ORIGINAL RESEARCH PAPER

EDUCATION

KEY WORDS: Scientific Attitude, Zoology laboratory activities, Higher Secondary Students.

A STUDY OF SCIENTIFIC ATTITUDE AND ATTITUDE TOWARDS ZOOLOGY LABORATORY ACTIVITIES OF HIGHER SECONDARY STUDENTS

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ABSTRACT

The study is examined the scientific attitude and attitude towards zoology laboratory activities of higher secondary students. Normative survey method was used to obtain the data. The investigator has randomly selected 391 higher secondary students from Tirunelveli district. Investigator used scientific attitude scale constructed and validated by Billech and Zakhiner and self made tool to find attitude towards zoology laboratory activities. Result revealed that there is significant difference between boys and girls higher secondary students in their scientific attitude and attitude towards zoology laboratory activities. It also revealed that there is significant relationship between scientific attitude and attitude towards zoology laboratory activities of higher secondary students.

INTRODUCTION

A scientific attitude is an important aspect of a personality of someone who wants to be successful in the field of science. It requires rationality, inquisitiveness, and a need to investigate results.

The Laboratory of Zoology covers a wide variety of biological activities and undertakes studies of fanatic and taxonomic interest in various regions in Greece, and ecological studies on endangered or threatened species or species which are of importance in terms of protection and management. Many of the researchers of the Laboratory take part in the mapping of protected species of the European fauna, on a national basis, and in the recording and mapping of species protected by international or European conventions. Furthermore, the Laboratory is engaged in the monitoring of the ecological quality of terrestrial and aquatic ecosystems.

'Learning by Doing' is one of the cardinal principles of teaching science.

Experimentation has put many theories on a sound footing and has also resulted in the rejection of many. History reveals how many beliefs and superstitions were thrashed out from the minds of the peoples as a result of experimentation. Every scientist has findings to test by experimentation in order to find out their truth. The achievements of modern science are mainly due to the application of the experimental method. It is, therefore, important that practical work should form a prominent feature in any science course and the primary objective in determining a technique of instruction is to provide for a maximum of pupil activity.

SIGNIFICANCE OF THE STUDY

Science is an important subject in the school curriculum. It plays a very vital role in all parts of our everyday life. To Study as a separate curriculum at higher secondary level helps in many ways. In this stage, more practical on this subject ensures the student's theoretical knowledge as well as practical life situation. The curriculum secures gives equal importance to this subject like Chemistry, Botany, Zoology and mathematical science. The students knowledge in Physics also helps the students to solve the Mathematical, Chemical and biological problems. In day to day life every aspects are based on the Physics. Hence, the study of this subject provides adequate capabilities to face the real world. In connection with that the laboratory activities also is needed for higher studies like Engineering, Technology, etc. The students one who secures a knowledge in this subject can be able to manage the higher courses. Hence, the attitude towards zoology laboratory activities higher secondary level has a need.

Though the 10+2+3 pattern of education was introduced in Tamilnadu 1978, not many empirical studies have been conducted on the various aspects of this newly introduced pattern of education. It is well known that this pattern of education was introduced in a hurry without caring for even the most essential infrastructure facilities required for the successful implementation of this programmer. All on a student, certain selected high schools were christened as Higher Secondary Schools and the stage of education, hitherto under the mantle of a college, was handed over to those higher secondary schools.

OBJECTIVES OF THE STUDY

1.To find out the scientific attitude of higher secondary students.
2.To find out the attitude towards zoology laboratory activities of higher secondary students.

NULL HYPHOTHESIS

1.There is no significant difference between boys and girls higher secondary students in their scientific attitude.
2.There is no significant difference between boys and girls higher secondary students in their attitude towards zoology laboratory activities.
3.There is no significant relationship between the scientific attitude and attitude towards zoology laboratory activities of higher secondary students.

METHODOLOGY

The researcher has used to the normative survey method for obtaining the data.

SAMPLE FOR THE STUDY

The investigator has randomly selected 391 higher secondary students from Tirunelveli districts.

TOOL USED

a. Scientific attitude scale constructed and validated by Billech and Zakhiner (1975).

b. Attitude towards Zoology Laboratory activities constructed and validated by the Investigator and guide (2017).

STATISFICAL TECHNIQUES USED

Arithmetic mean, Standard deviation,'t' test, ANOVA, Pearson's Product Moment Correlation were used for analysis of the data.

