



A STUDY ON SCIENTIFIC ATTITUDE AND CREATIVITY AMONG THE HIGH SCHOOL STUDENTS IN THIRUVALLUR DISTRICT.

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ABSTRACT

This study examined the relation between scientific attitude and creativity of high school students. This study adopted survey method of research participants were 300 high school students randomly selected from different schools in Thiruvallur district. The research instrument used for data collection was scientific Attitude Inventory developed by J.K Sood and R.P Sandhya and creativity Inventory developed by researcher tested at 0.05 and 0.01 level of significance. The finding indicated that there is a positive relationship between the scientific attitude and creativity of high school students. There is exist significance difference between scientific attitude and creativity with respect to Gender, Medium of instruction, Type of Management and Location high school students. And there is no significant difference between scientific attitude and creativity with respect to Type of family, Parental Qualification, Parental occupation of the high school students.

Keywords: Scientific Attitude, Creativity, Hypothesis, Sampling.

Introduction :

Education is the foundation upon which a country develops. It is an instrument for shaping human resources. The destiny of India is now being shaped in the classroom (Kothari, 1966). It is a dynamic force in the life of every individual influencing his physical, mental, emotional, social and ethical developments. Formal education is given to individuals to improve the skills such as reading, writing and arithmetic through primary education. Rig Veda says, 'Education is a noble thought coming from every side'. Mahatma Gandhi defined "Education as the all round drawing out of the best in man and child body, mind and spirit".

Scientific attitude

Science is a cumulative and endless series of empirical observations which result in the formation of concepts and theories, with both concepts and theories being subject to modification in the light of further empirical observations. Science is both a body of knowledge and the process of acquiring it.

Science is an accumulated and systematized learning in general usage restricted to natural phenomenon. The progress of science is marked not only by an accumulation of fact, but by the emergence of Scientific Method and of the Scientific Attitude. Science is built of facts as a house is built of stones; but an accumulation of facts is no more a science than a heap of stones. In another way, it could be said that science is more a verb than it is a noun. Science can also be defined in terms of what scientists do or in other words Science is what scientists do. There are at least three basic things that the scientists do.

Creativity

Creativity is the act of turning new and imaginative ideas into reality. Creativity is characterized by the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions. Creativity involves two processes: thinking, then producing. If you have ideas, but don't act on them, you are imaginative but not creative.

Statement of the problem:

The problem selected for the study is stated as "A Study on Scientific attitude and Creativity among the High School Students in Thiruvallur district".

Objectives of the study

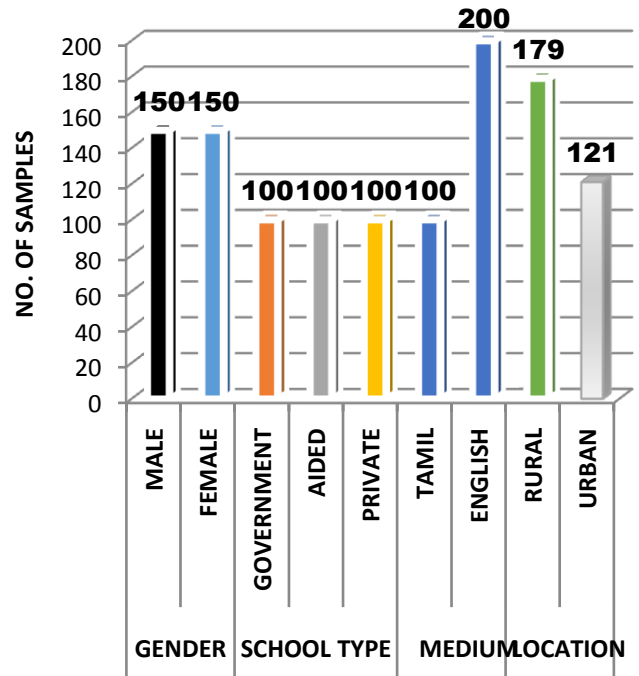
1. To find out the level of scientific attitude of the high school students.
2. To find out the level of creativity of the high school students.
3. To find out significant difference between the Scientific attitude and Creativity of the high school student with respect to
 - a) Gender
 - b) Medium of instruction
 - c) Locality
 - d) Type of management
4. To find out significance relation between the scientific attitude and Creativity of high school students.

Hypothesis of the study:

1. The level of scientific attitude is high among of the high school students.

2. The level of creativity is high among the high school students is poor.
3. There is no significance difference between attitude and Creativity of the high school students with respect to
 - a) Gender
 - b) Medium of instruction
 - c) Locality
 - d) Type of school
 - e) Type of management
 - f) There is no significant relationship between the of high school students.

Graph showing the distributions of sample



Research design

• **Methodology**

The study was conducted through survey method of research and it is most suitable for the present study.

