



A STUDY ON SCIENTIFIC TEMPER OF B. ED STUDENTS IN NAGALAND

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Abstract: The word 'Scientific Temper' was coined by India's first prime minister Jawaharlal Nehru in his book "The discovery of India" where he referred scientific temper to be an attitude of logical and rational thinking. Scientific Temper of B. Ed students in Nagaland has been investigated in order to know the level of Scientific Temper of B. Ed students. All B. Ed students from Nagaland was considered as population of the study where 550 samples were randomly selected from 8 B. Ed colleges of Nagaland. Mean, SD, t-test and ANOVA were used to find out the significant differences with respect to gender, management and pedagogy. The findings showed that B. Ed students in Nagaland have high level of Scientific Temper. The findings further revealed that no significant differences were found in the Scientific Temper of B. Ed students with regard to gender, management and pedagogy. However, significant differences were found between 'free from superstition' dimension of Scientific Temper and pedagogy where the computed Fvalue was 2.663 which is significant at 0.01 level of significance.

Key Words: Scientific Temper, B Ed students, gender, management, pedagogy, Nagaland.

1. INTRODUCTION:

History itself is a proof that the root cause of any change in the society is education. Besides knowledge dissemination, education aims to develop humanity in people. It shapes the behaviour of students in a desirable way. The overall development of a student which includes transfer of knowledge and modification of behaviour can be achieved through teachers.

The all-round development of a student relies heavily on teachers and therefore besides imparting knowledge, teachers are expected to facilitate and guide the students according to their needs and abilities. Understanding the learners and going to their level is a scientific process and it will be achieved only when teachers facilitate the learners to be curious, rational, objective, open-minded and free from superstition.

The word 'Scientific Temper' was coined by India's first prime minister Jawaharlal Nehru in his book "The discovery of India" where he referred scientific temper to be an attitude of logical and rational thinking. Nehru believed that a person with scientific temper will consider scientific method of decision making in his daily affairs.

Scientific Temper, although has an association with the word 'scientific' does not essentially talk about the knowledge, theories or laws of physics, biology, chemistry or any other subject nor does it exclusively implicate about scientific inventions and discoveries. Scientific temper is not an outcome of science and technology but rather an outlook which enables ordinary citizens to choose knowledge that is reliable and efficient while making decisions for him and for the society. Scientific Temper is measured by how ordinary people use scientific approach in their everyday life (Roy, 2007). Not all educated people can have Scientific Temper. Rather a person who is curious, rational, objective, skeptical and open minded will be called scientifically tempered.



Nagaland is a state in northeast region of India and is a home to 18 diverse indigenous tribes having distinct culture from the rest of the mainland. As per 2011 census Nagaland holds an impressive literacy rate of 79.55% making it the 4th highest literacy rate of our country. This also indicates that the state gives major emphasis on education and many initiatives have been implemented to improve its status. Kohima is the capital city of Nagaland and Dimapur its commercial hub. In Nagaland, there are number of teacher education institutions offering professional courses at Montessori, elementary, secondary and higher secondary levels. Some of these institutions are managed by the government while some are taken care of by private. All these institutions are affiliated to Nagaland University and they follow the norms prescribed for teacher education institutions. As per date, there are 2 government and 6 private B. Ed colleges in Nagaland.

B. Ed or Bachelors in Education is a professional degree programme for secondary and higher secondary teachers which is offered for a period of two years. Initially, the programme was designed for 1 year only but was augmented to 2 years as per NCTE 2014 regulations. As per the programme and outlines prescribed by NCTE for teachers, courses are designed in such a way so to make them reflective practitioners through rigorous field engagement with children, community and schools. In any educational programme the most important element is the teacher as he is mainly responsible for implementation of educational process at every stage. Besides parents it is teachers who help students gain knowledge and know their life purpose.

