
A STUDY OF THE RELATIONSHIP BETWEEN SCIENTIFIC ATTITUDE AND ACADEMIC ACHIEVEMENT OF SENIOR SECONDARY STUDENTS

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ABSTRACT:

This paper is related to the study of the relationship between scientific attitude and academic achievement of senior secondary students of Meerut city. The sample has been taken from four colleges. The study reveals that academic achievement is positively as well as significantly correlated with scientific attitude. It means that with increase in academic achievement, scientific attitude of students also increases. The finding may lie in the fact that at the senior secondary level overall scientific attitude develops among the students in its optimal level

Keywords: Scientific attitude, academic achievement.

INTRODUCTION:

Education is a process of enlighten and improvement for achievement of better and higher quality of life. For a secular and democratic state, it is necessary that people should have a broad scientific outlook to get rid of many irrational and dogmatic beliefs and elimination of obscurantism and superstition. A rational and just society requires scientific temper. The national curriculum for primary and secondary education emphasizes the need for inculcation of scientific temper among the student in the following words-

'Education should help the individual not only in acquiring knowledge and its application but also in developing a scientific temper and rational world view.'

The greatest impact in the sphere of science education in India came from the report of the Education Commission (1964-66) properly known as Kothari Commission. The commission laid great importance to teaching from the primary stage to the university stage for development and prosperity of education should become an integrated part of school education with provision for compulsory teaching as a part of general education during first ten years of schooling.

At the same time it has also been observed that for selection of science stream at intermediate level, the student who have passed the C.B.S.E. or U.P. Board at high school level are required to obtain a specific percentage of marks in aggregate, to qualify and to be admitted at senior secondary level.

From these two observations it was felt by the researcher that there may be some short of relationship between these two variables which has been given a remarkable extent of importance at the school and senior secondary level of education.

Golwalkar (1978) studied the scientific attitude of higher secondary students offering different optional for preparing a tool. The researcher selected ten areas as component of the scientific attitude. These were-

- Examine judgement and statements criticality
- Is open mindedness?
- Is sceptive in nature?
- Perceives inconsistencies in view.

- Has a strong desire for the extension of facts?
- Is flexible in approach?
- Is objective in approach?
- Follows systematic method
- Neglects the immediate values of things
- Is precise?

According to Karlinger (1970) attitude is a psychological construct or latent variable, inferred from observable responses to stimuli which are assumed to mediate consistency and coherence among these responses.

A person with good scientific attitude is free from superstition, unverified assumptions and many times from popular opinion that has no empirical basis. In spite of all efforts by science education, science still remains a dreadful subject by learners in the schools. This is evidenced by the low enrolment for science in secondary schools as well as underachievement at the secondary school certificate level examinations.

RATIONALE OF STUDY:

Scientific attitude has become a craze for government, teachers and researchers. Today science has become a part of our day to day life. All the governments want to enhance the scientific attitude of their student so that students could become competent citizens after the completion of their study and could contribute to G.N.P. and lead their nations on way to modernization.

Now these qualities are being provided by education. Education devoid of scientific temper is useless just because spread of scientific temper by a teacher in society is much more needed than the spread of science and technology. Then it has become very much important to know the relationship between scientific attitude and educational achievement. In such premise, the present study is designed to assess the correlation between scientific attitude and educational achievement of senior secondary students.

Thus efforts have been made in this attempt to study the scientific attitude and academic achievement of the senior secondary level students who admitted in senior secondary college after passing their higher secondary examination from U.P. Board.

OBJECTIVES OF THE PRESENT STUDY:

- To find out the relationship between scientific attitude and academic achievement of senior secondary students.
- To find out the relationship between overall scientific attitude and academic achievement of senior secondary students.

HYPOTHESES OF THE PRESENT STUDY:

- H_{01} : There exists no significant relationship between scientific attitude and academic achievement of senior secondary students.
- H_{02} : There exists no significant relationship between overall scientific attitude and academic achievement of senior secondary students.

