CHAPTER 4

ANALYSIS AND INTERPRETATION

1.0. INTRODUCTION

Every piece of research work requires analysis of collected data and computation of results. The collected data becomes futile unless it is analyzed and interpreted by employing appropriate statistical techniques. The gathered information requires analysis since it is difficult to explain the raw information. Analysis likewise, requires vigilance, accuracy, numerical ability and adaptability on the part of the researchers. It involves breaking up of difficult components into simple parts and assembling the parts into a new display for the purpose of interpretation. Interpretation refers to a careful, logical and critical examination of the result obtained after analysis. Therefore, it becomes vital on the part of the researchers to organize a plan of analysis of data based on different research variables.

In the context of the present study, the analysis of curriculum was done using simple percentage to find out the proportion of content relating to human rights education present in the prescribed secondary teacher education curriculum in Nagaland. The scores obtained by the pupil-teachers on human rights education awareness test and attitude were used for computing the results by employing the three-way analysis of variance (2 × 2 × 2

factorial design). In this way, the human rights education awareness scores and the attitude scores of the pupil teachers were put into eight categories. For each category, 25 cases and 30 cases of pupil teachers were selected randomly for computing the result. The human rights education awareness scores and attitude scores of eight categories of pupil teachers are shown in table- 4.4 (a), table-4.4 (b), table 4.7 (a), table- 4.7 (b), table- 4.11 (a), table-4.11 (b), table-4.14 (a) and table-4.14 (b). Further, the analysis and interpretation of results have been done objective wise.

4.1. STATUS OF HUMAN RIGHTS EDUCATION IN THE CURRICULUM OF SECONDARY TEACHER EDUCATION PROGRAMME

Objective-1: To ascertain the status of human rights education in the curriculum of secondary school stage teacher education programme in Nagaland.

In the present study, the researcher made an attempt to ascertain and analyze the extent of human rights education existing in the curriculum of secondary teacher education programme in Nagaland. The selected secondary teacher education Institutions are affiliated to Nagaland University and the medium of instruction is English. Teacher education at the secondary level as per the two-year programme includes two parts: theory and practical. The curriculum is designed by Nagaland University based on the recommendations of the National Council of Teacher Education curriculum framework for two- year B.Ed. programme. The curricular areas are divided into three broad categories: i) perspectives in education, ii) curriculum and pedagogy of teaching school subjects, and iii) engagement with the field and the programme is divided into four semesters.

The researcher studied and examined all the papers including Enhancing Professional Capacities courses to look for human rights education awareness related topics in both apparent and hidden form of text. Keeping in view the prescribed curricular areas, the main focus of the analysis was the human right education. The researcher attempted to analyze the curriculum of secondary teacher education in Nagaland based on the principle of the Universal Declaration of Human Rights 1948 (including relevant treaties and instruments). The list of all thirty articles under the Universal Declaration of Human rights has been enclosed as Appendix 7.

The researcher has personally scrutinized and examined the whole course content prescribed in the curriculum and tried to find out the proportion of human rights education in each course paper. The average of the percentage for all the course papers in total was also calculated. The details of the content analysis of secondary teacher education concerning human rights education are provided in the table- 4.9 along with figures 4.1 and 4.2 which is shown in the charts for better representation.

Table-4.1: Course Contents related to Human rights Education in two-year Secondary Teacher Education Programme in Nagaland

Paper code	Nomenclature of the Courses	Indicators of Human Rights Education	% of related content
Course-1	Childhood and Growing up	• Social Development and Moral Development • Concept and Perspectives of Human Development Vygotsky (Socio-cultural), Kohlberg (Moral) • Hierarchy of human needs (Maslow's Theory) • Multi-Culturalism	6.35%
Course- 2	Contemporary India and Education	• Human values and Development • Education and development of life skills • Major areas of aspiration- democracy, secularism, nationalism, social order, social justice • National and emotional integration • Right to Education (RTE) • Skill-based education • Multiculturalism	11.11%
Course- 3	Language across the curriculum	Nil	0%
Course- 4	Understanding discipline and subjects	• Scientific temper • Importance of Social Sciences for developing responsible in society	3.17%
EPC- 1	Understanding Self	• Food, Hygiene and Health • HIV / AIDS • Diversity in the classroom- good or bad? • Strategies to improve the Interpersonal relationship among children in a school • Professional standards/ethics of teachers • Violations of your rights in your family and school • Unacceptable customs in your society • Celebrating festivals of others/ Observation of festivals (Local Regional National and International)	12.70%

Paper Code	Nomenclature of the Courses	Indicators of Human Rights Education	% of related content
Course- 5	Assessment of learning	Nil	0%
Course- 6	Learning and Teaching	• Socially disadvantaged, delinquents and truants • Socialization process and adjustment • Social adjustment and inter-personal relationship	4.76%
Course 7 (a)	Pedagogy of school subject (anyone) i) Pedagogy of Mathematics-I	Nil	0%
	ii) Pedagogy of Science – I	Nil	0%
	iii) Pedagogy of Social Sciences – I	• Socio-cultural Context of Learning • Critical Pedagogy • Major Revolutions of the world and the birth of Civil Rights, Justice, Liberty and Democracy • Roles of Citizens in a Modern Democracy	6.35%
	iv) Pedagogy of Language (English)-I	• Multicultural awareness	1.59%
E P C- 2	Drama and Art in Education	Nil	0%

Paper Code	Nomenclature of the Courses	Indicators of Human Rights Education	% of related content
Course- 8	Knowledge and Curriculum	• Promotion of Nationalism, universalism and secularism through education with reference to Tagore and Krishnamurthy	1.59%
Course- 9	Gender, School and Society	• Gender - just education • Right to Girl Child Education • Family values • Community participation in girl child Education • Role of different agencies in addressing gender inequalities – family, Teacher, Media, Culture • Disparity in literacy rates • Disparity in sex ratio • Disparity in the public sector and govt. service • Gender Parity Index (GPI) • Perception of safety at school, home and beyond • Abuse – physical, mental, verbal, sexual	15.87%
Course-10	Creating an Inclusive School	• Constitutional Provisions: The persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (PWD Act) • RTE Act, 2009 • Educational Provisions in the UN Convention on the Rights of Person with Disabilities (UNCRPD), 2006.	4.76%
Course- 11	Optional Course (anyone) i) Peace	• Need of Peace Education • Role of Social Agencies: Family, Religion, Mass Media • Community, School, NGO's, Government	

