

A CORRELATIVE STUDY OF ACADEMIC ACHIEVEMENT IN
SCIENCE SUBJECT, SCIENTIFIC AWARENESS AND SCIENTIFIC
APTITUDE OF IX STD STUDENTS OF SOLAPUR CITY.

A Minor Research Project

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A correlative study of academic achievement in Science subject, scientific awareness and scientific aptitude of Ix th std students in Solapur city.

Introduction:

Science and Technology has occupied human life, to achieve success in life understanding of science is essential. If person achieve knowledge of any faculty of science and technology then person become scientifically literate and can take decision with ability. Science is an objective and realistic subject in formal education. Science emerged in Education on 19th century. In 1986 National Policy of Education, science curriculum has given high weightage. Science is being taught to every level. We must have scientific consciousness about our physical needs, as food, water, clothing, shelter, pollution, environment and its balance as well as its preservation and conservation. Along with these we must have scientific awareness regarding health, diet, biodiversity and disaster management to inculcate these concepts among students is a responsibility of teachers likewise inculcation of scientific aptitude accordingly is expected.

There is need of behavioral change amongst students by scientific knowledge, interest and observation of various incidents, reasons behind incidents and also not to express opinions without scientific proof and awareness about individuals and social hygiene.

Need of Research:

Human beings has used his intellectual capacities to achieve maximum knowledge but in day to day life it is not that human beings believe in scientific aptitudes. In school science subject is being taught right from I std, still the concepts of awareness about balanced diet, healthy habits, judicious use of water, awareness about environment etc. is not apparent in daily life and it is noted that there is deficiency amongst persons regarding free behavior, reasoning, non prejudiced attitude, eagerness, truth, away from superstitions disciplined activities. Researcher experienced that students are having knowledge about scientific concepts, rules, theories etc but there is deficiency of scientific sensitivity. The students obtained higher marks in science but it is essential to verify output while teaching science expected methodology and techniques used. Therefore the researcher has selected this topic.

Importance of research:

The findings, recommendations and suggestions of this research will be beneficial to the science teachers as well as provide guidelines to the school teachers to develop scientific awareness amongst science students. It will be useful to the Head masters of the schools to establishment of science club in school and to impliment various science programes will guide and motivate to the teachers also to experts for science curriculum development, members of text book committees and science book writter too.

Research Title:

A correlative study of academic achievement in science subject, and scientific awareness of Ix std students of Solapur city.

Research objectives:

The researcher has set the following objectives for this reserch.

- (1) To study academic achievement in science subject of Ix std students of Solapur city.
- (2) To study scientific awareness of Ix std students of Solapur city.
- (3) To study co-relation between academic achievement in science and scientific awareness of Ix std students of Solapur city.
- (4) To study scientific aptitudes of Ix std students of Solapur city.
- (5) To study co-relation between academic achievement in science and scientific aptitude of Ix std students of Solapur city.
- (6) To recommend remedies to develop scientific awareness among Ix std of Solapur city.

Defination of important terms:

- 1) Students of Ix std: those who have passed vlll std and admitted in Ix std.
- 2) Science subject achievement: The marks obtained by students of vlil std in two unit test, term exam and practical exam.

3) Scientific awareness: information about scientific concepts, definitions, rules, theories, research and use of apparatus.

Scope of Research:

The researcher has taken under consideration that students studying in IX std in Marathi medium in Solapur city and academic achievement in science subject and co-relation between academic achievement and awareness as well as aptitude. The researcher has given remedies for development of scientific awareness among IX std students.

Limitations of Research:

The researcher has taken under consideration only 750 students of IX std studying in Marathi medium only and average marks obtained in science subject VIII std. It is research of co-relative study between the academic achievement in science and scientific awareness.

Research Methodology:

The present research is relevant to current problem and therefore researcher has used sample survey method. The researcher has developed a test to assess the scientific awareness. 20 schools were selected out of 101 schools by lottery system. Scientific awareness test has 120 marks and marks obtained by students was converted into 100 marks. The marks obtained by students to VIII std were taken consideration as science achievement. Thus the researcher has assessed co-relation by obtained marks in awareness test and achievement test. To measure scientific aptitude standardised test is used.

Research tools:

The researcher has used a self developed test to assess scientific awareness. Also used questionnaire to obtain suggestions to develop scientific awareness among IX std students.

Research sample:

The researcher for the present research has selected 750 students from 17 schools selected by lottery system; out of 10402 students of Marathi medium schools.

Research analysis and conclusions:

The researcher gave test to a sample of selected group of 750 students to assess scientific awareness. The academic achievement of students i. e. marks obtained in two unit tests, two terminals and practicals were considered of VIII std in science subject. Average calculated was considered as achievement. The marks obtained were converted out of 100 marks. The questionnaire were given to 52 experts inclusive of experienced teachers, professors, authors, curriculum development board members for development of scientific awareness among the IX std students. Experts gave priority order to activities and total priority value has been calculated.

Findings:

The research findings are

(a) Academic achievement of IXstd students in science,

(1) More than 50% students have achievement higher than average.

(2) 22% students have less achievement than average, 7% students achievement was poor, 35% students are on average, 14% students are excellent and 22% students are extra-ordinary.

(B) Findings about scientific awareness-

Scientific awareness in students of IX std is very high.

A comparative study drawn findings are as, 150 students bear extreme scientific awareness out of 750 students, 141 students bear higher scientific awareness' 296 students have average scientific awareness, 62 students have poor scientific awareness and 97 students have very poor scientific awareness.

The correlation coefficient of scientific achievement and scientific awareness is +0.2186.

The correlation coefficient of scientific achievement and scientific aptitude is +0.0072.