METHOD OF THE PRESENT STUDY:

The present study is descriptive survey type research. The details of the population, sample and the tool have been given below-

POPULATION OF THE PRESENT STUDY:

Population of the study is confined to the senior secondary students studying in various senior secondary students colleges affiliated to U.P.Board.

SAMPLE OF THE PRESENT STUDY:

In the present study four colleges are selected from overall population randomly. 100 students studying in class XII are selected from colleges as the sample of the study. Here the type of sampling is random sampling.

TOOL OF THE PRESENT STUDY:

To measure the scientific attitude of XII class students, a questionnaire developed by Prof. K.S. Mishra, Education department, Allahabad University is used to collect data.

STATISTICS USED:

The raw scores are tabulated, the mean and S.D. for different groups are calculated for assessing that data. After that Karl Pearson’s product moment correlation method is used to find out correction between the scientific attitude and academic achievement of students studying in class XII.

ANALYSIS AND INTERPRETATION OF DATA:

In the present study objective wise analysis and interpretation of results is mentioned in Table 1 to 2.

**TABLE-1
CORRELATION BETWEEN SCIENTIFIC AND ACADEMIC ACHIEVEMENT OF STUDENTS**

S. No.	Variables	N	Correlation Coefficient	Level of Correlation
1.	Scientific attitude	50	0.8976	Positive correlation
2.	Academic achievement	50		

Table-1 shows that the value of correlation coefficient between scientific attitude and academic achievement of senior secondary students is 0.8976. It means that achievement is positively as well as significantly correlated with scientific attitude. It means that increase in academic achievement, scientific attitude of senior secondary students also increases.

**TABLE-2
CORRELATION BETWEEN OVERALL SCIENTIFIC ATTITUDE AND ACADEMIC ACHIEVEMENT OF STUDENTS**

S. No.	Variables	N	Correlation Coefficient	Level of Correlation
1.	Overall Scientific attitude	50	0.8976	Positive correlation
2.	Academic achievement	50		

Table-2 shows that the value of correlation coefficient between overall scientific attitude and academic achievement of senior secondary students is 0.8976. It means that achievement is positively as well as significantly correlated with overall scientific attitude. It means that increase in academic achievement overall scientific attitude of senior secondary students also increases.

FINDINGS OF THE PRESENT STUDY:

Finding related to Correlation between scientific attitude and academic achievement of senior secondary students.

- The value of correlation coefficient between scientific attitude and academic achievement of senior secondary students is 0.8976 i.e., positive correlation. So the null hypothesis, 'There exists no significant relationship between scientific attitude and academic achievement of senior secondary students' is rejected.
- The value of correlation coefficient between overall scientific attitude and academic achievement of female students is 0.8976 i.e., positive correlation. So the null hypothesis, 'There exists no significant relationship between overall scientific attitude and academic achievement of female students' is rejected.

CONCLUSIONS AND EDUCATIONAL IMPLICATIONS:

On the basis of the above mentioned analysis and findings of the study, some important conclusions have been drawn as mentioned below-

- There is positive correlation between scientific attitude and academic achievement of senior secondary students. As we know the meaning of scientific attitude is the student's tendency to show approval or disapproval behaviour which defines an attitude. In other hand science subject is totally based on facts.
- There is positive correlation between overall scientific attitude and academic achievement of senior secondary students. So we may conclude that at senior secondary level overall scientific attitude develops among the senior secondary students, it seems that student having scientific attitude will be critical minded, respect evidences, honest, objective, ready to change opinion, open minded and posses questioning attitude.

The major educational implication for theory and practice in the field of education, based on the above conclusions is that, it is responsibility of all the Teacher Training/Education Institutions globally as well as at the national level in India to develop scientific attitude in students. Particularly in India to achieve this purpose scientific outlook based training programmes must be planned and implemented by National Council for Education Research Training and District Inspector of School to enhance the scientific attitude of students. To improve scientific attitude among students of senior secondary students, there is an urgent need of modification in school curriculum, textbooks and pedagogy. An integrated approach of curriculum development should be adopted strategically so as scientific attitude may be inculcated at every stage.

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