Null Hypothesis 1

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

DIFFERENCE BETWEEN BOYS AND GIRLS HIGHER SECONDARY STUDENTS IN THEIR SCIENTIFIC ATTITUDE

Variable	Gender	N	Mean	Standard Deviation	't' value	Level of significance
Scientific Attitude	Boys	200	15.57	15.57	2.32	Significant
	Girls	191	13.46	13.46		

(At 5% level of significance, the 't' values is 1.96)

From the above table the, calculated't' value is 2.32, which is

significant at 0.05 level. Hence the null hypothesis is rejected and it is concluded that boys and girls students do differ significantly in their scientific attitude. While comparing the mean value of boys (M = 129.94) and girls (M = 133.37). Girls' higher secondary students are better than boys.

Null Hypothesis 2

There is no significant difference between boys and girls higher secondary students in their attitude towards zoology laboratory activities.

DIFFERENCE BETWEEN BOYS AND GIRLS HIGHER SECONDARY STUDETS IN THEIR ATTITUDE TOWARDS ZOOLOGY LABORATORY ACTIVITIES

Variable	Gender	N	Mean	Standard Deviation	't' value	Level of significance
Attitude towards zoologylaboratory activities	Boys	200	201.25	25.72	3.98	Significan
	Girls	191	210.99	22.63		

(At 5% level of significance, the 't' values is 1.96)

From the above table, the calculated 't' value is 3.98, which is significant at 0.05 level. Hence the null hypothesis is rejected and it is concluded that male and female students do differ significantly in their attitude towards zoology laboratory activities. While comparing the mean value of boys (M = 201.25) and girls (M = 210.99), girls are better than boys in their attitude towards zoology laboratory activities.

NULL HYPOTHESIS 3

There is no significant relationship between scientific attitude and attitude towards zoology laboratory activities of higher secondary students.

RELATIONSHIP BETWEEN SCIENTIFIC ATTITUDE AND ATTITUDE TOWARDS ZOOLOGY LABORATORY ACTIVITIES OF HIGHER SECONDARY STUDENTS

Variables	N	'γ' Value	Level of Significance
Scientific Attitude and Attitude	391	0.32	Significant

It is evident from the table, the calculated 'r' value is found to be 0.32 which is significant at 0.05 level. So that the null hypothesis is rejected. Hence, it is inferred that there is significant relationship between scientific attitude and attitude towards zoology laboratory activities of the higher secondary students.

FINDINGS

- Significant difference between boys and girls higher secondary students in their scientific attitude.While comparing mean score of boys and girls higher secondary students, girls (Mean=133.37) scientific attitude better than boys (Mean=129.94).
- Significant difference between boys and girls higher secondary students in their attitude towards zoology laboratory activities. While comparing mean score of boys and girls higher secondary students. Girls (Mean=210.99) are better than boys (Mean=201.25) in their attitude towards zoology laboratory activities of higher secondary students.
- There is a significant relationship between scientific attitude and attitude towards zoology laboratory activities of the higher secondary students.

IMPLICATIONS

a. Teachers should motivate students to explore their science knowledge.
b. The teacher should be properly trained in developing student science attitude in class room situation.
c. Science news can be read in prayer hours.
d. Students may be asked to have faith, love and affection with their science read activities by their parents.
e. Positive attitude towards science and its subjects are very essential. This could be incorporated at primary and elementary levels by the curriculum framers.
f. Teachers and students must be aware of the evils as well as the benefits of science so that they can understand the need of science and technology for growth.

REFERENCES

1. AviHofstein (2007). "The Laboratory in Science Education: Foundations for the Twenty-First Century".Department of Science Teaching, The Weizmann Institute of Science, Rehovot 76100, Israel .
2. Bhaskara Rao, D. (2003). "Scientific Attitude Vis-a-Vis Scientific Aptitude". Discovery Publishing House, 01-Jan-2003 - 140 pages.
3. Charles F. Lytle, John Meyer (2009). "General Zoology Laboratory Guide".Published by McGraw-Hill Science/Engineering/Math.
4. Collins HL, DiCarlo SE (1993). "Physiology laboratory experience for high school students." The American Journal ofPhysiology, vol.265, pp.4754.
5. Darrell Fisher, Allan Harrison, David Henderson, AviHofstein (1988). "Laboratory learning environments and practical tasks in senior secondary science classes". Research in Science Education, Vol.28 (3), pp 353-363.