A STUDY ON SCIENTIFIC ATTITUDE AMONG B.Ed. STUDENT TEACHERS

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ABSTRACT:

This study has been undertaken to investigate the scientific attitude among B.Ed. student teachers. Scientific attitude is "open mindedness, a desire for accurate knowledge, confidence in procedures for seeking knowledge and the expectation that the solution of the problem will come through the use of verified knowledge. A sample of 150 science teacher trainees from rural and urban colleges of Bangalore University was selected based on stratified random sampling technique.The data was analyzed through mean, standard deviation and 't' test. The results showed that there are significant differences in the scientific attitude among student teachers based on locality and type of college and not significantly influenced by gender of the student teachers.

Key Words: Scientific Attitude, Student Teachers

INTRODUCTION:

One widening realization of the last few decades has been that knowledge is explored and boundaries between disciplines are increasingly becoming unclear, unconvincing and indefinite. In such situation, inter-disciplinary and multi-disciplinary research can help societies to strengthen and sustain themselves. But there is a great dearth of research in the country. In our country number of researchers in science is also considerably low and science education may take the responsibility to encourage and increase the researchers in our country.

In the words and vision of Nehru, "Science has brought all these mighty changes and not all of them have been for the good of humanity. But the most vital and hopeful of the changes that it has brought about has been the development of the scientific outlook in man".

India is the only country in the whole world that has officially designated the development of science as the responsibility of government. According to Article 51 A (h) of constitution of India, it is now the duty of every citizen of Indian "to develop the scientific temper, humanism and spirit of inquiry.

Even the Kothari Commission (1966) and National Policy on Education (1986) suggested that science education should be compulsory for all up to secondary level in order to develop scientific attitude among the pupil.

Fifth survey of research in education (1988) on science education stated that "if we throw a bridge between science and education with psychology, we arrive at the concept of science education, bluntly speaking as an integrated concept. If so, it is within the sphere of possibilities to link the most powerful concepts of science to the growing minds of children through active experimental pedagogy. In that case, science education need no longer remain a single-dimension activity. It would be our job than to develop scientific and technical capabilities of our school going pupils".

So, science teacher have an important role in popularizing science among the younger generation. It is science teacher who inculcates motivates and values. In order to achieve the desired goals one has to start from the grass-root level. Once a child acquires the gift of creativity, the chief aim of science education is achieved. Therefore, the role of science teachers in secondary level play a vital role.

Providing effective science education is possible only when a person with high scientific attitude, a positive attitude towards science education and creative ability to develop them among the children.

SCIENTIFIC ATTITUDE:

Scientific attitude is really a composite of a number of mental habits or of tendencies to react consistently in certain ways to a novel or problematic situation. These habits include accuracy, intellectual honesty, open-mindedness, accurate judgment, habit of looking for true cause and effect relationship.

Scientific attitude is a complex mixture of the longing to know and understand a questioning approach to all statements, a search for data their meaning, a demand for verification, a respect for logic, a consideration of premises and consideration of consequences.

NEED FOR THE STUDY:

The sole responsibility of developing scientific attitude among the students lies on the teacher who can manipulate all situations to instill in pupils a scientific attitude and at the same time present himself a role model. Scientific attitude is considered as an important objective of science learning all over the world. Science education always includes the development of interest, values, attitudes, aptitudes and appreciation. In the present world of science and technology all children should not only possess knowledge of science but also should acquire a favourable attitude towards it and develop interest in it.

It has been realized that science teachers without scientific attitude they cannot inculcate scientific attitude among the students. Therefore it is essential to know the scientific attitude among the science student teachers studying in different B.Ed. colleges.

OBJECTIVES OF THE STUDY:

1. To know the scientific attitude between male and female student teachers.
2. To know the scientific attitude between urban and rural student teachers
3. To know the scientific attitude between Government/aided college student teachers and private unaided college student teachers.