	Education	agencies in promoting peace education • Violent and Non- violent conflicts; • Sources of conflict: Refugee, Hunger/Poverty, Famine and Migration, Unemployment problems etc • Types of conflict: Ethnic conflict, Environmental conflict, Communal, Caste violence, Gender conflict and Self-determination • Conflict Handling Mechanism: Force, Adjudication, Arbitration, Negotiation, Mediation, Fasting, Reconciliation and Dialogue • Human security and Peace Building • Role of international organization in Conflict Resolution: UNO, NATO, SAARC etc • Challenges to Peace- Conflict, Crimes, Terrorism, Violence and Modernization • Democracy and Peace, Secularism and Peace, Culture and Peace • Meditation, Healthy discipline practices in and outside the classroom in the school • Symbols, activities and other structures in the school that reflect a multi-cultural ambience, Compassion, love and caring • Mindfulness in all transaction to avoid hurt, humiliation, degrading over academic, personal, social and cultural matters • Becoming peace teacher acquisition of relevant knowledge, attitudes, values and skill	23.81%
	ii) Guidance and Counseling	Nil	0%

	iii) Vocational Education	Nil	0%
	iv) Health and Physical Education	• Yoga as a way to socio-moral development of man	1.59%
	v) Fundamentals of Horticulture & crop production	Nil	0%
E P C-3	Critical Understanding of ICT	Nil	0%
E P C-4	Reading and reflecting on texts	Nil	0%

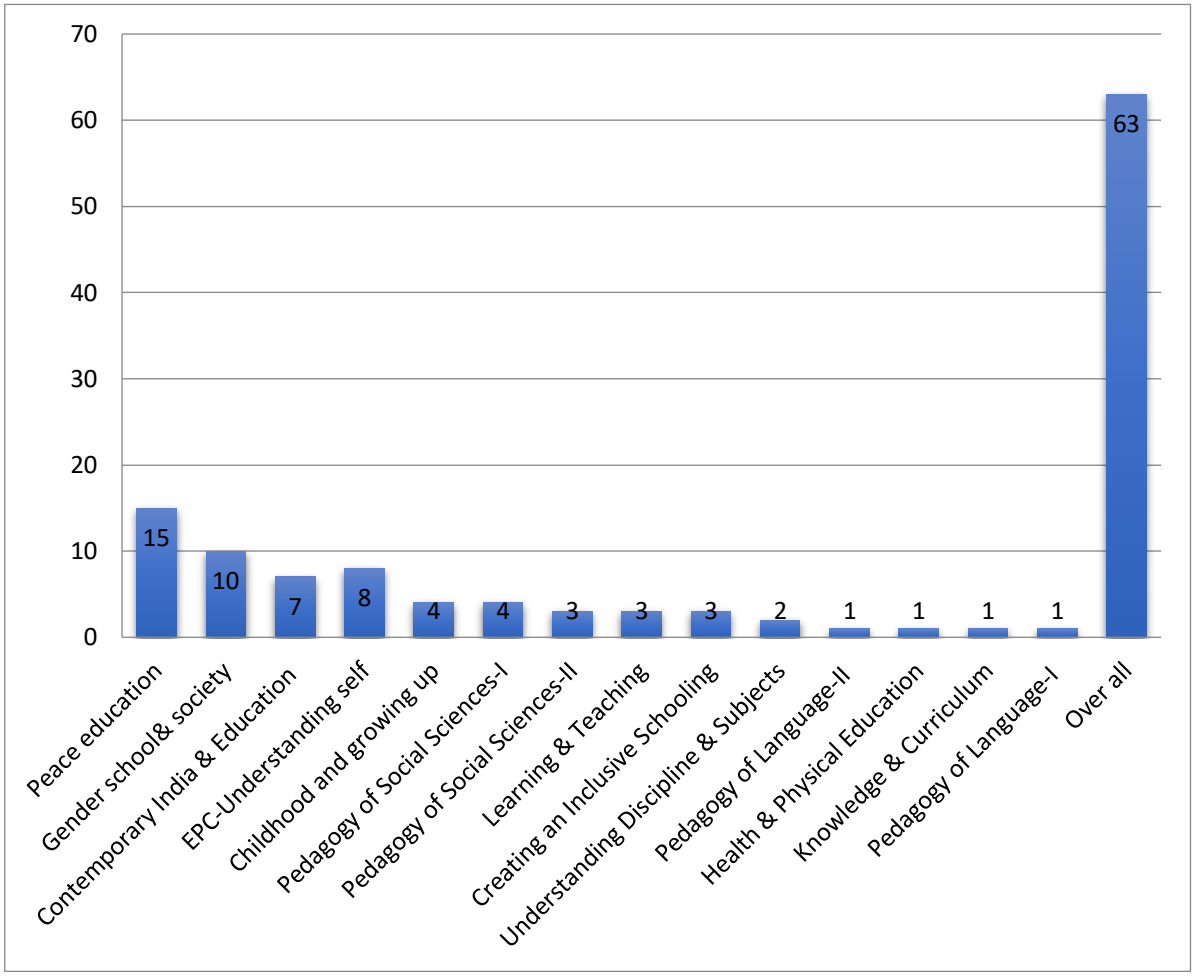
Paper Code	Nomenclature of the Courses	Indicators of Human Rights Education	% of related content
Course- 7 b	Pedagogy of school subject (anyone) i) Pedagogy of Mathematics-II	Nil	0%
	ii) Pedagogy of Science – II	Nil	0%
	iii) Pedagogy of Social Sciences – II	• Sustainable development • Adaptation of human activities to socio-cultural, economic and political contexts • Utilization of resources and Environmental Degradation, Global Warming and Climate Change	4.76%
	iv) Pedagogy of Language (English)-II	• Environmental awareness	1.59%

