

# A Study on Attitude of Urban and Rural College Student Teachers towards Science

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*Abstract- There is a great need to identify and develop positive attitude towards science subject of student teachers. The time has come to increase our efforts to develop positive attitude towards science subject among teachers, student teachers and school children. This is an immediate requirement of the present day. This paper reports on attitude of student teachers towards science with respect to their locality of the college. Scale on attitude towards science was used to get the data from the student teachers. Percentage Analysis, Mean, Standard Deviations tests were used for analyzing the data. The results showed that there is no significant difference in attitude towards science of urban and rural student teachers.*

*Keywords: Attitude towards Science, Student Teachers, Locality of the College.*

## I. INTRODUCTION

Science is one of those human activities that man has created to gratify certain human needs and desires. Curiosity has been the greatest motive power of scientific research. The search for truth has become the dominant factor in persuasion of science. As it is under persuasion since so many centuries it has attracted the attention of a much persisted group of people. (Conant, 1951)

Science is no longer confined to a few seriously devoted persons. Since the life in the present world invariably warrants to variable degrees of scientific facts and laws, science has now become a part of general education. (Best, 1982) Science takes its place side by side with other subjects as an essential element of one's education. It affords knowledge of certain facts and laws and an insight into methods and data peculiar to the domain of science. (Sharma, 1989) However, the inclusion of any subject in the curriculum should satisfy the intellectual, utilitarian, vocational, cultural, moral and aesthetic values. Besides these, the teaching of science imparts training in the scientific method and develops positive attitude towards science subject, scientific aptitude, which are very valuable and at the same time are transferable to other situations in the life of the learners. The qualities imbibed by the learner through learning science are of great value to the citizens living in the society. (Vaidya & Narendra, 1976).

**The Scientific Policy Resolution of the Govt. of India (1958) states that** "The dominating feature of the contemporary world is the intense cultivation to meet the country's requirement. Science has now become a compulsory subject in the school curriculum in every system of school education right from the elementary stage, because of its multifarious values gifted to the individual as well as to the society." (Bhaskar rao, 1997)

An attitude is an emotional reaction towards a person or thing. It is a personal response to an object, developed through experience which can be characterized as favorable or unfavorable. (Hilgard, Atkinson & Atkinson, 1958). The use of science as the object or stimulus of these feelings delineates that set of attitudes known as 'attitude towards science' (Bhandula et al., 1985)

## II. NEED FOR THE STUDY

As one of the researchers and a teacher educator working in self-finance teacher education institution, the investigator had informal chats with the B.Ed. students and came to know about their level of attitude towards science. The author came to know that many student teachers did not possess adequate level of attitude towards science which is very much needed for them to undergo teacher education programme successfully that would help them to become successful teachers in the future and prepare the

Youngers for a bright future of the nation. As science is a universal subject, the investigator wanted to study the effect of locality on the college of student teachers upon attitude towards science. Under these circumstances, the investigator has decided to undertake a study on attitude of urban and rural college student teachers towards science.

### III. OBJECTIVES

- To find out the level of attitude towards science and its dimensions of student teachers.
- To find out whether there is any significant difference in the attitude towards science and its dimensions of student teachers with respect to their locality of the college.

### IV. HYPOTHESIS

- The level of attitude towards science and its dimensions of student teachers is moderate.
- There is no significant difference in the attitude towards science and its dimensions of student teachers with respect to their locality of the college.

### V. METHODOOGY

Survey method of research was adopted for the study. (Garrett & Woodworth, 1969).

#### Population and Sample for the Study

The population for the present study consists of all B.Ed. students of Madurai revenue district. 1080 B.Ed. students from 20 colleges of education, Madurai revenue district were selected through Random Sampling Technique for the study. The overall response rate was 82%.

#### Tools Used for the Study

For the present study, the investigator used the following tools,

- Attitude towards Science Scale prepared and validated by the investigator.
- A Likert scale was constructed. (Edwards, 1967). The questionnaire consists of 25 items. Among them 13 are positive items and 12 are

negative items. The tool included four dimensions namely personal confidence about the subject matter, involvement with the subject, usefulness of the subject content and perception of teacher's attitude.

- Personal Data Sheet prepared by the investigator.

