't' Values	5% Level of significance
Scientific Attitude	Rural	127	142.52	6.756	3.639	Significant
	Urban	173	139.07	9.660		

df=298

From the above table the calculated t-value (3.64) is higher than the table value (1.96) at 0.05 level of significant. Therefore the null hypothesis is rejected. It is concluded that there is significant difference between rural and urban school students in their scientific attitude. Compare the mean scores of the rural and urban school students, it is found that the mean scores of the rural school students are better than the urban school students in their scientific attitude.

Null Hypothesis: 3

There is no significant difference between Telugu and English medium school students in their scientific attitude.

Table-3: t-value of Telugu and English medium students in their scientific attitude

Variable	Medium	N	Mean	SD	't' Values	5% Level of significance
Scientific Attitude	Telugu	238	139.77	8.941	3.420	Significant
	English	62	143.44	7.091		

df=298

From the above table the calculated t-value (3.42) is higher than the table value (1.96) at 0.05 level of significant. Therefore the null hypothesis is rejected. It is concluded that there is significant difference between Telugu and English Medium school students in their scientific attitude. Compare the mean scores of the Telugu and English Medium school students, it is found that the mean score of the English Medium school students are better than the Telugu Medium school students in their scientific attitude.

Null Hypothesis: 4

There is no significant difference between Government, Aided and Self-Finance school students in their scientific attitude.

Table-4:   t-value of Government, Aided and Self-Finance school students in their scientific attitude

Variable	Source of Variation	Sum of squares	df	Mean sum of squares	f - ratio	5% Level of significance
Scientific Attitude	Between groups	1077.87	2	538.93	7.414	Significant
	Within groups	21594.85	297	72.71		

df=2,297

From the above table the calculated F-value (7.414) is higher than the table value (2.99) at 0.05 level of significant. Therefore the null hypothesis is rejected. It is concluded that there is significant difference between Government, Aided and Self-Finance school students in their scientific attitude. Compare the mean scores of the Government, Aided and Self-Finance school students, it is found that the mean scores of the self-finance school students are better than the government and aided school students in their scientific attitude.

Findings

The findings of this study were as follows:

- Boys and girls differ significantly in their scientific attitude. Boys have high level of scientific attitude than girls.

- There is significant difference in the scientific attitude of students according to the locality of the school. Urban students have high level of scientific attitude than rural students.

- There is significant difference in the scientific attitude of students according to the according to the medium of instruction. English medium students have high level of scientific attitude than Telugu medium students.

- There is significant difference in the scientific attitude of students according to the type of management. Self-finance school students are better than government and aided school students in their scientific attitude.

Conclusion

This study may be useful in developing content, curriculum for enhancing the scientific attitude among students. By evolving innovative teaching techniques and their application in real classroom, scientific attitude can be developed.

References

Agarwal, J.S. (1994) : "Essentials of Educational Psychology', Vikas Publishing House, New Delhi.

Baskaran, H. et. Al. (006). Scientific attitude and excellence at upper primary level: A correlation study. Journal of Educational Research and Extension, 43, 21-27.

Datta, Shrivastava, (1985); "Science and Society", Vikas Publication House, Gahaziabad.

Kothari, C.R. (2009). Research Methodology, Methods and Techniques, New Delhi. New Age International Publishers.

Thiagarajan, P, and Vasanthi. (2002). Scientific attitude of the Prospective Science Teachers in the Colleges of education. Journal of Educational Research and Extension, 39, 26-31.