Inculcating Scientific Temper has been mentioned in the Indian constitution as one of the fundamental duties of the citizens. While the latest education policy NEP 2020 laid emphasis on developing good human beings with rational thinking, empathy and creativity of every individual, it also mentions about fostering Scientific Temper (NEP 2020, page 39). This clearly designates the importance of fostering scientific temper. Therefore, the researcher felt the need to know the Scientific Temper of B. Ed students as it is through them that students will learn to inculcate scientific temper in their day-to-day life which will eventually help them become accountable leaders and contributors of the nation. Developing such trait of age-appropriate level is a requirement for any country and realizing its importance it has been included in the constitution of India in 1976 as one of the fundamental duties which says, "To develop scientific temper, humanism and the spirit of inquiry and reform." The need of the society is changing very rapidly and teachers need to have scientific temperament so that they can work progressively and scientifically to fulfill the needs of the learners.

Para 5.24 of NEP 2020 specifically highlighted the practice of Fundamental duties (Article 51 A) of Indian constitution in teaching or doing activity in any subject in all B. Ed programmes. Fostering of Scientific Temper among the students rests on teachers. As students spend most of their time in school the impact of teachers on students is evident. It is through teachers that students develop the ability to question, reason, critique, supplement, solve, discover, experiment, appreciate and put it into practice into their daily lives. Teachers mould the younger generation so that they can face the future with resilience. Therefore, it is very important to know the Scientific Temper of B. Ed students because once they enter their profession as teachers after their professional course, students will imbibe knowledge from them that will eventually enable the learners shape the future of our nation.

2. LITERATURE REVIEW

Mudasir & Yatu (2013) investigated "A comparative study of scientific temper and academic achievement of Kashmir and Pakhtoon students" using Nadeem and Khalidas Scientific temper scale on 120 government school students. The findings of the study revealed that Kashmiri and Phaktoon students exhibit similar scientific temper. Also, no significant difference between was found between Kashmiri boys (M=29.26) and girls (M=29.66), Phaktoon boys (M=29.26) and Kashmiri boys (M=29.06).

Kour (2015) conducted "scientific temper among academically high and low achieving adolescent girls" where 120 school going adolescent girls were randomly selected. The findings revealed that none of the high and low achieving girls have high level of scientific temper. Significant differences were found between high and low achieving adolescent girls on scientific temper dimensions 'objectivity' and 'rationality' where high achieving adolescent girls are more rational and objective. whereas on dimensions of open-mindedness and aversion to superstition, no significant differences were found.

Basu & Aslam (2015) conducted "Scientific temper and academic achievement of rural and urban secondary school students" on 200 rural and 200 urban secondary school students using random sampling method. The findings showed



that 76.75% of secondary school students have average level of scientific temper and 9.50% of rural secondary students and 11% of urban secondary students have high scientific temper. The study revealed that there is significant difference between rural and urban secondary school students on rationality dimension suggesting that rural students are more rational as compared to urban students. With regard to superstitious dimensions there is significant difference between rural and urban secondary school students signifying that rural secondary students ($M=4.92$) are more averted to superstition than urban students ($M=4.46$). On dimensions such as curiosity, open-mindedness and objectivity no significant differences were found. On academic achievement significant differences were found between rural ($M=62.40$) and urban secondary students ($M=69.61$). The mean difference favored urban secondary students confirming that urban students have higher academic achievement than rural secondary students.

Kapri (2017) conducted “A study on scientific temper and scientific creativity of senior secondary students.” The sample comprised of 60 senior secondary science students. The comparison of mean scores suggest that boys and girls were equal in their scientific temper. With regard to scientific creativity between boys and girls of senior secondary science students, girls are found to be more creative than boys. Also, significant correlation (0.76) was found between scientific temper and scientific creativity of senior secondary science students.

Thakur and Bhat (2018) investigated “scientific temper among secondary school students with respect to their gender” on 100 secondary school students in Shimla District using random sampling technique. Singh (1998) questionnaire was used to test the scientific temper of students. Significant difference was found between male ($M=150.50$) and female ($M=122.60$) on scientific temper at 0.05 significance level revealing that male secondary students have higher scientific temper than female secondary students.