• **Sample**

A random sampling technique was adopted for the selection of sample 300 high school students were taken for the study.

Distribution of the Sample

Variable		Sample	Total
Gender	Male	150	300
	Female	150	
management	Govt	100	300
	Aided	100	
	Private	100	
Location	Rural	179	300
	Urban	121	
Medium	Tamil	100	300
	English	200	

Research tools

To verify the hypothesis formulated in the study, the following tools have been used.

1. The Scientific Attitude inventory constructed and standardized by

J.K Sood and R.P. Sandhya

2. The Creativity inventory developed by the investigator.

Statistical Techniques

For the present study, the investigator has decided to use the following statistical values and techniques:

- MEAN
- STANDARD DEVIATION
- 'T' TEST
- KARL PEARSON'S CORRELATION COEFFICIENT.

Major Findings

1. It is found that the level of Scientific Attitude is found to be moderate among the High School students.
2. It is found that the level of creativity is found to be moderate among the highly school students.
3. It is found that there exists significance difference between the male and female high school students on their Scientific Attitude mean scores.
4. It is found that there exists no significance difference between the Male and Female high school students on their Creativity mean scores.
5. It is found that there exists no significance difference between the Rural and Urban high

school students on their Scientific Attitude mean scores.

6. It is found that there exists no significance difference between the Rural and Urban high school students on their Creativity mean scores.
7. It is found that there exists significance difference between in the Scientific Attitude of high school students with respect to Government, Aided, And Private based on their Scientific Attitude.
8. It is found that there exists significance difference between in the Scientific Attitude of high school students with respect to Government, Aided, And Private based on their Creativity.
9. It is found that there exists significance difference between the Tamil and English medium high school students on their Scientific Attitude mean scores.
10. It is found that there exists significance difference between the Tamil and English medium high school students on their Creativity mean scores
11. It is found that there exists a positive relationship between Scientific Attitude and Creativity among High school students.

Table-2

Showing the frequency and percentage for the Scientific Attitude among the high school students.

Variable	No. of Samples	Range	Category	Frequency	%
Scientific Attitude	300	Below 75	Low	64	21.33%
		75-147	Moderate	172	57.33%
		Above 147	High	64	21.33%

Graph-2

Graph showing the frequency and percentage for the scientific attitude among high school students.

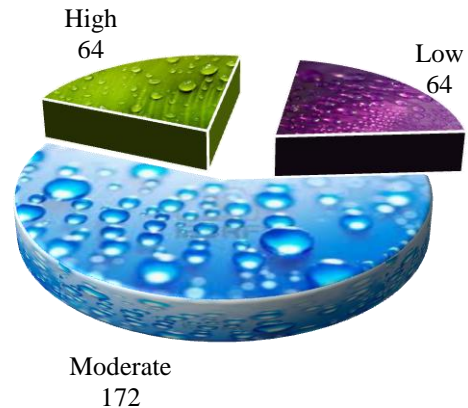


Table-3

Showing the frequency and percentage for the Creativity among the high school students.

Variable	No. of Samples	Range	Category	Frequency	%
Creativity	300	Below 43	Low	67	22.33%
		43-95	Moderate	166	55.33%
		Above 95	High	67	22.33%

Graph-3

Showing the frequency and percentage for the creativity among the high school students

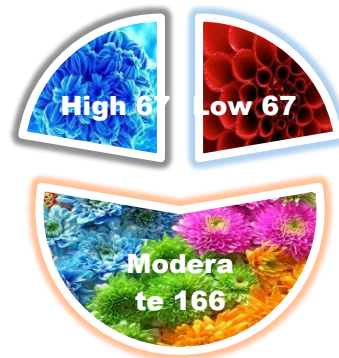


Table-4

Table shows the significant difference between the male and female high school students with respect to Scientific Attitude using mean scores.

VARIABLE	GEN DER	N	ME AN	SD	t-value	L.S
Scientific Attitude	Male	150	116.41	35.50	2.492	0.05
	Female	150	106.05	36.509		

Graph-4

Shows the significant difference between the male and female high school students with respect to scientific attitude using mean scores.

