Original Research Paper

Education

SCIENTIFIC ATTITUDE AND SCHOOL ENVIRONMENT OF STANDARD VIII STUDENTS IN VIRUDHUNAGAR DISTRICT

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ABSTRACT Science forms an integral part of learning. Essentially it has to be learnt mainly through concrete situations related to immediate environment. The main focus of imparting science education is on sharpening the senses of the learners and encouraging them to discover and explore their environment and surroundings. Instead of loading the students with scientific information, efforts should be made to help them learn key concepts which cut across all the disciplines of science. Present study aims to find the relationship between scientific attitude and school environment of standard VIII students. Fifty high school students were selected randomly as sample for the study. Survey method was adopted for the study. The data was collected using scientific attitude and school environment scales. Critical ratio and Pearson's product moment correlation were applied to test the hypotheses. Interpretations were drawn based on the findings. Scientific attitude and school environment of high school students were found to be an average and there was a high positive correlation between scientific attitude and school environment of high school students.

KEYWORDS :

INTRODUCTION
In formal school system, science, as a discipline, stimulates the learners to conduct an enquiry which is bias free and objective and if such practices are continued over the time then the learners get trained in scientific methodology, that is exploring something systematically and logically, and develop scientific attitude, which means the behaviouristic disposition, on the part of the individual, to act in certain way(s) in definite situation(s). Students' acquisition of a meaningful understanding of scientific concepts is one of the goals of science education. When a learner integrates a new idea or concept into his/her existing concepts and structures, learning will be meaningful. During this integration, being aware of prior knowledge and linking this knowledge to the newly presented knowledge by engaging in a learning task constitute the main components of meaningful learning. The continuous integration of concepts helps the learner form meaningful learning sets.

REVIW OF RELATED LITERATURE
Priti Chaudhari(2015) conducted a study on a study of effectiveness of inquiry training model for teaching science to standard VIII students of Vadodara city. The results found that if regular classroom science teaching is made activity based and interactive then it will definitely positively affect the learning and achievement of the students. Esme Haciemioglu (2016) conducted a study on elementary school students' attitude toward science and related variables. This study revealed that parents' income and education level had a significant effect on students' attitude toward science. Amit Ahuja (2017) conducted a study on scientific attitude in relation to science achievement scores among secondary school students. The study revealed that there was gender difference, in the favour of girl students, with respect to scientific attitude and science achievement scores. A significantly positive correlation was found between scientific attitude and science achievement scores of students.

NEED AND SIGNIFICANCE OF THE STUDY
Science is fundamentally a body of knowledge collected through experimentation and observation and it is both a process as well as product. Science forms an integral part of learning. Essentially it has to be learnt mainly through concrete situations related to immediate environment. The main focus of imparting science education is on sharpening the senses of the learners and encouraging them to discover, observe and explore their environment and surroundings. Instead of loading the students with scientific information, efforts should be made to help them learn key concepts which cut across all the disciplines of science. This would generate curiosity and would enhance awareness and understanding. To develop scientific tendencies among learners, in the classroom and laboratories, the process aspects of science like classification, observation, measurement, prediction, communication, hypothesis formulation, experimentation etc. must be emphasized but due to curricular

constraints like huge content coverage in compact time period and stress to score in the theory oriented examinations, which require belching out on the part of learners, teachers have to adhere to product nature of science that is arriving at the conclusion without exploring the means to arrive at that conclusion. However specifically, the plausible reasons for such trend may be the substandard teaching methodologies being practiced for science subject at primary school level like chalk and talk method which does not prove instrumental with respect to the students' positive attitude which is indispensable for developing their conceptual understanding of science subject and also it is not so effective while teaching average and slow learners.

Better the school environment better will be scientific attitude among the students in schools. Hence the investigator has decided to study the relationship between scientific attitude and school environment of standard VIII students in Virudhunagar district.

OBJECTIVES
1. To find out the level of scientific attitude and school environment of standard VIII students in Virudhunagar district.
2. To find out whether there is any significant relationship between scientific attitude and school environment of standard VIII students in Virudhunagar district.
3. To find out whether there is any significant difference in scientific attitude of standard VIII students with respect to gender in Virudhunagar district.
4. To find out whether there is any significant difference in school environment of standard VIII students with respect to gender in Virudhunagar district.

METHODOLOGY
Survey method was adopted for the study.

Sample Selection
Fifty high school students were selected using random sampling technique from various school of Virudhunagar district.