Mehraj (2018) investigated on “study of scientific temper among secondary school learners and found out that out of 300 samples, 49.3% ($N=148$) of secondary students have higher level of scientific temper and none have low level of scientific temper. The study revealed that rural secondary school students have higher level of scientific temper ($N=113$, 75.3%) as compared to urban secondary school students ($N=35$, 23.3%). The study also indicates that there is significant difference between rural and urban secondary school students at 0.01 level of significance with mean scores suggesting that rural ($M=38.24$) secondary students display better scientific temper than urban ($U=30.53$) secondary school students.

Ghani (2018) conducted a study on “scientific temper and academic achievement of children of working and non-working mothers of Madhya Pradesh India” and found out that there is no significant difference between scientific temper of children of working and non-working mothers. The comparison of mean scores suggests that Children of working mothers are more curious, open-minded and more rational whereas, children of non-working mothers are more patient and cooperative. The study also disclosed that there is no significant difference between children of working ($M=70.39$) and non-working mothers ($M=71.22$) on academic achievement.

Jahanger & Dar (2019) conducted “scientific temper of rural and urban senior secondary school students” on 150 urban and 150 rural senior secondary students where samples were selected randomly. The study showed that there is significant difference between rural and urban senior secondary students on scientific temper at 0.01 level of significance with urban ($M=5.19$) senior secondary school students exhibiting better scientific temper as compared to rural ($M=4.56$) senior secondary school students.

Singhal (2021) investigated “scientific temperament of high school pass students: Reflectors for future” to find out the scientific temper of high school pass students pursuing teacher education programme who have completed their first year. The findings revealed that out of 90 respondents 16 had low level (0-18), 60 had average level (19-31) and 14 had high level (32-50) of scientific temper.

Saher & Malik (2022) conducted a study on “Scientific temper among secondary school students-A comparative study” using a scale having a scale measuring curiosity, open mindedness, objectivity, rationality and aversion to superstition. The findings depict that both male and female secondary school students have same level with regard to open mindedness and aversion to superstition dimensions however, female students exhibited better in objectivity and rationality dimensions and have stronger aversion to superstitious beliefs.



Acharya & Mohanty (2022) conducted “Scientific temper among junior high school students at Balasore District, Odisha” on 112 students of 10th standard studying in government schools. The findings revealed that there is significant difference in the mean scores of boys (M=69.74) and girls (M=73.19) revealing that girls have better scientific temper. The findings of the study also show that there is significant difference in the mean score of rural (M=68.65) and urban (M=72.64) high school students.

Taili & Rasheed (2023) conducted “a comprehensive study of scientific temperament among higher secondary students on District Baramulla, J& K” and 100 samples were randomly selected. Statistical test like mean, SD and t-test were used. The findings exhibited that 70% of secondary students have average level of scientific temper. Mean scores of males (M=33.42) and females (M=32.66) higher secondary students are almost same indicating that there are no significant differences were found between male and female secondary students.

Rasheed & Bhat (2023) conducted a study on “Exploring scientific temperament among secondary school students: Gender based study.” Using percentage statistics, mean, standard deviation and t-test data was analyzed. Majority of male and female secondary students exhibited higher level of scientific temper and none were found to have poor scientific temper.

Lokhande & Shinde (2023) investigated on scientific temperament of secondary school students with respect to subject stream and demographic variable where survey method was used. 73 secondary students were selected using convenient sampling method. Dr K. K Dubey scientific temper scale was used to measure the scientific temper. The study revealed that male students exhibited higher level of scientific temper as compared to female students.

3. OBJECTIVES OF THE STUDY

- To know the level of scientific temper of B. Ed students in Nagaland.
- To compare the scientific temper of B Ed students on the basis of gender, management and pedagogy opted for teaching subjects.

4. HYPOTHESES OF THE STUDY

- There is no significant difference in the Scientific Temper of male and female B.Ed. students.
- There is no significant difference in the Scientific Temper of Government and Private B.Ed. students.
- There is no significant difference in Scientific Temper of B.Ed. Students from different pedagogy.

