A GENDER WISE ANALYSIS ON ATTITUDE OF STUDENT TEACHERS TOWARDS SCIENCE

Dr. S.PRAKASH , Assistant Professor in Physical Science, TVS Teacher Training Academy, Veerapanchan, Madurai

Rev.Dr.S.Amaladoss Xavier.S.J.

Assistant professor in Physical Science, St.Xavier's College of Education, Palayamkottai

ABSTRACT

This paper reports on attitude of student teachers towards science with respect to their gender. The sample consisted of 1080 student teachers of Madurai revenue district. A scale on attitude towards science was used to get the data from the student teachers. Percentage analysis, Mean, Standard deviation and 't' test were used for analyzing the data. The results showed that there is no significant difference in the attitude of male and female student teachers towards science.

INTRODUCTION

Professional success of a man mainly depends on his up-to-date professional knowledge, fullest devotion and dedication along with efficiency and effectiveness. In the present day world with advancement in technology, these qualities can be inducted only through education, since teaching occupies an honorable position in any country.(Bhaskara Rao, 1997)

. Although the word attitude is used too frequently in everyday conversation, it cannot be wholly described by a single numerical index because of its complexity and variability. Allport, after a careful consideration of various senses in which it has been used, proposed the following definition:

An attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related (Conant, 1951)

Developing positive attitudes towards science has been an exposed goal of most of the curriculum development efforts since the last 1950s. It was hoped that increasing interest in science would result in increased science enrolment which in turn would yield a larger science work force pool and a science

literate public. The increased attention to the effective outcomes of science has also resulted in a proliferation of attitude research studies, more measuring techniques, and several attempts to measure attitude towards science on an international scale. (Edwards Allen, 1957)

NEED FOR THE STUDY

As one of the researchers is a teacher educator working in a 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. He came to know that many student teachers did not possess adequate level of attitude towards science very much needed for them to undergo the teacher education programme successfully that would help them to become successful teachers in the future and prepare the youth for a bright future of the nation. Under these circumstances, the investigator has decided to undertake a comparative analysis on the attitude towards science of student teachers with respect to gender.

OBJECTIVES

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

HYPOTHESES

There is no significant difference in the attitude towards science and its dimensions of student teachers with respect to their gender.

METHODOLOGY

Survey method of research was adopted for the study.

POPULATION AND SAMPLE FOR THE STUDY

The population for the present study consisted of 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.

TOOLS USED FOR THE STUDY

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

1. Attitude towards Science Scale prepared and validated by the investigator
2. 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 following tables.

1. Level of attitude towards science and its dimensions of student teachers.

Table 1

LEVEL OF ATTITUDE OF STUDENT TEACHERS TOWARDS SCIENCE AND ITS DIMENSIONS

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 toto	278	25.7	531	49.2	271	25.1

2. Level of attitude towards science and its dimensions of student teachers in terms of gender.

Table 2

LEVEL OF ATTITUDE OF STUDENT TEACHERS TOWARDS SCIENCE AND ITS DIMENSIONS IN TERMS OF GENDER

Dimensions	Gender	Low		Moderate		High	
		N	%	N	%	N	%
Personal confidence about the subject matter	Male	86	27.2	158	50.0	72	22.8
	Female	171	22.4	418	54.7	175	22.9
Involvement with the subject	Male	95	30.1	151	47.8	70	22.2
	Female	184	24.1	370	48.4	210	27.5
Usefulness of the subject content	Male	76	24.1	154	48.7	86	27.2
	Female	213	27.9	339	44.4	212	27.7
Perception of teacher's attitude	Male	82	25.9	140	44.3	94	29.7
	Female	240	31.4	316	41.4	208	27.2
Attitude towards science in toto	Male	78	24.7	165	52.2	73	23.1
	Female	200	26.2	366	47.9	198	25.9

NULL HYPOTHESIS

There is no significant difference in the attitude towards science and its dimensions of student teachers with respect to their gender. Table 3