### Data Analysis

To interpret the raw data, analyses were done using Percentage Analysis, Mean, Standard Deviation and 't' test. The results of the analyses are presented in the Tables 1, 2, 3. The results showed that,

1. The level of attitude towards science and its dimensions of all student teachers is moderate
2. The level of attitude towards science and its dimensions of student teachers in terms of locality of the college is moderate.

### Null Hypotheses:

3. There is no significant difference in the attitude towards science and its dimensions of student teachers with respect to their locality of the college. It is inferred from Table 3 that there is no significant difference between urban college student teachers and rural college student teachers in their attitude towards science in total, and its dimensions-personal confidence about the subject matter, involvement with the subject, and usefulness of the subject content, whereas there is significant difference between urban and rural college student teachers in the dimension-perception of teacher's attitude.

From the mean value, it is found that urban college student teachers ( $M=11.13$ ,  $S=2.772$ ) are better in their perception of teacher's attitude than rural college student teachers ( $M=10.77$ ,  $S=2.803$ ).

### VI. FINDINGS

1. a) 22.9% of the student teachers have high level of personal confidence about the subject matter.
- b) 25.9% of the student teachers have high level of involvement with the subject.

c) 27.6% of the student teachers have high level of usefulness of the subject content.

e) 25.1% of the student teachers have high level of attitude towards science in total. **(From Table 1)**

d) 28% of the student teachers have high level of perception of teacher's attitude.

| Dimensions                                   | Low |      | Moderate |      | High |      |
|----------------------------------------------|-----|------|----------|------|------|------|
|                                              | N   | %    | N        | %    | N    | %    |
| Personal Confidence about the subject matter | 257 | 23.8 | 576      | 53.3 | 247  | 22.9 |
| Involvement with the subject                 | 279 | 25.8 | 521      | 48.2 | 280  | 25.9 |
| Usefulness of the subject content            | 289 | 26.8 | 493      | 45.6 | 298  | 27.6 |
| Perception of teacher's attitude             | 322 | 29.8 | 456      | 42.2 | 302  | 28.0 |
| Attitude towards science in total            | 278 | 25.7 | 531      | 49.2 | 271  | 25.1 |

**Table 1.** Level of attitude of student teachers towards science and its dimension

2. a) 26.7% of the urban college student teachers have high level of personal confidence about the subject matter and 20.1% of the rural college student teachers have high level of personal confidence about the subject matter.

of the rural college student teachers have high level of usefulness of the subject content.

b) 24.7% of the urban college student teachers have high level of involvement with the subject and 26.8% of the rural college student teachers have high level of involvement with the subject.

d) 31.5% of the urban college student teachers have high level of perception of teacher's attitude and 25.4% of the rural college student teachers have high level of perception of teacher's attitude.

c) 29.8 % of the urban college student teachers have high level usefulness of the subject content and 26.0%

e) 27.6 % of the urban college student teachers have high level of attitude towards science in total and 23.3% of the rural college student teachers have high level of attitude towards science in total. **(From Table 2)**

| Dimensions                                   | LOCALITY | Low |      | Moderate |      | High |      |
|----------------------------------------------|----------|-----|------|----------|------|------|------|
|                                              |          | N   | %    | N        | %    | N    | %    |
| Personal confidence about the subject matter | Urban    | 110 | 24.0 | 225      | 49.2 | 122  | 26.7 |
|                                              | Rural    | 147 | 23.6 | 351      | 56.3 | 125  | 20.1 |
| Involvement with the subject                 | Urban    | 120 | 26.3 | 224      | 49.0 | 113  | 24.7 |
|                                              | Rural    | 159 | 25.5 | 297      | 47.7 | 167  | 26.8 |
| Usefulness of the subject content            | Urban    | 116 | 25.4 | 205      | 44.9 | 136  | 29.8 |
|                                              | Rural    | 173 | 27.8 | 288      | 46.2 | 162  | 26.0 |
| Perception of teacher's attitude             | Urban    | 126 | 27.6 | 187      | 40.9 | 144  | 31.5 |
|                                              | Rural    | 196 | 31.5 | 269      | 43.2 | 158  | 25.4 |
| Attitude towards science in total            | Urban    | 121 | 26.5 | 210      | 46.0 | 126  | 27.6 |
|                                              | Rural    | 157 | 25.2 | 321      | 51.5 | 145  | 23.3 |