5. RESEARCH METHOD

The population of the study comprised of all B. Ed students from Nagaland. Descriptive survey method was employed and the sample comprised of both male and female B. Ed students from government and private B. Ed institutions belonging to different pedagogies viz, pedagogy of social science, pedagogy of English, pedagogy of science and pedagogy of mathematics. Random sampling technique was used and 550 B. Ed students were randomly selected from 8 B. Ed colleges of Nagaland. Self-constructed tool on ‘Scientific Temper of B. Ed students’ was developed by the researcher and after validating the research tool with the help of experts, it was administered to B. Ed students for pilot study where questionnaires were sent through google forms. Split-half reliability was established through odd and even method and the reliability coefficient were estimated by using cronbach alpha (α). Likert 5-point scale was used in preparing the items The scientific temper scale consists of 28 items which consists of 15 negative statements and 13 positive statements. The scores of `positive statements were scored as 5, 4,3,2,1 and to the negative items as 1, 2,3,4,5 sequentially. The highest score is 140 and the lowest score is 28. Score range from 28-64 falls in low level, 65-102 falls in average level and 103-140 falls in high level of scientific temper. The questionnaires w distributed to B. Ed students and responses were collected personally by the researcher within a period of one month. The collected data were analyzed with the help of descriptive and inferential statistics to fulfill the objectives of the study. Descriptive statistics like percentages and frequency were carried out to find out the scientific temper of B. Ed students. Inferential statistics such as mean, standard deviation, t-test and ANOVA were used to find out the significant differences with regard to gender, management and pedagogy. To tabulate the data MS excel was used and for analysis of data SPSS was used by the investigator.



6. ANALYSIS AND INTREPRETATION OF THE STUDY

Objective 1: To know the level of scientific temper of B. Ed students in Nagaland.

Table 1: Level of Scientific Temper of B.Ed students

Dimensions of Scientific Temper	Levels of Scientific Temper			
	Low	Average	High	Total
Freedom from Superstition	2 (0.4)	194 (35.3)	354 (64.4)	550(100)
Open Mindedness	0 (0)	49 (8.9)	501 (91.9)	
Rationality	0 (0)	67 (12.2)	483 (87.8)	
Curiosity	1 (0.2)	189 (34.4)	360 (65.6)	

Figure in the parenthesis indicates percentage.

Table 1 shows the distribution of dimensions of scientific temper of B.Ed. students in Nagaland. According to the table, among the dimensions of Scientific Temper, majority of the B. Ed students have high level of scientific temper where 91.9% of the students are open minded which is the highest followed by rationality with 87.7% while curiosity dimension level was 65.6% and lastly freedom from superstition level of the students is 64.4%. From the results obtained, it has been observed that B. Ed students in Nagaland have ‘high level of Scientific Temper.’

Objective 2: To compare the scientific temper of B Ed students on the basis of gender, management and pedagogy opted for teaching subjects.

To achieve objective 2, hypothesis 1, 2 and 3 were tested which is given in the table below.

Table 2: Comparison of scientific Temper by Gender

Gender	Scientific Temper				Mean (SD)	‘t’ value	Remark
	Low	Average	High	Total			
Male	0(0)	29(18.7)	126(81.3)	155(100)	110.03 (9.2)	1.42	Not sig
Female	0(0)	96(17.5)	454(82.5)	395(100)	111.3 (9.6)		
Total	0(0)	96(17.5)	454(82.5)	550 (82.5)			

Figure in the parenthesis indicates percentage.

Table 1 presents the calculated t-value of overall Scientific Temper of B. Ed students with respect to gender. The computed value is 1.42 which is less than the tabulated value which is not significant. Therefore, the hypothesis, “**There is no significant difference in the scientific Temper of male and female B. Ed students**” is accepted. It indicates that gender does not play any significant role on the scientific Temper of B. Ed students in Nagaland.

Again, dimension wise, t-test were applied for all the dimensions of scientific temper and results are given in the following table 3.

