

Research Article

Attitude towards Science and Personality Dimensions of Student Teachers**Rev.Dr. S. Amaladoss Xavier SJ**

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Abstract

This paper reports on attitude towards science and personality dimensions of student teachers. The sample consists of 1080 student teachers of Madurai revenue district. A scale on attitude towards science was used to get the data from the student. Percentage analysis, 't' test, chi-square test and Pearson-product moment correlation were used for analyzing the data. The result shows that there is a positive correlation between attitude towards science and personality dimensions of student teachers.

Keywords: Attitude towards Science, Personality Dimensions, Student Teachers, Correlation, Madurai District, Educational Research, t-Test, Chi-Square Test, Pearson Correlation

INTRODUCTION

Modern society is being influenced by the scientific environment and its application and science has become an integral part of our daily life. A citizen of modern India sees the countless manifestations of science around him. According to Education Commission, "Science education must become an integral part of school education and ultimately study of science should become a part of all courses in the humanities and social sciences at the University stage." The Commission further says that "mingling of science and spirituality is of special significance for Indian education."

Having undergone the process of education every individual forms some kind of attitude towards science. These attitudes are likely to be permanent. Student teachers (B.Ed. Trainees) are adults who have chosen teaching as their profession with a willingness to undergo a positive attitude towards different subjects including science. Hence the prospective secondary school science teachers are expected to possess positive attitudes towards science

which helps to improve themselves and to motivate the students in learning science and also in encouraging learning, training and research in the field of science.

OBJECTIVES OF THE STUDY

- ❖ To find out the level of attitude towards science and personality dimensions of student teachers.
- ❖ To find out the relationship between attitude towards science and personality

NULL HYPOTHESIS

- ❖ There is no significant difference in attitude towards science of student teachers with respect to a) Gender, b) Type of college, c) Nature of college
- ❖ There is no significant association in attitude towards science of student teachers with respect to Educational Qualification
- ❖ There is no significant difference in personality dimensions of student teachers with respect to a) Gender, b) Type of college, c) Nature of college
- ❖ There is no significant association in personality dimensions of student teachers with respect to Educational Qualification

METHODS

Survey method of research was adopted for the study.

SAMPLE

1080 B.Ed., students from 20 colleges of education, Madurai revenue district were selected through random sampling technique for the study.

TOOL

Attitude towards Science Scale developed by the investigator, Multi-Dimensional Personality Inventory by Manjurani Agarwal were used for data collection.

DATA ANALYSIS

Percentage analysis, 't' test, chi-square test and Pearson- product moment correlation were used for analyzing the data.

LEVEL OF ATTITUDE TOWARDS SCIENCE AND PERSONALITY DIMENSIONS OF STUDENT TEACHERS

Table -1

Level Of Attitude Towards Science And Personality Dimensions Of Student Teachers.

S.No	Level of attitude towards science	No. of students	%	Level of personality dimensions	No. of students	%
1.	Low	112	10.4	Low	146	13.5
2.	Moderate	771	71.4	Moderate	777	71.9
3.	High	197	18.2	High	157	14.5
4.	Total	1080	100.0	Total	1080	100.0

It is inferred from the above table that 10.4% student teachers have low level, 71.4% student teachers have moderate level and 18.2% of student teachers have high level of attitude towards science. Further it is inferred that 13.5% student teachers have low level, 71.9% student teachers have moderate level and 14.5% of student teachers have high level of personality dimensions.

ATTITUDE TOWARDS SCIENCE OF STUDENT TEACHERS

Table -2

Difference In Attitude Towards Science of Student Teachers

Factor		N	Mean	S.D	t value	Remarks
Gender	Male	316	82.90	13.019	0.329	NS
	Female	764	83.19	13.749		
Type of college	Women	555	82.95	13.418	0.387	NS
	Coeducation	525	83.27	13.667		
Nature of college	Govt. Aided	90	90.24	14.437	5.291	s
	Self-finance	990	82.46	13.268		

(At 5% level of significance the t value is 1.96)

It is inferred from the above table that the calculated values (0.329 & 0.387) are less than the table value of 't' (1.96). Hence the null hypotheses are accepted. Thus there is no significant difference between male and female, women and co-education student teachers in

attitude towards science. As the calculated value (5.291) is greater than the table value of 't' (1.96) the null hypothesis is rejected.

Thus there is significant difference between Govt. Aided and self-financing student teachers in attitude towards science.

ATTITUDE TOWARDS SCIENCE AND EDUCATIONAL QUALIFICATION OF STUDENT TEACHERS

Table 3

Association between Attitude towards Science and Educational Qualification of Student Teachers

Factors		Attitude towards science				df	Calculated Chi- square value	Remarks
		Low	Moderate	High	Total			
Educational qualification	UG	82	600	157	839	4	3.983	NS
	PG	27	141	36	204			
	M.Phil	3	30	4	37			

(For 4 df at 5% level of significance the Chi - square value is 9.488)

It is inferred from the above table that the calculated Chi - square value (3.983) is less than the table value of Chi - square (9.488). Hence the null hypotheses are accepted. Thus there is no significant association between educational qualification of student teachers and their attitude towards science.