**Table 2.** Level of attitude of student teachers towards science and its dimensions in terms of locality of the college

3. There is no significant difference between urban college student teachers and rural college student teachers in their attitude towards science in total and its dimensions-personal confidence about the subject

matter, involvement with the subject, and usefulness of the subject content, whereas there is significant difference between urban and rural college student

teachers in the dimension-perception of teacher's attitude.(From Table 3)

| Dimensions                                   | Nature of the college |      |        | Calculated |           |                      |
|----------------------------------------------|-----------------------|------|--------|------------|-----------|----------------------|
| Personal confidence about the subject matter | Urban                 | Mean | SD     | Y value    | 'p' value | Remarks at 5 % level |
|                                              |                       | 110  | 5.131  | 1.402      | 0.161     | NS                   |
|                                              | Rural                 | 147  | 4.806  |            |           |                      |
| Involvement with the subject                 | Urban                 | 120  | 5.037  | 0.343      | 0.732     | NS                   |
|                                              | Rural                 | 159  | 5.178  |            |           |                      |
| Usefulness of the subject content            | Urban                 | 116  | 4.676  | 1.467      | 0.143     | NS                   |
|                                              | Rural                 | 173  | 4.804  |            |           |                      |
| Perception of teacher's attitude             | Urban                 | 126  | 2.772  | 2056       | 0.040     | S                    |
|                                              | Rural                 | 196  | 2.803  |            |           |                      |
| Attitude towards science in total            | Urban                 | 121  | 13.462 | 1.901      | 0.058     | NS                   |
|                                              | Rural                 | 157  | 13.559 |            |           |                      |

**Table 3. Significant difference in between urban and rural college student teachers in their attitude towards science and its dimensions**

## VII. DISCUSSIONS

From the present investigation, it is found that only 25.1% of the sample has high level of attitude towards science. While studying in terms of dimensions of attitude towards science, very small amount of the respondents have high level of personal confidence about the subject matter, involvement with the subject, usefulness of the subject content and perception of teacher's attitude. Moreover majority of the sample have moderate level of attitude towards science and its dimensions. This implies that the student teachers might have been exposed to minimum levels of science activities in their under graduate level and hence they possess a moderate level of attitude towards science.

With the sample of the study classified in terms of their locality of the college, it is observed that the 27.6 % of urban college student teachers have high level of attitude towards science and only 27.3 % of rural college student teachers have high level of attitude towards science. In the dimensions, personal confidence about the subject matter, involvement with the subject, and usefulness of the subject content, and in perception of teacher's attitude urban college student teachers are found to be better than the rural

college student teachers. This may be due to the fact that urban college student teachers have opportunities of better infrastructural facilities, versatile and qualified faculties and use of technological resources.

From the analysis of data in the present investigation, urban college and rural college student teachers do not differ significantly in their personal confidence about the subject matter, involvement with the subject and usefulness of the subject content and attitude towards science in total whereas they differ significantly in their perception of teacher's attitude. This may be due to the fact that urban college student teachers feel free to talk to their teachers and clarify their doubts regarding the subject and their career than rural college student teachers.

## VIII. RECOMMENDATIONS

The authors suggested the following for improving the attitude towards science of student teachers:

- It is found that attitude towards science of student teachers is moderate.
- The rural teacher educational institutions should provide rich environment

to improve the science learning skill of the students.

- Science exhibitions should be organized in institutions to stimulate student teachers natural curiosity.
- Science club, Eco club and Nature club should be established in institutions to encourage the student teachers to participate in club activities.
- The institutions should arrange outdoor activities like gardening, nature walk, visiting industries, camping etc in order to increase the attitude of student teachers in science.
- Student teachers should be encouraged to read magazines and Journals that deal with science.
- Co-curricular and Extracurricular activities should be encouraged to promote awareness about science.
- The mass media available may be properly utilized to create awareness towards science.

The institutions should provide high quality teacher educators to teach science.

#### IX. CONCLUSION

The author concluded that the locality-wise analysis on attitude of student teachers towards science brought out the fact that the rural college student teachers are lacking in personal confidence about the subject matter, involvement with the subject, usefulness of the subject content, perception of teacher's attitude and attitude towards science in total.

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