SIGNIFICANT DIFFERENCE BETWEEN MALE AND FEMALE STUDENT TEACHERS IN THEIR ATTITUDE TOWARDS SCIENCE AND ITS DIMENSIONS

Dimensions	**Gender**	**Mean**	**SD**	**Calculated 't' Value**	**'p' Value**	**Remark at 5% Level**
Personal confidence about the subject matter	Male	25.66	5.012	0.964	0.335	NS
	Female	25.98	4.922			
Involvement with the subject	Male	25.63	4.887	1.680	0.093	NS
	Female	26.20	5.203			
Usefulness of the subject content	Male	20.60	4.589	0.481	0.630	NS
	Female	20.45	4.821			
Perception of	Male	11.10	2.630	1.348	0.178	NS

teacher's attitude	Female	10.85	2.857			
Attitude towards science in toto	Male	82.90	13.019	0.329	0.742	NS
	Female	83.19	13.749			

It is inferred from the above table that there is no significant difference between male and female student teachers in their attitude towards science in toto and its dimensions personal confidence about the subject matter, involvement with the subject, usefulness of the subject content and perception of teacher's attitude.

FINDINGS

1. a) 22.9% of the student teachers have a high level of personal confidence about the subject matter.

   b) 25.9% of the student teachers have a high level of involvement with the subject.

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

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

   e) 25.1% of the student teachers have a high level of attitude towards science in toto.

2. a) 22.8% of the male student teachers have a high level of personal confidence about the subject matter and 22.9% of the female student teachers have a high level of personal confidence about the subject matter.

   b) 22.2% of the male student teachers have a high level of involvement with the subject and 22.5% of the female student teachers have a high level of involvement with the subject.

   c) 27.2 % of the male student teachers have a high level attitude concerning the usefulness of the subject content and 27.9% of the female student teachers have a high level of usefulness of the subject content.

   d) 29.7% of the male student teachers have a high level of perception of teacher's attitude and 27.2% of the female student teachers have high level of perception of teacher's attitude.

e) 23.1 % of the male student teachers have a high level of attitude towards science in toto and 25.1% of the female student teachers have a high level of attitude towards science in toto.

3. There is no significant difference between male and female student teachers in their attitude towards science in toto and its dimensions: personal confidence about the subject matter, involvement with the subject, usefulness of the subject content and perception of teacher's attitude.

DISCUSSION

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 number of the respondents have 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 a majority of the sample have a 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 days and hence they possess a moderate level of attitude towards science.

. With the sample of the study classified in terms of their gender, it is observed that 25.9 % of female student teachers have a high level of attitude towards science and only 23.1 % of male student teachers have a 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 female student teachers are found to be better than male student teachers. This shows that female student teachers have wider range of exposure to science than their counterparts. In the dimension perception of teacher's attitude, male student teachers are found to be better than their counterparts. This may be due to the fact that male student teachers move freely with their teachers.

From the analysis of data in the present investigation, male and female student teachers do not differ significantly in their 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 toto. Moreover, the present study reveals another important as well as interesting finding that though the male and female student teachers do not differ in their attitude towards science, the female student teachers have established superiority in their mean scores on personal confidence about the subject matter, involvement with the subject and attitude towards science in toto. This shows the fact that female students feel confident and involved in studying science as a subject and have a positive mindset towards science.

SUGGESTIONS

The authors suggest the following for improving the attitude towards science in student teachers:

i. For improving the personal confidence about the subject matter and involvement with the subject, they should be properly guided with necessary guidance programmes on science awareness and science interest.

ii. Female student teachers should be briefed on various job opportunities awaiting them after studying science. They should be trained to move close with their science teachers and overcome the hindrances.

iii. The teacher educators who are involved in the training of future teachers should inculcate science values among students. Apart from the regular classroom activities the teacher educators should spend more time with the student teachers to develop such values.

CONCLUSION

The authors conclude that the gender wise analysis on attitude of student teachers towards science brought out the fact that the male student teachers are lacking in personal confidence about the subject matter, involvement with the subject and attitude towards science in toto.

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