Table 3: Comparisons of dimensions of scientific temper by gender

Gender	Dimensions of Scientific Temper				Mean (SD)	‘t’ value	Remark
	Freedom from Superstition						
	Low	Average	High	Total			
Male	2 (1.3)	58 (37.4)	95 (61.3)	155 (100)	30.68(4.338)	1.546	Not sig
Female	0 (0)	136 (34.4)	259 (65.6)	395 (100)	31.31(4.297)		
Total	2 (0.4)	194(35.5)	354 (64.4)	550(100)			
	Open-mindedness						
	Low	Average	High	Total			
Male	0(0)	16(10.3)	139 (89.7)	155 (100)	32.93(4.450)	.129	Not sig
Female	0(0)	33(8.4)	362(91.6)	395(100)	32.97(2.2771)		
Total	0(0)	49(8.9)	501(91.1)	550(100)			



	Rationality						
	Low	Average	High	Total			
Male	0(0)	18 (11.6)	137(88.4)	155 (100)	39.91(2.843)	1.267	Not sig
Female	0(0)	49 (12.4)	346 (87.6)	395(100)	40.30(3.355)		
Total	0(0)	67(12.2)	483(87.8)	550(100)			
	Curiosity						
	Low	Average	High	Total			
Male	0(0)	53 (34.2)	102 (65.8)	155 (100)	7.72(.972)	.730	Not sig
Female	1(0.3)	136 (34.4)	258 (65.3)	395(100)	7.79(1.101)		
Total	1(0.2)	189 (34.4)	360 (65.5)	550(100)			

Figure in the parenthesis indicates percentage.

An examination of table 3 reported about the comparisons of scientific temper dimensions with gender. With regard to the dimension 'freedom from superstition', 64.4% of B. Ed students have high level (65.6%) with female students exhibiting higher level (65.6%) as compared to male students (61.3%). However, no significant difference was found between 'freedom from superstition' dimension and gender ($t=1.546$).

When open-mindedness level was considered, higher percentage of male (89.7%) and female students (91.6%) belonged to higher level followed by average level (10.3% and 8.4%). No significant difference was seen between open mindedness level and gender ($t=.129$).

With respect to rationality level, 87.8% of the B. Ed students exhibited high level and 12.25 belonged to average level where male students shown higher percentage (88.4%) as compared to female students (87.6%). This indicates male students are more rational as compared to female students. However, no significant difference was found between rationality level dimension and gender ($t=1.267$).

With regard to curiosity level, majority of B. Ed students belonged to higher level (65.5%) followed by average level (34.4%) and low level (.2%). Male students exhibited higher percentage (65.8%) as compared to female students (65.3%) which signifies male B. Ed students to be more curious as compared to female students. No significant difference was found between curiosity dimensions of scientific temper and gender ($t=.730$).

Table 4: Comparison of dimensions of scientific Temper by Management (Government and private)

Management	Scientific Temper				Mean (SD)	't' Value	Remark
	Low	Average	High	Total			
Private	0(0)	82(18.3)	367(81.7)	449(100)	110.94 (9.6)	.001	Not sig.
Government	0(0)	13(13.9)	87(86.1)	100(100)	110.94 (8.5)		
Total	0(0)	95(17.5)	454(82.5)	550(100)			

Figure in the parenthesis indicates percentage.

Table 4 presents the calculated t-value of overall scientific temper of B. Ed students with regard to management. The computed value is 0.001 which is less than the tabulated value which is not significant. Therefore, the hypothesis, "There is no significant difference in the scientific Temper of government and private B. Edstudents" is accepted. It indicates that management does not play any significant role on the scientific Temper of B. Ed students in Nagaland.

Further, each dimension of scientific temper was tested and results are provided in the table given below.

