A Comparative Study of Scientific Attitude of Arts, Science and Commerce Under Graduate Students

Abstract

Science education refers to that part of education which promotes rational thinking of a man, enables her to encourage independent thinking and helps in removing the superstitions and chaos prevalent in the society in various forms. In view of the modern developments in Science and it's importance in today's world, Science education and scientific outlook have assumed a significant place. Science Education has been introduced as a compulsory subject in the curriculum of undergraduate level students of all streams like, art, science and commerce etc. The main objective of science education is to provide a wide exposure to students' different serious aspects of the science. The present study aimed to assessing the awareness and responsibilities about science, among our educated communities. The present study has been done by survey method on undergraduate level students of art, science and commerce stream. The present study also promotes the scientific attitude of undergraduate students which are not from science background, like art and commerce.

Keywords: Science, Scientific Attitude, Undergraduate Students.

Introduction

In India, an attempt to take a holistic view of the role of education in national development was made in 1986. The National Policy on Education N.P.E.-1986 (Govt. of India, 1986) is a landmark in the history of Indian education. The N.P.E.- 1986, visualized education as a dynamic, cumulative, life long process providing diversity of learning opportunities to all segments of the society. It necessitated improvement and expansion of education in all sectors, elimination of disparities in access and stresses on improvement in the quality and relevance of education at all levels. The N.P.E.-1986 also emphasized that education must play a positive and interventionist role in correcting social and regional imbalances in empowering women.

Science education refers to that part of education which promotes rational thinking of a man, enables herself to encourage independent thinking and helps in removing the superstitions and chaos prevalent in the society in various forms. In view of the modern developments in Science and it's importance in today's world, science education and scientific outlook have assumed a significant place. Don-Phillips (1973) emphasized that science and scientific education or indeed all education is necessary to develop in students both an awareness of the problems facing the society and the capacity to contribute towards their solution and make an efficient society.

Science and Mathematics have become a very important and integral part of a developed and organized society. There seems to be a close interaction between Science and Mathematics and the economic, social, political and educational issues of the society. Therefore, it is very clear that science and mathematics is very crucial for the education of school children. NCERT (1988) very clearly highlights that the main objective of Science education at secondary level is to understand the nature of Science, its processes, methods and scope, so that the students can use scientific method and techniques to solve their problems and develop scientific attitude". Other important objective of secondary school Science is to provide a strong foundation for those who seek to pursue the study of Science at higher education level. According to Kothari Commission (1964-66), "the aim of teaching Science in the primary school

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should be to develop proper understanding of facts, concepts, principles and processes in physical and biological environment". It means that the main purpose of Science education at primary level shouldn't be to stuff the minds of the children with facts and information, but to sharpen their senses to enable them to observe the environment and to enhance their experience and knowledge.

Scientific Attitude

The term scientific attitude is refers to as state of mind and a way of life. It is difficult to make a distinction between attitude and other effective attributes of personality like interest, appreciations, likes, dislikes, opinions, value, ideas, and character traits. A person having scientific attitude is never superstitious. His mind is like a sea with open mouth ready to gulp down new facts and has power of concrete and accurate observation and interpretation. There is no shortcut or hard method to develop or change attitude of an individual. The teacher alone can mold the delicate minds of students in such a way that science develops as a discipline, as an attitude of their mind and which they use in their day-to-day problems. The innovative method was used to compare the traditional method.

Educational technology refers to the application of scientific and technological principles in the teaching and learning process. In the present day world of science and technology, our children should not only acquire knowledge of science but should also acquire a favorable attitude towards it and develop interest in it. Thus, the present investigation is being conducted with the objective of finding out how far these desirable affective outcomes of learning science are developed in our children.

Statement of the Problem

A Comparative Study of Scientific Attitude of Arts, Science and Commerce under Graduate Students**.**

Review of Literature

Singh, Yendluri Chakradhara & Bai C. Arundhathi, The ICFAI University, Tripura (2019) "A Comparative Study of Scientific Attitude and Science Interest of Secondary School Students" West Tripura District, Tripura and Prakasam District, Andhra Pradesh

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Objectives of Study

The present research is on the topic is being conducted within the following objectives;
1. To compare the Scientific Attitude of Arts and Science under graduate students.
2. To compare the Scientific Attitude of Science and Commerce under graduate students.
3. To compare the Scientific Attitude of Arts and Commerce under graduate students.

Hypothesis

The null hypothesis of the study includes the followings-
1. There is no significant difference between Scientific Attitude of Arts and Science under graduate students.
2. There is no significant difference between Scientific Attitude of Science and Commerce under graduate students.
3. There is no significant difference between Scientific Attitude of Arts and Commerce under graduate students.

Research Methodology of the Study

The research methodology of present study is Descriptive Survey method.

Sample of the Study

In the present study, the investigator selected 12 institutions for random sampling in Lucknow district. He selected 600 under graduate students, 200 Arts, 200 Science and 200 Commerce students, as sample.