HYPOTHESES OF THE STUDY:

The following hypotheses are formed based on the objectives of the study,

4. There is no significant difference in the level of scientific attitude between male and female student teachers.
5. There is no significant difference in the level of scientific attitude between urban and rural student teachers.
6. There is no significant difference in the level of scientific attitude between Government/aided college student teachers and private unaided college student teachers.

METHODOLOGY:

For the purpose of investigation the researcher has followed the descriptive survey method.

Sample and Sampling technique: A sample of 150 science teacher trainees from rural and urban colleges of Bangalore University was selected based on stratified random sampling technique.

Description of the tool: In the present study, scientific attitude scale developed by Sood, J.K and Sanadhya, R.P. was used in this investigation. The tool consists of 36 statements with 18 items are positive statements and another 18 items are negative in nature.

Statistical techniques used: Mean, Standard deviation and t- test are statistical methods were applied to analyses and interpretation of the collected data of the scientific attitude.

RESULTS:

Table-1

Showing the difference in the level of scientific attitude among Male and Female Student Teachers

Dependent variable	Variable	Sample Size	Mean	S.D	't' Test
Scientific attitude	Male	52	83.12	11.21	0.59 NS
	Female	98	84.23	10.23	

***Significant at 0.05 level**
**** Significant at 0.01 level**
NS- Not Significant

From the table-1 clearly indicates that the calculated t value is lesser than the Table value. Hence, there is no significant difference between male and female science teacher trainees in their level of scientific attitude.

Table-2

Showing the difference in the level of scientific attitude among Urban and Rural Student Teachers

Dependent variable	Variable	Sample Size	Mean	S.D	't' Test
Scientific attitude	Urban	87	84.04	8.02	2.86**
	Rural	63	79.32	11.25	

***Significant at 0.05 level**
**** Significant at 0.01 level**
NS- Not Significant

From the table-2 clearly indicates that the calculated t value is greater than the Table value. Hence, there is significant difference between urban and rural science teacher trainees in their level of scientific attitude. It is clear that scores for the urban teacher trainees having greater Mean (M=84.04) than the rural teacher trainees (M=79.32).

Table-3

Showing the difference in the level of scientific attitude among Govt/Aided College student teachers and Unaided College Student Teachers

Dependent variable	Variable	Sample Size	Mean	S.D	't' Test
Scientific attitude	Govt/Aided	70	86.65	9.54	2.07*
	Unaided	80	80.14	12.12	

***Significant at 0.05 level**
**** Significant at 0.01 level**
NS- Not Significant

From the table-3 clearly indicates that the calculated t value is greater than the Table value. Hence, there is significant difference between Govt/Aided and Unaided science teacher trainees in their level of scientific attitude. It is clear that scores for the Govt/Aided college teacher trainees having greater Mean (M=86.65) than the Unaided college teacher trainees (M=80.14).

DISCUSSION AND RECOMMENDATION:

1. Gender is influencing the scientific attitude. This study indicates that if favourable facilities are provided to male and female student teachers, they will inculcate scientific attitude among the students in secondary school. The results are in common agreement with Shinde (1982), Ghosh (1989), Bhaskara Rao (1990) and Kumar (1991). This is a positive indicator for the gender equality.
2. Most of the urban B.Ed. colleges are equipped well with all the facilities; technology is available and the quality of teaching may also be good as many people say. This may be the reason for difference between them. There is a need to develop scientific attitude in rural area B.Ed. colleges by conducting relevant activities to promote their scientific activities.

3. Another important significant feature is Private unaided college students having less scientific attitude than compared to govt/aided B.Ed. college students. So policy makers and private managements should plan various activities to enhance scientific attitude among the students.
4. Scientific attitude is essential to an individual to lead a smooth and comfortable life in the society. An individual with good scientific attitude can understand the phenomena of nature and human behavior and accordingly in their own family as well as in the society in which they lives.
5. The scientific attitude also plays a major role in moulding teacher trainees. The facilities like library, laboratory, audio-visual aids and exposure to eminent personalities, participation in fairs, exhibitions' etc., will help in the inculcation and promotion of scientific attitude in the teacher trainees.

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