Interpretation:

i) The Secondary teacher education curriculum in Nagaland does not have a separate course paper on human rights education rather some topics related to human rights education are integrated into various papers of the course, but nowhere in any of the course papers the term "Human Rights" is mentioned directly. The overall percentage of contents related to human rights education (both direct and indirect context) in the secondary teacher education curriculum in Nagaland is 11.66 per cent, but this is not being emphasized at the time of teaching.

ii) There are 26-course papers included in the curriculum of secondary teachers' education programme and out of 26-course papers, 14-course papers reflect the content of human rights education which is mostly in hidden form. The percentages of contents relating to human rights education are as follows: Peace Education (optional paper) has about 24 per cent of content relating to human rights education, followed by Gender School and Society with 16 per cent, and other papers like EPC-1 Understanding Self 13 per cent, Contemporary India and Education 11 per cent, Childhood and Growing Up 6 per cent, Pedagogy of Social Sciences-I 6 per cent, Pedagogy of Social Sciences-II 5 per cent, Learning and Teaching 5 per cent, Creating an Inclusive School 5 per cent Understanding Disciplines and Subjects 3 per cent, Pedagogy of Language-II 2 per cent, Knowledge and Curriculum 2 per cent, Health and Physical Education (optional paper) 1 per cent, and Pedagogy of Language-I with 1 per cent. To show the number of topics related to human rights education of different course papers a column chart has been designed under figure 4.1.

Figure 4.1: Showing the Names and Number of Topics of various Course Papers related to Human Rights Education in Secondary Teacher Education Programme in Nagaland



To show the percentage representation of contents related to human rights education of different course papers a chart has been designed under figure 4.2.

Figure 4.2: Showing the Percentage of various Course Papers related to Human Rights Education in Secondary Teacher Education Programme in Nagaland

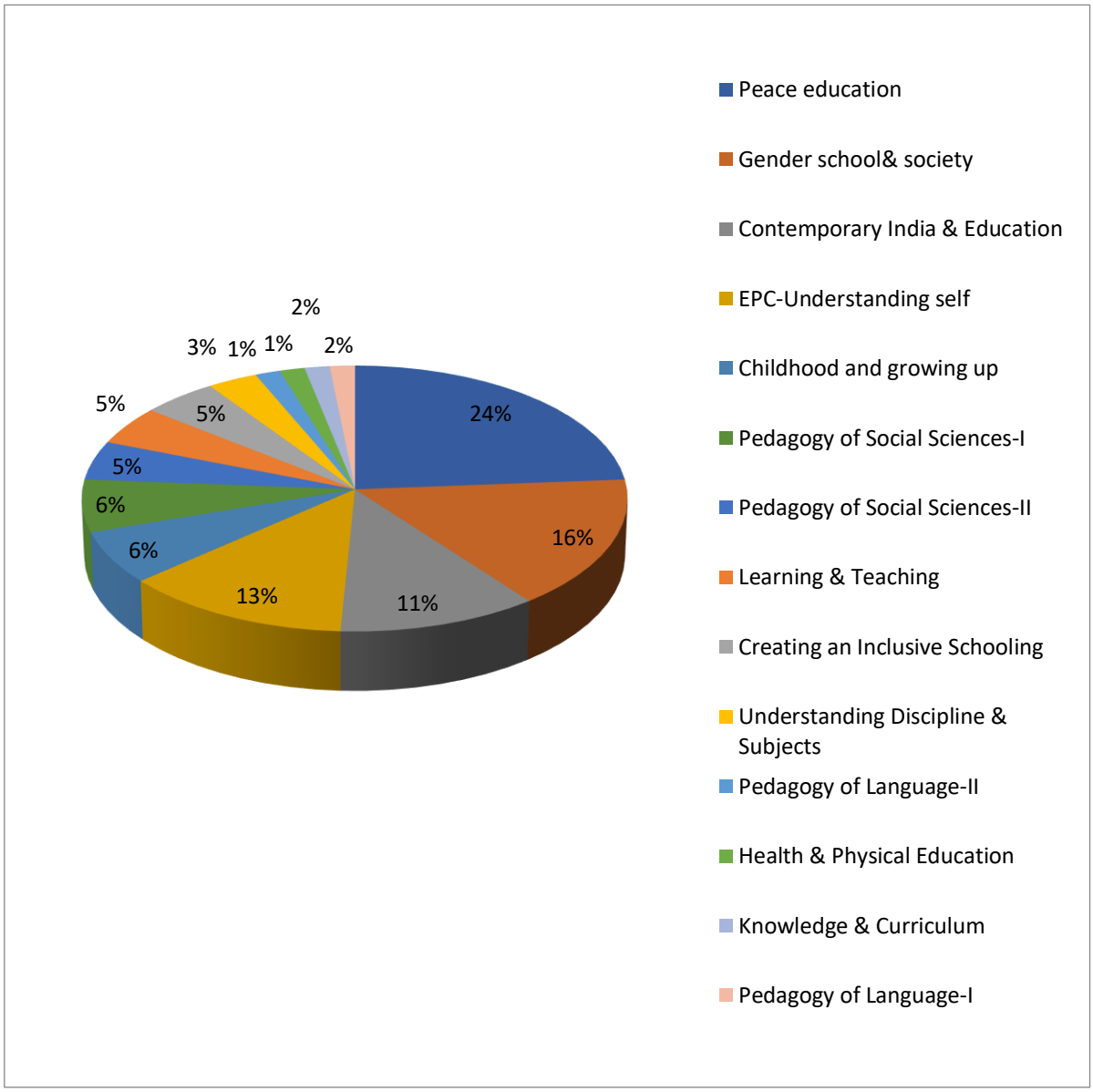


Figure 4.2 clearly shows that Peace Education has the highest content relating to the concept of human rights education but being an optional paper it was found that only two institutions have opted to offer Peace Education out of the five sampled institutions, on account of which pupil teachers may be poor in their human rights education awareness.

