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A Study on Attitude of Urban and Rural College Students Towards Science

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ABSTRACTS

There is a great need to identify and develop a positive attitude towards science subject of students. The time has come to increase our efforts to develop a positive attitude towards science subjects among teachers and students. This paper reports on the attitude of students towards science. The sample consisted of 1080 students of the Madurai revenue district, India. A scale on attitude towards science was used to get the data from the students. Percentage Analysis, Mean, Standard Deviation, and t-tests were used for analyzing the data. The results showed that there is no significant difference in attitude towards science of urban and rural students.

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1. INTRODUCTION

Science is one of those human activities that man has created to gratify certain human needs and desires (Maryanti et al., 2021a; Maryanti & Nandiyanto 2021; Maryanti et al., 2021b). Curiosity has been the greatest motive power of scientific research. The search for truth has become the dominant factor in the persuasion of science. As it is under persuasion for so many centuries, it has attracted the attention of a much-persisted group of people. According to Farr (1993) Science is no longer confined to a few seriously devoted persons. Since life in the present world invariably warrants variable degrees of scientific facts and laws, science has now become a part of general education. According to Alsop and Watts (2003), 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 insight into methods and data peculiar to the domain of science. The inclusion of any subject in the curriculum should satisfy intellectual, utilitarian, vocational, cultural, moral, and aesthetic values (Schwab, 1958). Besides these, the teaching of science imparts training in the scientific method and develops a 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. The dominating feature of the contemporary world is the intense cultivation to meet the country's requirements. 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. An attitude is an emotional reaction towards a person or thing (Noll, 1935).

This paper reports on the attitude of students towards science. The sample consisted of 1080 students of the Madurai revenue district, India. A scale on attitude towards science was used to get the data from the students. Percentage Analysis, Mean, Standard Deviation, and t-tests were used for analyzing the data.

2. METHODS

2.1. Objectives

To find out whether there is any significant difference in the attitude towards science and its dimensions of students concerning their locality of the college.

2.2. Hypotheses

The level of attitude towards science and its dimensions of students is moderate. There is no significant difference in the attitude towards science and its dimensions of students concerning their locality of the college.

2.3. 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%.

2.4. Data Analysis

A survey method of research was adopted for the study. To interpret the raw data, analyses were done using Percentage Analysis, Mean, Standard Deviation, and t-test.

3. RESULTS AND DISCUSSION

The results of the analyses are presented in **Tables 1, 2, and 3**. The level of attitude towards science and its dimensions of all students is moderate 2. The level of attitude towards science and its dimensions of students in terms of the locality of the college is moderate.

Based on **Table 1** and **Figure 1**, 22.9% of the students have a high level of personal confidence about the subject matter. 25.9% of the students have a high level of involvement with the subject. 27.6% of the students have a high level of usefulness of the subject content. 28% of the students have a high level of perception of the teacher's attitude. 25.1% of the students have a high level of attitude towards science in total.

Table 1. Level of the attitude of students towards science and its dimensions.

Dimensions	Low		Moderate		High	
	N	%	N	%	N	%
Personal confidence about the subject matte	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

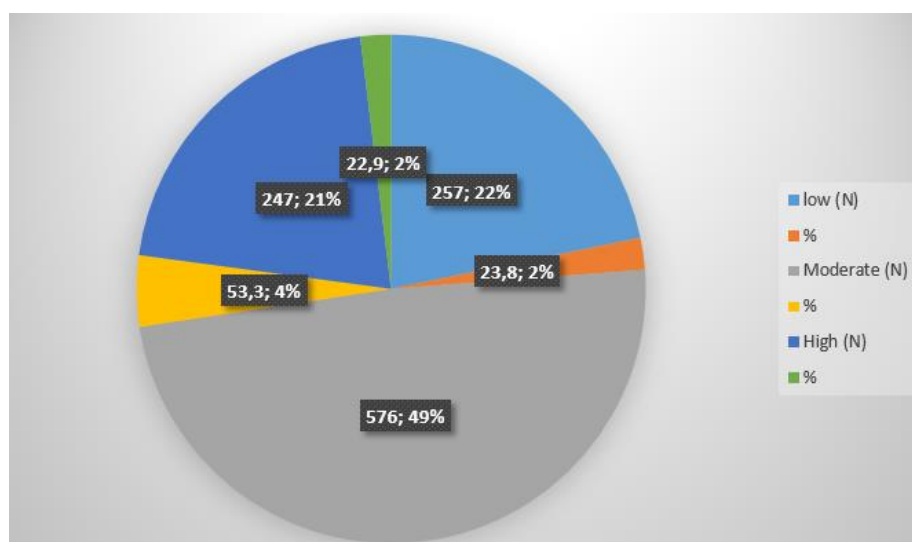


Figure 1. Personal confidence about the subject matter.

Based on **Table 2** and **Figure 2**, the following data was obtained:

- (i) 26.7% of the urban college students have a high level of personal confidence about the subject matter and 20.1% of the rural college students have a high level of personal confidence about the subject matter.
- (ii) 24.7% of the urban college students have a high level of involvement with the subject and 26.8% of the rural college students have a high level of involvement with the subject.
- (iii) 29.8 % of the urban college students have a high level of usefulness of the subject content and 26.0% of the rural college students have a high level of usefulness of the subject content.