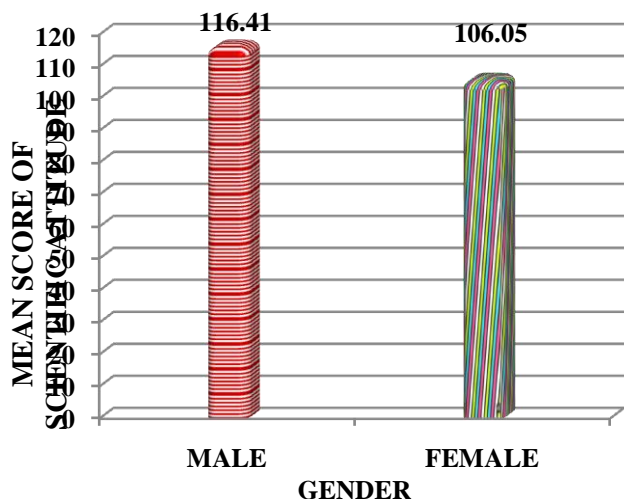


TABLE -5

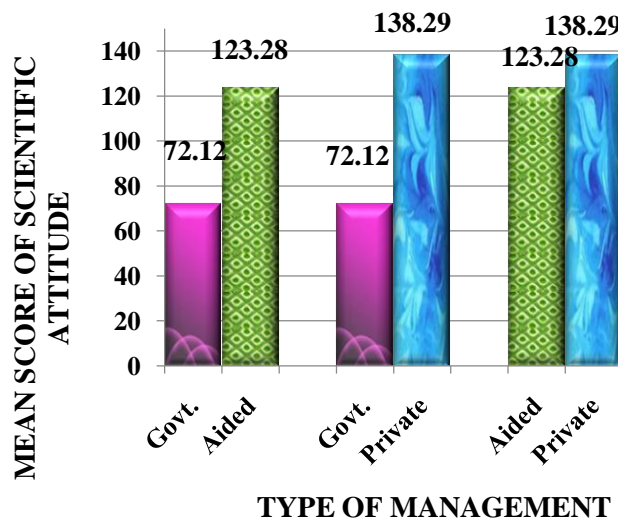
Showing the significance difference of type of management of high school students for scientific attitude.

Variable	TYPE OF MANAGEMENT	N	Mean	S.D.	t-value	L.S
Scientific Attitude	Govt.	100	72.12	18.453	19.313	0.01
	Aided	100	123.05	19.05		
	Govt.	100	72.12	18.453	19.125	0.01
	Private	100	138.29	29.267		

Aided	100	123.05	19.05	4.301	0.01
	100	138.29	29.267		
Private	100	138.29	29.267	4.301	0.01
	100	123.28	19.05		

Graph-5

Graph showing the significance difference of type of management of high school students for scientific attitude.



Educational implications

Regardless of one's major or profession, science plays an enormous role in everyone's life. From discovering cures for diseases, to creating innovative technologies, to teaching us how to think critically, science has become an indispensable feature of modern society. Controversial issues such as global warming, evolution, vaccination, HIV/AIDS, and the right to one's own DNA information are only a few of the issues being debated. Biology in particular has generated its share of controversies, including evolution, cloning and genetic engineering, global warming, premature species extinction, animal rights and animal suffering, human overpopulation, and the right to determine the timing and means of one's own death, to name a few.

Introductory science courses, such as biology, chemistry, and earth science, are usually required at the college level. It is important to keep in mind that non-science majors take science courses in college largely because they need to satisfy their liberal arts requirements, and not necessarily because they have a passionate interest in learning science. It is therefore not surprising that many students in these introductory science classes attend irregularly and do not take advantage of the extra help offered (e.g., meeting with the professor outside of class, going to tutorial and learning centers, doing extra credit). Studies show that students who attend all or most classes

perform better academically, and good attendance is associated with high motivation. In other words, the most successful students are usually the most highly motivated; they are most likely to come to class, do extra-credit work, and attend help sessions. A highly motivated student is usually one with a positive attitude toward the subject s/he is learning. Therefore, in order to improve students' attitudes toward science, faculty must motivate students, which they can do through their teaching styles and by showing them the relevance of the learning topics to their everyday lives. In addition, they must create the learning environment that helps motivate students not only to come to classes but also want to learn and enjoy learning.

Conclusion

Teachers realize the importance of how students feel about science subjects and courses; nevertheless, they place little emphasis on affective objectives. The affective domain is often neglected because teachers have difficulty designing strategies to develop positive attitudes among students and documenting their development. The seemingly arbitrary use of terms associated with the affective domain has further contributed to this neglect. Recent research provides suitable guidelines to focus attention on this important domain.

Teacher should provide the task of collecting evidences and beliefs based on their self-observations, experiences and experimentation with the aim to test the validity of such baseless beliefs and superstitions. Proper encouragement should be provided to the students to carry out various test and experimental functions independently. Spirit of self exploration and investigation should be developed among them. This can only be done with the help of scientific methods.

Students think of science as "hard," "cold" and isolated from humanity. We need help in dispelling these ideas. You can make a difference by your interest in improving science education through personal contact with students. Science material appears "hard" because of the unfamiliar vocabulary and symbols, and perceived higher level thinking processes necessary to comprehend the concepts. There appears to be a need for a systematic approach to learning written scientific material.

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