iii) Looking into the objectives of secondary teacher education and human rights education it has been observed that there are goals set for the pupil teachers to be a humane facilitator. As per the analysis of the objectives of secondary teacher education and human rights education it has been found that about 35 per cent of the objectives of secondary teacher education are related with the objectives of human rights education.

iv) As per the content analysis of the curriculum of secondary teacher education in Nagaland, it has been observed that, although Peace Education is incorporated in the curriculum as a separate course paper (optional subject) and has the highest number of contents relating to human rights, it has been found only a few topics directly covers human rights and nowhere it has mentioned the term 'Human Rights' in any of the topics directly.

v) Some of the problems faced by the pupil teachers in the learning process of human rights education include:

a) The dearth of learning materials on human rights and human rights education in their libraries and the pupil teachers do not get the relevant material and chance to read it for their understanding.

b) No other Teaching Learning Materials (T L M) were available on human rights and human rights education which can be used by the teacher educators as well as pupil teachers.

c) The mode of transaction applied by teacher educators to teach content relating to human rights includes lecture, group discussions and PowerPoint Presentation. No additional techniques were applied by the teacher educators to teach contents relating to human rights nor any Teaching Learning Materials (TLM) on human rights education were provided by the teacher educators to the pupil teachers. The pupil teachers were also given the freedom to express their ideas in the classrooms. Nonetheless, the teacher educators do not refer adequately about the concept of human rights education during the time of teaching the concern topics or course papers relating to it.

d) No projects or field activities specifically relating to human rights were taken up by any of the secondary teacher education institutions in the state. No special days like Human rights week or Human Rights Day and World Health Day were observed or celebrated by any of the institutions. Further, no other activities such as seminars, workshops or debates were organized concerning human rights and human rights education, nor any experts (on human rights) were invited to deliver the knowledge and train the pupil teachers on human rights and human rights education, as a result, the pupil teachers do not have adequate knowledge and awareness about human rights and human rights education.

In view of the analysis of the curriculum of teacher education, it is suggested that some more contents relating to human rights education may be integrated in the course of B.Ed. Programme taught in Nagaland so that the pupil teachers in Nagaland are to get well acquainted with the subject matter and practices of human rights and human rights education. These trained teachers are expected to be in secondary schools in Nagaland for the purpose of teaching. Such trained teachers will be able to create adequate human rights and human rights education awareness among the secondary school going students of Nagaland state.

Second, the investigator identified some problems faced by the pupil teachers due to which they could not have enough human rights and human rights education awareness, therefore, some of the significant suggestions are made for ensuring better amount of human rights and human rights education awareness among the pupil teachers of Nagaland and those suggestions are put as under:

- First, there is need to add and integrate some more content of human rights and human rights education in the existing courses of B.Ed. running in Nagaland.
- Second, it is better in case one full paper is designed on ‘Human Rights Education’ and introduce in B.Ed. course which is to provide better awareness to pupil teachers systematically.
- The pupil teachers may have some community extension programme on human rights and human rights education in the form of service learning which will generate more awareness among the pupil teachers and community members will also be well aware of human rights and human rights education.

- Pupil teachers may organize seminar in their institution on human rights and human rights education by inviting some experts and participants from outside places.
- Some quiz competition programme may also be organized,

Similarly, some other activities may also be organized for creating more awareness among the pupil teachers and students about human rights and human rights education.

4.2. LEVEL OF PUPIL TEACHERS AWARENESS OF HUMAN RIGHTS EDUCATION

Objective-2: To study the level of awareness on human rights education among the secondary school stage pupil teachers in Nagaland.

For achieving the objective-2 of the present study, the frequency table-4.2 has been used to compute the mean and standard deviation of the total score. Percentile value was also calculated to identify the different levels of awareness scores of pupil teachers on human rights educations. The computational works are shown below;

Table-4.2: Frequency Distribution of Human Rights Education Awareness Scores of Secondary Teacher Education Pupil teachers

CI	F	x	fx	fx^2
36-40	10	3	30	90
31-35	36	2	72	144
26-30	131	1	131	131
21-25	238	0	0	0
16-20	148	−1	−148	148
11-15	44	−2	−88	172
6-10	16	−3	−48	144
1-5	17	−4	−68	272
	N= 640		$\sum fx = -119$	$\sum fx^2 = 1101$