Research Instrument Used
1. A scale on Scientific Attitude (SSA) and School Environment (SSE) were constructed and validated by Dr. M.Kanmani and G.Velladurai (2018).

SCIENTIFIC ATTITUDE SCALE
Description of the Tool
The draft scale contained twenty nine items to assess the scientific attitude of standard VIII students in Virudhunagar district.

Validity
Content validity was found using Likert item wise analysis method. The items which have Likert value ≥ 1 were selected. Hence, twenty items were selected.

Reliability
Test retest method was used to establish the coefficient of reliability of scientific Attitude Scale and it was found to be 0.965. Hence the tool is found to be highly reliable.

Scoring procedure
For positive items in the SSA marks were awarded as 4,3,2,1 and 1 and the negative items, the marks were awarded in reverse order i.e. 1,2,3 and 4.

SCHOOL ENVIRONMENT
Description of the tool
The draft tool contained sixty three items to assess the "School Environment" developed by Guttmann.

Reliability
Split-half technique was used to establish the coefficient of reliability of the scale on "School Environment" and it was found to be 0.993 which is highly reliable.

Scoring procedure
One mark was awarded for correct answer and no mark was awarded for wrong answer.

Statistical Techniques used
Percentage analysis, Critical ratio (t-test) and Pearson's product moment correlation techniques were used for analyzing the data.

HYPOTHESISWISE TESTING
Hypothesis 1: *There is no significant relationship between scientific attitude and school environment of standard VIII students in Virudhunagar district.*

S.No	Variables	'r' value	Table value
1.	Scientific Attitude and School Environment	0.92	0.276

(at 5% level of significance the table value is 0.276)

It is inferred from the above table that the calculated value of 'r' (0.92) is greater than the table value (0.276) at 5% level of significance. Hence the null hypothesis is *rejected*. Hence there is a significant relationship between scientific attitude and school environment of standard VIII students in Virudhunagar district.

Further, it can be stated that there exist high positive correlation between scientific attitude and school environment of standard VIII students in Virudhunagar district.

Hypothesis 2: *There is no significant difference between boys and girls in scientific attitude of standard VIII students.*
Table 1.2

S.No	Gender	N	Mean	S.D	t-value
1.	Male	25	95.2	7.52	0.36
2.	Female	25	94.28	10.85	

(at 5% level of significance the table value of 't' is 1.67)

It is inferred from the above table 1.2 that the calculated value of 't' (0.36) is less than the table value (1.67) at 5% level of significance. Hence the null hypothesis is *accepted*. Therefore, there is no significant difference between boys and girls in scientific attitude of standard VIII students.

Hypothesis 3: *There is no significant difference between boys and girls in school environment of standard VIII students.*
Table 1.3

S.No	Gender	N	Mean	S.D	t-value
1.	Male	25	55.88	14.79	0.031
2.	Female	25	49.68	6.73	

(at 5% level of significance the table value 't' is 1.67)

It is inferred from the above table 1.3 that the calculated value of 't' (0.031) is less than the table value (1.67) at 5% level of significance. Hence the null hypothesis is *accepted.* Therefore, there is no significant difference between boys and girls in school environment of standard VIII students.

Findings
1. 62 and 82 percentage of standard VIII students had an average level of scientific attitude and School environment in Virudhunagar district.
2. Scientific attitude and school environment of standard VIII students in Virudhunagar district is correlated positively which is found to be high i.e. 0.92.
3. Boys and girls of standard VIII students do not differ significantly in scientific attitude and school environment in Virudhunagar district.

EDUCATIONAL IMPLICATIONS
Scientific attitude and scientific methods are applicable in almost all domains of interactions. All academic disciplines pave ways to a learner to practice scientific method and adopt scientific attitude but science, as a discipline in comparison to others, offers somewhat more space for the same. In science classroom, teachers should have concern on students in facilitating them in developing scientific attitude and students should participate in the learning process by questioning, self-questioning, cross questioning, reflecting at their own explanations. In the laboratory, students should not merely copy each other's data but verify the same by adopting hands-on-approach while doing practical experiments or activities. Over the time, such practices may facilitate the students to develop scientific attitude and score better in science.

School is the miniature society where they can practice their life skills. Infra structure facilities in schools should also be improved in such a way that it will provide good environment for their better learning. The teachers in the schools can guide the students in all aspects of life. Better the school environment better will be the attitude towards science among school children.

CONCLUSION
The purpose of the present study was to find the level and correlation of scientific attitude and school environment of standard VIII students in Virudhanagar district.. The study result may be useful in the field of education, which may serve as data base for further research.

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