Table 5: Comparison of dimensions of scientific Temper by Management

Management	Dimensions of Scientific Temper				Mean (SD)	't' value	Remark
	Freedom from Superstition						
	Low	Average	High	Total			
Private	1 (0.2)	163(36.3)	285 (63.5)	449(100)	30.68(4.4)	.123	Not sig.
Government	0 (0.0)	31 (30.7)	69 (63.8)	100(100)	31.31(4.3)		
Total	1 (0.2)	194 (35.3)	354 (64.4)	550(100)			



	Open-mindedness						
	Low	Average	High	Total			
Private	0(0)	38 (8.5)	411 (91.5)	449(100)	32.93(4.5)	.898	Not sig.
Government	0(0)	11 (10.9)	90 (89.1)	100 (100)	32.97(2.3)		
Total	0(0)	59(8.9)	501 (91.9)	550(100)			
	Rationality						
	Low	Average	High	Total			
Private	0(0)	59 (13.1)	390 (86.9)	449(100)	39.91(2.8)	.206	Not sig.
Government	0(0)	8 (7.9)	93 (92.1)	100(100)	40.30(3.4)		
Total	0(0)	67 (12.2)	483 (87.8)	550(100)			
	Curiosity						
	Low	Average	High	Total			
Private	0(0)	154(34.3)	295 (65.7)	449(100)	7.72(.97)	.466	Not sig.
Government	0(0.0)	35 (34.7)	65(64.4)	100(100)	7.79(1.1)		
Total	1(0.2)	189 (34.4)	360(65.5)	550(100)			

Figure in the parenthesis indicates percentage

Table 5 reveals the distribution of dimensions of scientific temper and Management. With regard to 'freedom from superstitious' dimension and management, higher percentage of private (63.5%) and government B. Ed institutions (63.8%) belonged to high level, followed by average level (36.3% and 30.7%) where government institutes revealed better percentage as compared to private institutions. No significant difference was however found between 'freedom from superstitious' dimension and management.

With respect to 'open mindedness' dimension and management, both private and government institution exhibited high percentage (91.1%) where students from private B. Ed institution are more open minded (91.5%) as compared to government B. Ed institution (89.1%). No significant difference was found between 'open mindedness' dimensions and management.

With regard to 'rationality' dimension and management, higher percentage of B. Ed students from private and government institutions belonged to high level (86.9% and 92.1%). No significant difference was found between 'rationality' dimension and management($t=.206$).

From the table it is apparent that majority of the B. Ed students (65.5%) from both private and government institutions have high curiosity level (65.7% and 64.4%). No significant difference was found between 'curiosity' dimension of scientific temper and management($t=.466$).

Table 6: Comparison among the different pedagogies on Scientific Temper.

Pedagogy	Scientific Temper				Mean (SD)	F value	Remark
	Low	Average	High	Total			
S/S	0(0)	33(17.2)	159(82.8)	192(100)	111.07(9.4)	.939	Not sig.
English	0(0)	26(15.4)	143(84.6)	169(100)	111.02(8.9)		
Math	0(0)	20(27.4)	53(72.6)	73(100)	109.32(11.9)		
Science	0(0)	17(14.7)	99(85.3)	116(100)	111.64(8.7)		
Total	0(0)	96(17.5)	454(82.5)	550(100)	111.94(9.5)		

Figure in the parenthesis indicates percentage.

From the result shown in table 6, the computed value is .939 which is less than the tabulated value which is not significant. Therefore, the hypothesis, "There is no significant difference in scientific temper of B.Ed. Students from



different pedagogy” is accepted. It infers that pedagogy does not play any significant role in scientific temper of B. Ed students in Nagaland.

Further with regard to pedagogies, each dimension of scientific temper was tested which is shown in the following table.