Computation of Mean = $AM + \left(\frac{\sum fx}{N}\right) \times i$

$$= 23.0 + \left(\frac{-119}{640}\right) \times 5$$

$$= 22.08$$

Computation of SD $= \frac{i}{N}\sqrt{N\sum fx^2 - (\sum fx)^2}$

$$= \frac{5}{640}\sqrt{640\,(1101) - (-119)^2}$$

$$= 6.49$$

Range of Mean = 15.59 to 28.57

$P_{25} = L + \frac{\left(\frac{N}{4} - fb\right)}{fw} \times i$

$= 15.5 + \left(\frac{160 - 77}{148}\right) \times 5$

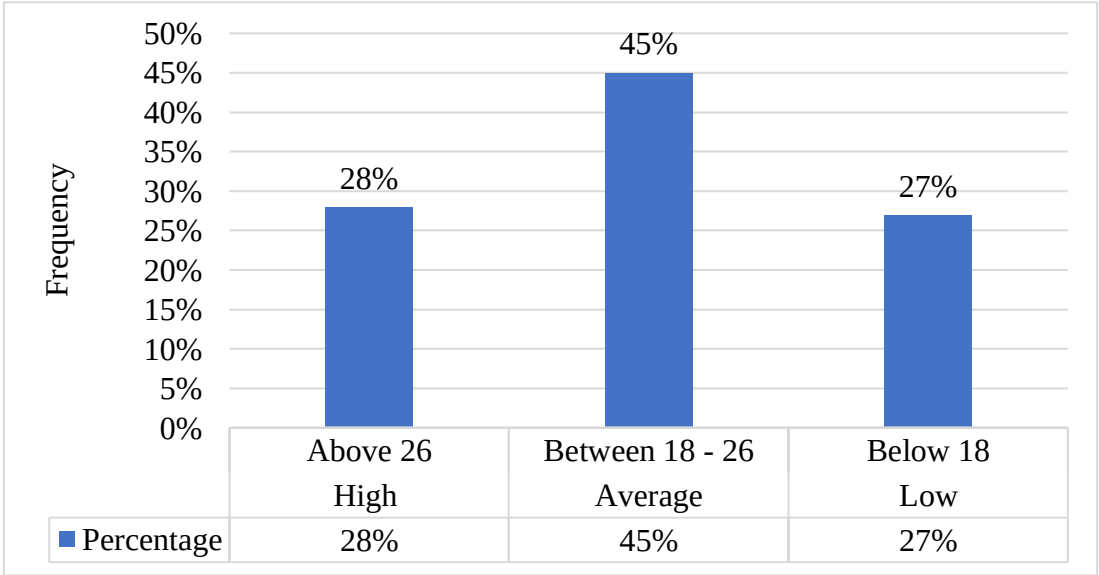
$= 18.30$

$P_{75} = L + \frac{\left(\frac{N3}{4} - fb\right)}{fw} \times i$

$= 25.5 + \left(\frac{480 - 463}{131}\right) \times 5$

$= 26.14$

Figure 4.3: Showing the Level of Scores of Pupil teachers on Human Rights Education Awareness



Interpretation:

i) The computed human rights education awareness mean score of pupil teachers came out to be 22.08 which is low as it comes out 31.54 per cent of the total score of human rights education awareness test. It is a matter of seriousness and great concern. The computed value of SD was found 6.49, therefore, the computed awareness mean score ranges from 15.59 to 28.57. Further, the investigator computed the value of 25^{th} and 75^{th} percentiles which came out to be 18.30 and 26.14 respectively. These computed percentile values are indicative of that 27 per cent of pupil teachers have been found below the score of 18.30 on human rights education awareness test and 28 per cent pupil teachers happened to be above 26.14. The remaining 45 per cent of pupil teachers were found between 18.30 to 26.14 marks on the awareness test and it showed the poor status of human rights education awareness among the pupil teachers of Nagaland. So, there is a need to take precautionary measures for creating human rights education awareness among secondary school stage pupil teachers.

The human rights and human right education awareness level of secondary school stage pupil teachers was found very poor as indicated through the human rights and human rights awareness mean score (22.08 and 31.54 in percentage). Even 27 per cent pupil teachers were found below 18.30 awareness score. The numerical values show a very poor level of human rights and human rights education awareness of the pupil teachers of Nagaland. In view of this, all possible concerted efforts need to be put for the enhancement of the level of awareness among the pupil teachers by way of inclusion of the course content of human rights and human rights education, organizing various activities like, seminars, workshops, community engagement services etc.

4.3. HUMAN RIGHTS EDUCATION AWARENESS OF PUPIL TEACHERS IN RELATION TO COGNITIVE VARIABLES

Objective-3: To study the human rights education awareness among the secondary school stage pupil teachers in relation to cognitive variables.

Hypotheses: H_0 (1): There is no significant difference between human rights education awareness mean scores of pupil teachers belonging to;

i. Arts and Science streams of study

ii. High and low levels of intelligence groups

iii. High and low levels of academic achievement groups

H_0 (2): There is no significant influence of double and triple interactions of cognitive variables on human rights education awareness of pupil teachers.

4.3.1. Assumptions of Analysis of Variance

For the purpose of using the Analysis of Variance, the researcher needs to ensure the following three assumptions:

1. **Assumption of Normality:** According to the findings of Eden and Yates (Johnson, 1961), and Norton (Guilford, 1965) the assumption of normality may not be considered important.

2. **Assumption of randomness:** The requirement of randomness was fulfilled in this study. At the time of selection of the sample, the random sampling technique was adopted appropriately.

3. **Assumption of Homogeneity of variance:** Bartlett's test of homogeneity of variance was used by the researcher to ensure the assumption of homogeneity. Table-4.3, Table-4.6, table-4.10, table-4.13 have been given along with some computation.

Table- 4.3: Bartlett's test of Homogeneity (Human Rights Education Awareness Scores of Cognitive variables)

Treatment no. (K)	df	$\sum XK^2$	SK^2	Log SK^2
1	24	322	13.41	1.12
2	24	464.16	19.34	1.28
3	24	642.24	26.76	1.42
4	24	696.96	29.04	1.46
5	24	941.44	39.22	1.59
6	24	1325.36	55.22	1.74
7	24	843.44	35.14	1.54
8	24	483.04	20.12	1.30

$\sum SK^2 = 238.25$ $\sum \log SK^2 = 11.45$

Computations:

1. Log $\frac{\Sigma SK^2}{K}$ = log $\frac{238.25}{8}$ = 29.78 = 1.47

2. K log $\frac{\Sigma SK^2}{K}$ = 8× 1.47 = 11.76

3. (Difference) K log $\frac{\Sigma SK^2}{K} - \sum \log SK^2$

   = 11.76 – 11.45

   = 0.31

4. $\chi^2 = 2.3026 \times (N-1) \times D$

   = 2.3026 × 24 × 0.31

   = 17.13

5. Correction (C) = $1 + \frac{K+1}{3k\,(N-1)}$

   $= 1 + \frac{8+1}{3\times8\times24}$

   $= 1 + \frac{9}{576} = 0.0156$

   = 1 + 0.0156

   = 1.0156

6. Corrected $\chi^2 = \frac{\chi^2}{\text{Correction}} = \frac{17.13}{1.0156} = 16.86$

7. df = k−1 = 8−1 =7

The computed Chi-square (χ^2) value came out to be 16.86 which is lesser than the criterion chi-square (χ^2) value 18.475 at 0.01 level of significance for 7 degrees of freedom (df), so the computed χ^2 value was not found significant and it shows that the sample of scores possess homogeneity.