Table No. 1-

S.No.	Institutions Name	Total	Arts	Science	Commerce
1	Shri Jay Narayan P.G. college ,Lucknow	60	20	20	20
2	Bappa Shri Narayan Vocational P.G. College, Lucknow	60	20	20	20
3	Mumtaz Degree College ,Lucknow	60	20	20	20
4	Kali Charan degree college, Lucknow	40	20		20
5	National P.G. College, Lucknow	40	10	20	10
6	Eram Girls Degree College, Lucknow	40	10	20	10
7	G.S.R.M .Degree College, Lucknow	60	20	20	20
8	Kuwar Ashif Miya Degree College, Lucknow	60	20	20	20
9	G.C.R.G. Group of Institutions, Lucknow	30		30	
10	Lala Mahadev Prasad Verma Balika Mahavidyalaya	40	20		20
11	Mahesh Prasad Degree College, Lucknow	60	20	20	20
12	Charak Degree College, Lucknow	50	20	10	20

Research Tools

The investigator had used standardized research tools for the study.
1. SAS-[Science Attitude Scale]- Dr. Avinash Grewal (Bhopal)

Statistical Techniques Used

Following statistical measures were used for analyzing the data-
1. Mean
2. Standard Deviation (S.D.)
3. t-test

Analysis and Interpretation of Data
1. There is no significant difference between Scientific Attitude of Arts and Science under graduate students.

1.1 Stream wise comparison of the Scientific Attitude of Arts and Science under graduate students.

Table No.2

That the table no. 2 shows that the mean scores of Scientific Attitude of Arts and Science under graduate students are 48.53and 52.17 respectively

Stream	N	Mean	S.D.	SEM	t-test	Significant
Arts	200	48.53	9.87			Significant at 0.05 level
Science	200	52.17	12.1	1.104	3.29	

1. The standard deviations (SD) on the scores of Arts and Science UG students are 9.87and 12.1respectively.
2. The calculated t-test value is 3.29which is higher than tabulated t-value i.e. 1.96 at the level of 0.05 significant.
3. With the use of t-test we found that the first null hypothesis related to Scientific Attitude on comparison of Arts and Science stream, is rejected, on level of 0.05 significant. This shows that the Scientific Attitude of under graduate students differs on Arts and Science stream.
2. There is no significant difference between Scientific Attitude of Science and Commerce under graduate students.

2.1 Stream wise comparison of the Scientific Attitude of Science and Commerce under graduate students

Table No.3

That the table no. 3 shows that the mean scores of Scientific Attitude of Science and Commerce under graduate students are 52.17and 50.70respectively

Stream	N	Mean	S.D.	SEM	t-test	Significant
Science	200	52.17	12.10			Significant at 0.05 level
Commerce	200	50.70	11.22	1.16	1.255	

1. The standard deviations (SD) on the scores of Science and Commerce UG students are 12.10and 11.22respectively.
2. The calculated t-test value is 1.255which is lower than tabulated t-value i.e. 1.96 at the level of 0.05 significant.
3. With the use of t-test we found that the second null hypothesis related to Scientific Attitude on comparison of Science and Commerce stream, is accepted, on level of 0.05 significant. This shows that the Scientific Attitude of under graduate students not differs on Science and Commerce stream.
3. There is no significant difference between Scientific Attitude of Arts and Commerce under graduate students.

3.1 Stream wise comparison of the Scientific Attitude of Arts and Commerce under graduate students

Table No.4

That the table no. 4 shows that the mean scores of Scientific Attitude of Arts and Commerce under graduate students are 48.53and 50.70respectively

Stream	N	Mean	S.D.	SEM	t-test	Significant
Arts	200	48.53	9.877			Significant at 0.05 level
Commerce	200	50.70	11.22	1.05	2.053	

1. The standard deviations (SD) on the scores of Arts and Commerce UG students are 9.877and 11.22respectively.
2. The calculated t-test value is 2.053 which is higher than tabulated t-value i.e. 1.96 at the level of 0.05 significant.
3. With the use of t-test we found that the third null hypothesis related to Scientific Attitude on comparison of Arts and Commerce stream, is rejected, on level of 0.05 significant. This shows that the Scientific Attitude of under graduate students differs on Arts and Commerce stream.

Conclusion

The findings, as the results of investigator, are listed as following-
1. It means that there is significant difference between Scientific Attitude of Arts and Science UG students. It was also found that the Scientific Attitude of Science students are higher than the Arts students. It means that Science students are more interested to know and understand the Science aspects.
2. It means that there is no significant difference between Scientific Attitude of Science and Commerce UG students. It was also found that the Scientific Attitude of Science and Commerce students are near about equal. It means that Science and Commerce students are both interested to know and understand the Science aspects.
3. It means that there is significant difference between Scientific Attitude of Arts and Commerce UG students. It was also found that the Scientific Attitude of Commerce students are higher than the Arts students. It means that Commerce students are more interested to know and understand the Science aspects.

Education Implication of the Study
1. The present research proves that Science Education is very crucial in shaping the minds of youths of the Country. Therefore, educationists, educational administrators, and teachers must acquaint their pupil about pros and cons of Science Education.

2. The Science Education should be a compulsory part of the curriculum at school and college level.

3. It would be more beneficial and effective if special programs are launch to develop Scientific Attitude among the students. This is possible only through inclusion of special courses on Science Education in school curriculum.

4. The government should provide books related to science Education for students.

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