- (iv) 31.5% of the urban college students have a high level of perception of teacher's attitude and 25.4% of the rural college students have a high level of perception of teacher's attitude.
- (v) 27.6 % of the urban college students have a high level of attitude towards science in total and 23.3% of the rural college students have a high level of attitude towards science in total.

There is no significant difference in the attitude towards science and its dimensions of students concerning their locality of the college. It is inferred from **Table 3** that there is no significant difference between urban college students and rural college students 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 a significant difference between urban and rural college students in the dimension-perception of teacher's attitude.

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

Dimensions	Locality	Low		Moderate		High	
		N	%	N	%	N	%
Personal 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

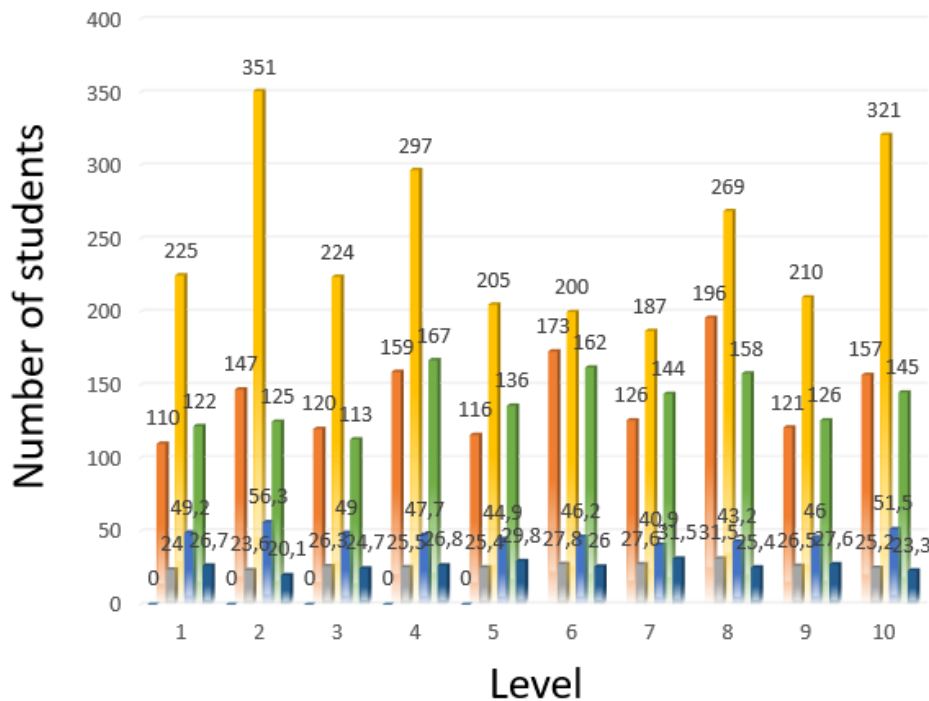


Figure 2. The curve of the level of attitude of students towards science and its dimensions in terms of the locality of the college.

Table 3. The significant difference between urban and rural college students in their attitude towards science and its dimensions.

Dimensions	Nature of The College	Mean	SD	Calculated 't' Value	p-Value	Remarks at 5% Level
Personal confidence about the subject matter	Urban	26.13	5.131	1.402	0.161	NS
	Rural	25.71	4.806			
Involvement with the subject	Urban	25.97	5.037	0.343	0.732	NS
	Rural	26.08	5.178			
Usefulness of the subject content	Urban	20.74	4.676	1.467	0.143	NS
	Rural	20.31	4.804			
Perception of teacher's attitude	Urban	11.13	2.772	2.056	0.040	S
	Rural	10.77	2.803			
Attitude towards science in total	Urban	84.02	13.462	1.901	0.058	NS
	Rural	82.44	13.559			

From the present investigation, it is found that only 25.1% of the sample has a high level of attitude towards science. While studying in terms of dimensions of attitude towards science, a very small amount of the respondents has a 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, the majority of the sample have a moderate level of attitude towards science and its dimensions. This implies that the students might have been exposed to minimum levels of science activities at their undergraduate level and hence they possess a moderate level of attitude towards science.

The following factors for improving the attitude towards science of students are:

- (i) It is found that the attitude towards science of students is moderate. The rural teacher in educational institutions should provide a rich environment to improve the science learning skill of the students.
- (ii) Science exhibitions should be organized in institutions to stimulate students' natural curiosity.
- (iii) Science club, Eco club, and Nature club should be established in institutions to encourage the students to participate in club activities.
- (iv) The institutions should arrange outdoor activities like gardening, nature walk, visiting industries, camping, etc to increase the attitude of students in science.
- (v) Students should be encouraged to read magazines and journals that deal with science.
- (vi) Co-curricular and Extracurricular activities should be encouraged to promote awareness about science.
- (vii) The mass media available may be properly utilized to create awareness of science.
- (viii) The institutions should provide high-quality teachers and educators to teach science.

4. CONCLUSION

The locality-wise analysis on the attitude of students towards science brought out the fact that the rural college students 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.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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