Table-4.4 (a): Human Rights Education Awareness Test Scores of Secondary Teacher Education Pupil teachers of Arts and Science Stream, Low and High Intelligence and Low and High Academic Achievement (Cognitive Variables).

ALILAA	ALIHAA	AHILAA	AHIHAA	SLILAA	SLIHAA	SHILAA	SHIHAA
Category (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
20	19	22	27	21	2	24	14
24	20	19	25	10	20	29	16
27	20	29	11	22	20	24	23
23	26	30	30	25	36	21	28
22	29	29	35	28	26	18	26
26	22	27	12	22	19	25	25
23	22	35	21	25	24	25	26
24	25	25	23	28	11	30	22
23	18	34	26	19	19	24	19
18	22	21	24	16	10	19	26
22	26	28	20	22	23	24	23
23	28	26	24	22	29	22	21
15	24	27	14	16	18	16	19
28	22	25	23	26	16	25	18
30	27	20	26	22	22	29	12
21	27	25	27	20	26	27	23
18	25	19	21	32	23	12	21
21	21	19	23	23	32	22	21
22	29	17	26	20	17	2	17
21	19	27	30	32	19	20	20
21	15	29	19	26	20	18	20
20	12	15	24	17	18	22	19
24	26	20	22	3	17	22	12
14	17	20	20	22	28	17	23
25	23	25	23	23	9	25	13
∑555	∑564	∑613	∑576	∑542	∑504	∑542	∑507

∑x= 4403

Table-4.4 (b): Squared Data of Human Rights Education Awareness Test Scores of Secondary Teacher Education Pupil teachers of Arts and Science Stream, Low and High Intelligence and Low and High Academic Achievement (Cognitive Variables).

ALILAA	ALIHAA	AHILAA	AHIHAA	SLILAA	SLIHAA	SHILAA	SHIHAA
Category (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
400	361	484	729	441	4	576	196
576	400	361	625	100	400	841	256
729	400	841	121	484	400	576	529
529	676	900	900	625	1296	441	784
484	841	841	1225	784	676	324	676
676	484	729	144	484	361	625	625
529	484	1225	441	625	576	625	676
576	625	625	529	784	121	900	484
529	324	1156	676	361	361	576	361
324	484	441	576	256	100	361	676
484	676	784	400	484	529	576	529
529	784	676	576	484	841	484	441
225	576	729	196	256	324	256	361
784	484	625	529	676	256	625	324
900	729	400	676	484	484	841	144
441	729	625	729	400	676	729	529
324	625	361	441	1024	529	144	441
441	441	361	529	529	1024	484	441
484	841	289	676	400	289	4	289
441	361	729	900	1024	361	400	400
441	225	841	361	676	400	324	400
400	144	225	576	289	324	484	361
576	676	400	484	9	289	484	144
196	289	400	400	484	784	289	529
625	529	625	529	529	81	625	169
∑12643	∑13188	∑15673	∑13968	∑12692	∑11486	∑12594	∑10765

$\sum x^2 = 103009$

For computing, the results relating to human rights education awareness among the pupil teachers in relation to cognitive variables table-4.4(a) and table-4.4(b) were used. The steps for calculation are shown below:

1. General correction = $\frac{(\Sigma x)^2}{N} = \frac{(4403)^2}{200}$

$= \frac{19386409}{200}$

$= 96932.04$

2. Total Sum of Squares (T.S.S.) = $\sum x^2$ – General correction

$= 103009 – 96932.04$

$= 6076.96$

3. T.S.S. between sets (treatment) = $\frac{1}{25}(555^2 + 564^2 + 623^2 + 576^2 + 542^2 + 504^2 + 542^2 + 507^2) – 96932.04$

$= \frac{1}{25}(308025 + 318096 + 375769 + 331776 + 293764 + 254016 + 293764 + 257049) - 96932.04$

$= \frac{2432259}{25} – 96932.04$

$= 97290.36 – 96932.04$

$= 358.32$

4. Sum of square within sets:

T.S.S. within sets = T.S.S. – T.S.S. between sets

$= 6076.96 – 358.32$

$= 5718.64$

5. **A- Main effect between Streams of Study and Intelligence**

Variables	Arts	Science	Total
Low Intelligence	555 +564 =1119	542 +504 = 1046	2165
High Intelligence	618 +576 = 1189	542 + 507 = 1049	2238
Total	2308	2095	4403

i) Sum of square in the main effect between Streams of Study and Intelligence

$$= \frac{1}{50} [(1119^2 + 1046^2 + 1189^2 + 1049^2)] - 96932.04$$

$$= \frac{1}{50} (1252161 + 1094116 + 1413721 + 1100401) - 96932.04$$

$$= \frac{4860399}{50} - 96932.04$$

$$= 97207.98 - 96932.04$$

$$= 275.94$$

ii) Sum of square between Arts and Science Streams of Study

$$= \frac{1}{100} (23082 + 2095^2) - 96932.04$$

$$= \frac{1}{100} (5326864 + 4389025) - 96932.04$$

$$= \frac{9715889}{100} - 96932.04$$

$$= 97158.89 - 96932.04$$

$$= 226.85$$

iii) Sum of square between Low Intelligence and High Intelligence

$$= \frac{1}{100}(2165^2 + 2238^2) - 96932.04$$

$$= \frac{1}{100}(4687225 + 5008644) - 96932.04$$

$$= \frac{9695869}{100} - 96932.04$$

$$= 96958.69 - 96932.04$$

$$= 26.65$$

iv) Interaction between Streams of Study and Intelligence

$$= 275.94 - 226.85 - 26.65$$

$$= 22.44$$

B- Main effect between Intelligence and Academic Achievement

Variables	Low Intelligence	High Intelligence	Total
Low Achievement	555+ 542 = 1097	613 + 542 = 1155	2252
High Achievement	564 + 504 = 1068	576 + 507 = 1083	2151
Total	2165	2238	4403