PERSONALITY DIMENSIONS OF STUDENT TEACHERS

Table- 4

Difference In Personality Dimensions Of Student Teachers

Factors		N	Mean	S.D	t value	Remarks
Gender	Male	316	217.22	21.347	1.593	NS
	Female	764	215.10	19.217		
Type of college	Women	555	214.69	20.007	1.744	NS
	Coeducation	525	216.80	19.700		
Nature of college	Govt.Aided	90	218.94	19.285	1.609	NS
	Self-finance	990	215.43	19.913		

(For 1078 df at 5% level of significance the t value is 1.96)

It is inferred from the above table that the calculated 't' values (1.593, 1.744 and 1.609) are less than the table value of 't' (1.96). Hence the null hypotheses are accepted. Thus there is no significant difference between male and female, women and co-education, Govt. Aided and self-finance student teachers in personality dimensions.

PERSONALITY DIMENSIONS AND EDUCATIONAL QUALIFICATION OF STUDENT TEACHERS

Table - 5

Association between Personality Dimensions and Educational Qualification of Student Teachers

Factors		Attitude towards science				df	Calculated Chi-square value	Remarks
		Low	Moderate	High	Total			
Educational qualification	UG	110	600	129	839	4	3.216	NS
	PG	30	152	22	204			
	M.Phil	6	25	6	37			

(For 4 df at 5% level of significance the Chi - square value is 9.488)

It is inferred from the above table that the calculated Chi- square values (3.276) is less than the table value of Chi - square (9.488). Hence the null hypotheses are accepted. Thus there is no significant association between educational qualification of student teachers and their personality dimensions.

ATTITUDE TOWARDS SCIENCE AND PERSONALITY DIMENSIONS OF STUDENT TEACHERS

Table 6

Correlation between Attitude towards Science and Personality Dimensions of Student Teachers

Factors	Table value	Calculated r value	Remarks
Attitude towards science and personality dimensions	0.081	0.223	S

It is inferred from the above table that the calculated r value (0.223) is greater than the table value (0.081). Hence the null hypothesis rejected. Thus there is a significant correlation of attitude towards science on personality dimensions of student teachers.

FINDINGS

1. Attitude towards science

- 1.1. 10.4% of student teachers have high level of attitude towards science.
- 1.2. Male and Female student teachers do not differ in their attitude towards science.
- 1.3. There is no significant difference between the student teachers studying in women and coeducational colleges in their attitude towards science.
- 1.4. There is significant difference between Govt. Aided and Self finance student teachers in their attitude towards science.
- 1.5. There is no significant association between attitude towards science and educational qualification of student teachers.

2. Personality dimensions

- 2.1. 14.5% of students have high level of Personality dimensions.
- 2.2. Male and Female student teachers do not differ in their Personality dimensions.
- 2.3. There is no significant difference between the student teachers studying in women and coeducational colleges in their Personality dimensions.
- 2.4. There is no significant difference between Govt. Aided and self-finance student teachers in their Personality dimensions.
- 2.5. There is no significant association between Personality dimensions and educational qualification of student teachers.

3. Relationship between attitude towards science and personality dimensions of student teachers.

- 3.1. There is a significant correlation between attitude towards science and personality dimensions.

INTERPRETATIONS

The 't' test results shows that there is no significant difference in the attitude of male and female student teachers towards science subject. It can be said that gender when given

equal opportunities has no role to play in the attitude of male and female student teachers towards science subject.

The 't' test also reveals that there is a significant difference in Govt. Aided and Self Financing student teachers in attitude towards science. This may be because of Govt. Aided colleges having good institutional facilities, experienced faculty conducting more workshops and seminars for the science students. It is also inferred from the association studies there is no association between attitude of student teachers and their educational qualifications.

It is clear from the above study that there is no significant difference in personality dimensions of student teachers with respect to Gender, Type of college and Nature of college. This clearly indicates that the above variables do not have influence on personality dimensions of student teachers. It is also inferred from the association studies that there is no association between personality dimensions of student teachers and educational qualification.

It is clear from the above study there is a significant correlation between attitude towards science and personality dimensions of student teachers.

RECOMMENDATIONS

1. The colleges have to take responsibility to conduct seminar and workshop to develop and to improve the positive attitude of the B.Ed., college students towards science.
2. The students should realize their responsibilities and to develop positive attitude towards science.
3. Technological tools and software can be used in classroom science teaching which can enhance positive attitude towards science. Student teachers can be encouraged to perform various science projects.

REFERENCES

- ♣ Aggarwal J.C (2001), Teacher and Education in a developing society, Vikas Publishing House, Delhi.
- ♣ Bakari and Rosenna (2000), Development and validation of an instrument to measure pre-service teacher's attitudes toward teaching African American students. Dissertation Abstracts International, Vol.61, No.6, December 2000.

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- ♣ Biranchi Narayan Dash (2007), Teacher and Education in the emerging Indian society: Pune, Neelkamal Publications Private Limited.
 - ♣ Patterson and Barbara Patricia (1993), Attitudinal, behavioral, and demographic predictors of elementary teacher's level of self-concern for science teaching: A test of
 - ♣ Fuller's Stages of Concern for teaching model. Dissertation Abstracts International, Vol.54, No.9, March 1994.
 - ♣ Suresh Bhatnagar, Anamika Saxena and Sanjay Kumar (2006), Development of Educational system in India: Meerut, R.Lall Book Depot.
 - ♣ Wolfe and Ron (1993), Experience, gender, marital status, and the 16PF questionnaire as predictors of American teacher's effectiveness in South East Asia schools. Dissertation Abstracts International, Vol.54, No.9, March 1994.