Table 7: Pedagogy Wise-Mean, SD, F-test of Scientific Temper and its dimensions

Pedagogy	Dimensions of Scientific Temper				Mean (SD)	F value	Remark
	Free from Superstition						
	Low	Average	High	Total			
S/S	1 (0.5)	69 (35.9)	122 (63.5)	192(100)	31.04 (4.327)	2.663**	Sig.
English	0 (0)	55(32.5)	114 (67.5)	169(100)	31.44(4.251)		
Math	1 (1.4)	32 (43.8)	40 (54.8)	73(100)	29.93(4.768)		
Science	0 (0)	38 (32.8)	78 (67.2)	116(100)	31.59(4.137)		
Total	2(0.4)	194(35.3)	354(64.4)	550(100)	31.13(4.314)		
Post hoc multiple comparisons							
Dependent variable	Pedagogy			Standard Error	Sig.Value	Remarks	
Free from superstition	Social science		English	.453	.369	Not sig	
			Math	.590	.062	Not sig	
			Science	.505	.277	Not sig	
	English		Social science	.453	.369	Not sig	
			Math	.601	.012	Sig	
			Science	.518	.783	Not sig	
	Math		Social science	.590	.062	Not sig	
			English	.601	.012	Sig	
			Science	.642	.010	Sig	
	Science		Social science	.505	.277	Not sig	
		English	.518	.783	Not sig		
		Math	.642	.010	Sig		
Open-mindedness							
	Low	Average	High	Total			
S/S	0(0)	14(7.3)	178(92.7)	192(100)	33.02(2.275)	.218	Not sig.
Eng	0(0)	12(7.1)	157 (92.9)	169(100)	32.79(2.648)		
Math	0(0)	13(17.8)	60(82.2)	73(100)	33.03(5.993)		
Science	0(0)	10 (8.6)	106(91.4)	115(100)	33.06(2.777)		
Total	0(0)	49(8.9)	501(91.1)	550(100)	32.96(3.327)		
Rationality							
Pedagogy	Low	Average	High	Total			
S/S	0(0)	26(13.5)	166(85.5)	192(100)	40.28(3.196)	1.019	Not sig.
Eng	0(0)	18(10.7)	151(89.3)	169(100)	40.22(3.081)		
Math	0(0)	14(19.2)	59(80.8)	73(100)	39.59(3.519)		
Science	0(0)	9(7.8)	483(87.8)	116(100)	40.37(3.267)		
Total	0(0)	67(12.2)	483(87.8)	550(100)	40.19(3.221)		
Curiosity							
Pedagogy	Low	Average	High	Total			
S/S	0(0)	69(35.9)	123(64.1)	192(100)	7.77 (1.078)	.357	Not sig.
Eng	0(0)	51(30.2)	118(69.8)	169(100)	7.78(.935)		
Math	0(0)	32(43.8)	41(56.2)	73(100)	7.66(1.227)		



Science	1(0.9)	37(31.9)	78(67.2)	116(100)	7.82(1.124)		
Total	1(0.2)	189(34.4)	360(65.5)	550(100)	7.77(1.066)		

Figure in the parenthesis indicates percentage. **value of Significance at 0.01

An examination of table 7 reported about association of dimensions of scientific temper and the four pedagogies. With regard to 'free from superstition' dimension and pedagogy, 63.5% of the B. Ed students from social science pedagogy have high level followed by average level (35.9%) and low level (0.5%). From English pedagogy, 67.5% have high level followed by average level (32.5%). With regard to mathematics pedagogy, 54.8% of the B. Ed students had high level and 43.8% had average level. However, there was significant difference ($F=2.663$) between 'free from superstitious dimension' and the four pedagogies. Mean scores indicate B. Ed students from science pedagogy have higher scores compared to the other three pedagogies.

The post hoc table reveals that there is significant difference between english and mathematics pedagogy on 'free from superstition' dimension of Scientific Temper with english pedagogy students having higher mean scores which is significant at 0.01 level. The table also reveals that there is significant difference between mathematics ($M=29.92$) and science pedagogy ($M=31.59$) which is significant at 0.01 with mean scores suggesting that science pedagogy students have more awareness on superstition.

In case of open-mindedness dimension, majority of B. Ed students from 4 different pedagogies have high level (S/S=92.7%, English =92.9%, Mathematics =82.2%, Science=91.4%) where students from English pedagogy had higher level of open-mindedness as compared to the other pedagogies. No significant difference ($F=.218$) was found between 'open mindedness' dimension of Scientific temper and the four pedagogies.