i) Main effect between Intelligence and Academic Achievement

$$= \frac{1}{50}[(1097^2 + 1155^2 + 1068^2 + 1083^2)] - 96932.04$$

$$= \frac{1}{50}(1203409 + 1334025 + 1140624 + 1172889) - 96932.04$$

$$= \frac{4850947}{50} - 96932.04$$

$$= 97018.94 - 96932.04$$

$$= 86.9$$

ii) Sum of square between Low Intelligence and High Intelligence

$$= \frac{1}{100}(2165^2 + 2238^2) - 96932.04$$

$$= \frac{1}{100}(4687225 + 5008644) - 96932.04$$

$$= \frac{9695869}{100} - 96932.04$$

$$= 96958.69 - 96932.04$$

$$= 26.65$$

iii) Sum of square between Low and High Academic Achievement

$$= \frac{1}{100}(2252^2 + 2151^2) - 96932.04$$

$$= \frac{1}{100}(5071504 + 4626801) - 96932.04$$

$$= \frac{9698305}{100} - 96932.04$$

$$= 96983.05 - 96932.04$$

$$= 51.01$$

iv) Interaction between Intelligence and Academic Achievement

$$= 86.9 - 26.65 - 51.01$$

= 9.24

C – Main effect between Streams of Study and Academic Achievement

Variables	Arts	Science	Total
Low Achievement	555+ 613 = 1168	542 + 542 = 1084	2252
High Achievement	564 + 576 = 1140	504 + 507 = 1011	2151
Total	2308	2095	4403

i) The main effect between Streams of Study and Academic Achievement

$$= \frac{1}{50}\left[(1168^2 + 1084^2 + 1140^2 + 1011^2)\right] - 96932.04$$

$$= \frac{1}{50}(1364224 + 1175056 + 1299600 + 1022121) - 96932.04$$

$$= \frac{4861001}{50} - 96932.04$$

$$= 97220.02 - 96932.04$$

$$= 287.98$$

ii) Sum of square between Arts and Science Streams of Study

$$= \frac{1}{100}(23082^2 + 2095^2) - 96932.04$$

$$= \frac{1}{100}(5326864 + 4389025) - 96932.04$$

$$= \frac{9715889}{100} - 96932.04$$

$$= 97158.89 - 96932.04$$

= 226.85

iii) Sum of square between Low and High Academic Achievement

$$= \frac{1}{100}(2252^2 + 2151^2) - 96932.04$$

$$= \frac{1}{100}(5071504 + 4626801) - 96932.04$$

$$= \frac{9698305}{100} - 96932.04$$

$$= 96983.05 - 96932.04$$

$$= 51.01$$

iv) Interaction between Streams of Study and Academic Achievement

= 287.98 – 226.85 – 51.01

= 10.12

Interaction: Streams of Study × Intelligence × Academic Achievement

= T.S.S. between sets – S.S. between Streams of study – S.S. between Intelligence – S.S. between Academic Achievements – All Interaction

= 358.32 – 226.85 – 26.65 – 51.01 – 22.44 – 9.24 −10.12

= 12.01

Table – 4.5: Summary of Analysis of Variance (Human Rights Education Awareness of Pupil teachers in relation to Cognitive Variables)

Sl. No.	Sources of Variance	S.S.	df	Mean Square	F- value
1	Streams of study (A)	226.85	1	226.85	7.61
2	Intelligence (B)	26.65	1	26.65	0.89
3	Achievements (C)	51.01	1	51.01	1.71
4	A × B	22.44	1	22.44	0.75
5	B × C	9.24	1	9.24	0.31
6	A × C	10.12	1	10.12	0.39
7	A × B × C	12.01	1	12.01	0.40
8	Treatments within sets	5718.64	192	29.78	

Interpretation:

i) The table-4.5 indicates that the obtained f-value for the main effect of streams of study (Arts and Science) came out to be 7.61 whereas the table f-value has been found 6.76 at 0.01 level of significance for 1/192 degree of freedom, hence, the obtained f-value (7.61) has been found significant as it is greater than the table f-value (6.76). So, the formulated hypothesis "there is no significant difference between human rights education awareness mean scores of pupil-teachers belonging to Arts and Science streams of study" got rejected. From this, it is interpreted that the streams of study have some significant impact on the human rights education awareness scores of the pupil-teachers.

ii) At 0.01 level of confidence the computed F- value for Intelligence came out to be 0.89 and the table F-value is 6.76 with a degree of freedom 1/192. As the computed F-value is lesser than the table F-value the null hypothesis got

retained and it is concluded that the mean scores of pupil teachers on human rights education awareness relating to low and high intelligence pupil teachers do not differ significantly, which means that intelligence does not influence human rights education awareness scores of pupil teachers.

iii) The obtained F-value for academic achievement came out to be 1.71 which is lesser than the table F-value (6.76) for 1/192 degree of freedom at 0.01 level of confidence. Hence, the hypothesis is accepted and concluded that there is no significant difference in human rights education awareness mean scores of pupil teachers belonging to low and high levels of academic achievement.

iv) Table - 4.5 indicates that the obtained F-values of interactions between streams of study and intelligence, intelligence and academic achievements, streams of study and academic achievement, and the interaction among streams of study, intelligence and academic achievement were found to be 0.75, 0.31, 0.33, and 0.40 respectively, which are lesser than the table F-value (6.76). Thus, it is concluded that the interactions of the above-mentioned variables do not influence the human rights education awareness scores of pupil teachers.

The computed f-values have not been found significant concerning to intelligence and academic achievements of pupil teacher's cognitive variables. It means that the cognitive variables like intelligence and academic achievement of the pupil teachers do not have any bearing on their human rights and human rights education awareness and they have been found equally poor. But, the streams of study have shown some influence on the awareness of pupil teachers. Further, arts stream pupil teachers have shown better awareness as compared to science stream pupil teachers.