Regarding rationality dimension, majority of the B. Ed students from four different pedagogies had high level (S/S=85.5%, English=89.3%, Mathematics=80.8%, Science=87.8%) where students belonging to science pedagogy are found to be more rational. No significant difference ($F=1.019$) was found between 'rationality' dimension of scientific temper and the four pedagogies.

In case of curiosity dimension, majority of the B. Ed students had high level (S/S=64.1%, English=69.8%, Mathematics=56.2%, Science=67.2%) where students from English pedagogy have high level of rationality. No significant difference ($F=.357$) was found between curiosity dimension of scientific temper and the four pedagogies.

7. FINDINGS AND DISCUSSION

The present study was conducted to find out the Scientific Temper of B. Ed students in Nagaland. It was found in the present study that

1. B.Ed students in Nagaland have high level of Scientific Temper.
- 2.No significant difference was found between male and female B. Ed students on overall Scientific Temper.
3. No significant difference was found between male and female B Ed students on 'freedom from superstition' dimension of Scientific Temper. Female B. Ed students exhibit higher level of 'freedom from superstition' dimension as compared to male students.
- 4.No significant difference was seen between male and female B. Ed students on 'open mindednesses' dimensions of Scientific Temper. Both male and female B. Ed students have high level of 'open-mindedness' dimension of scientific temper.
- 5.No significant difference was found between male and female B. Ed students on 'rationality' dimensions of Scientific Temper.
6. No significant difference was found between male and female B. Ed students on 'curiosity' dimensions of Scientific Temper.
- 7.No significant difference was found between private and government B. Ed institutions on 'freedom from superstitious' dimensions of scientific temper.



8.No significant difference was found between private and government B. Ed institutions on 'open mindedness' dimensions of Scientific Temper.

9.No significant difference was found between private and government B. Ed institutions 'rationality' dimensions of Scientific Temper.

10.No significant difference was found between private and government B. Ed institutions on 'curiosity' dimension of Scientific Temper.

11.Significant difference was found among pedagogies on 'free from superstitious' dimensions of Scientific Temper.The post hoc table reveals that there is significant difference between english and mathematics pedagogy on 'free from superstition' dimension of Scientific Temper with english pedagogy students having higher mean scores which is significant at 0.01 level. The table also reveals that there is significant difference between mathematicsand science pedagogy which is significant at 0.01 with mean scores suggesting that science pedagogy students have more awareness on superstition.

12.No significant difference was found among the four pedagogies on 'open mindedness' dimension of Scientific Temper.

14.No significant difference was found among the four pedagogies on 'rationality' dimension of Scientific Temper.

15.No significant difference was found among the four pedagogies on 'curiosity' dimension of Scientific Temper.

8. CONCLUSION

It is revealed through the present study that B. Ed students in Nagaland have high level of Scientific Temper. A person with Scientific Temper will be curious, rational, objective and free from superstitions. Teacher education institutions should organize various activities and programmes for B. Ed students that will foster theirscientific temper. Topics and syllabus on the same should be incorporated in all the pedagogies.As it is teachers that shape students' future, they should see to it that teaching -learning process promotes critical and rational thinking while ensuring conceptual clarity. Further, students should be taught how to cooperate and collaborate while developing the qualities of creative imagination, courage, empathy and resilience.

Even after remarkable advancement in the field of science and technology there are evidences of irrelevant and superstitious practices still pertinent in our society and such irrelevant practices are proofs that our people are still struggling to develop Scientific Temper. Nurturing of scientific temper among the Naga youngsters remains an issue although there is abundant access to digital technologies indicating that it goes far beyond science and technology. (Ozukum,2024). Therefore, it is very necessary to foster the Scientific Temper of the students because they are the future citizens and nurturing this temper will build a quality citizen having rational and logical outlook.

9. DELIMITATIONS OF THE STUDY

1. The study is delimited to B. Ed students undergoing 2 years B. Ed course from Nagaland affiliated to Nagaland University.

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