4.4. HUMAN RIGHTS EDUCATION AWARENESS OF PUPIL TEACHERS IN RELATION TO NON-COGNITIVE VARIABLES

Objective-4: To study the human rights education awareness among the secondary school stage pupil teachers in relation to non-cognitive variables.

Hypotheses: H_0 (3): There is no significant difference between human rights education awareness mean scores of pupil teachers belonging to;

i. Male and female

ii. Urban and rural

iii. Low and high levels of socio-economic status group

H_0 (4): There is no significant influence of double and triple interactions of non-cognitive variables on human rights education awareness of pupil teachers.

Table-4.6: Bartlett's test of Homogeneity (Human Rights Education Awareness Scores of Non-Cognitive Variables)

Treatment no. (K)	df	$\sum XK^2$	SK^2	Log SK^2
1	29	300.97	10.37	1.01
2	29	138.97	4.79	0.68
3	29	236	8.13	0.91
4	29	455.37	15.70	1.19
5	29	221.36	7.63	0.88
6	29	109.46	3.77	0.57
7	29	247.86	8.54	0.93
8	29	244.7	8.43	0.92

$\sum SK^2 = 67.36$ $\sum \log SK^2 = 7.09$

Computations:

1. Log $\frac{\Sigma SK^2}{K} = \log \frac{67.36}{8}$ = 8.42 =0.92

2. K log $\frac{\Sigma SK^2}{K}$ = 8× 0.92 $= 7.36$

3. (Difference) K log $\frac{\Sigma SK^2}{K} - \sum$ log SK^2

   = 7.36 – 7.09

   = 0.27

4. $\chi^2 = 2.3026 \times (N-1) \times D$

   $= 2.3026 \times 29 \times 0.27 = 18.02$

5. Correction (C) = 1+ $\frac{K+1}{3k(N-1)}$

   = 1+ $\frac{8+1}{3\times8\times29}$

   = 1+ $\frac{9}{696}$ = 0.0129

   = 1+ 0.0129

   = 1.0129

6. Corrected χ^2 = $\frac{\chi^2}{\text{correction}} = \frac{18.02}{1.0129}$ = 17.79

7. DF = k-1 = 8-1 =7

The Chi-square (χ^2) required for significance at 0.01 level with 7 degrees of freedom (df) is 18.475, and the obtained value is (17.79), which indicates that it is not significant. This reveals that the sample is homogeneous in nature and not heterogeneous.

Table-4.7 (a): Human Rights Education Awareness Test Scores of Secondary Teacher Education Pupil teachers of Male and Female, Urban and Rural, Low and High Socio-Economic Status (Non-Cognitive Variables).

MULSES	MUHSES	MRLSES	MRHSES	FULSES	FUHSES	FRLSES	FRHSES
Category (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
17	25	20	14	25	24	22	22
20	24	16	17	23	23	20	26
22	21	22	24	18	22	22	25
24	22	23	27	23	24	27	21
29	24	19	33	19	21	18	22
25	23	22	26	24	24	18	23
24	20	24	24	20	22	22	23
23	25	15	20	18	22	19	16
16	26	22	18	26	25	22	14
26	20	18	25	24	25	18	22
18	21	26	22	23	21	20	24
23	22	26	20	22	25	22	19
23	22	22	25	23	23	31	22
22	25	24	25	25	23	23	21
18	23	24	20	18	22	16	24
23	23	22	23	25	18	26	18
26	24	22	18	19	20	24	22
22	26	21	22	26	25	19	23
19	23	27	28	23	22	22	16
17	18	23	22	26	23	22	23
23	23	21	22	21	21	22	23
22	21	24	23	24	24	21	25
24	22	23	17	19	23	21	22
16	28	22	27	22	22	22	22
22	22	21	17	25	19	23	17
23	23	20	23	19	22	21	20
24	21	21	22	18	18	22	18
25	23	27	26	20	23	24	20
25	27	25	21	25	23	20	19
20	24	20	22	24	25	23	21
∑661	∑691	∑662	∑673	∑667	∑674	∑652	∑633

∑x=5313

Table-4.7 (b): Squared Data of Human Rights Education Awareness Test Scores of Secondary Teacher Education Pupil teachers of Male and Female, Urban and Rural, Low and High Socioeconomic Status (Non-Cognitive Variables).

MULSES	MUHSES	MRLSES	MRHSES	FULSES	FUHSES	FRLSES	FRHSES
Category (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
289	625	400	196	625	576	484	484
400	576	256	289	529	529	400	676
484	441	484	576	324	484	484	625
576	484	529	729	529	576	729	441
841	576	361	1089	361	441	324	484
625	529	484	676	576	576	324	529
576	400	576	576	400	484	484	529
529	625	225	400	324	484	361	256
256	676	484	324	676	625	484	196
676	400	324	625	576	625	324	484
324	441	676	484	529	441	400	576
529	484	676	400	484	625	484	361
529	484	484	625	529	529	961	484
484	625	576	625	625	529	529	441
324	529	576	400	324	484	256	576
529	529	484	529	625	324	676	324
676	576	484	324	361	400	576	484
484	676	441	484	676	625	361	529
361	529	729	784	529	484	484	256
289	324	529	484	676	529	484	529
529	529	441	484	441	441	484	529
484	441	576	529	576	576	441	625
576	484	529	289	361	529	441	484
256	784	484	729	484	484	484	484
484	484	441	289	625	361	529	289
529	529	400	529	361	484	441	400
576	441	441	484	324	324	484	324
625	529	729	676	400	529	576	400
625	729	625	441	625	529	400	361
400	576	400	484	576	625	529	441
∑14865	∑16055	∑14844	∑15553	∑15051	∑15252	∑14418	∑13601

∑fx=119639

Table-4.7 (a) and table-4.7 (b) were used for computing the results relating to human rights education awareness among the pupil teachers in relation to non-cognitive variables. The steps for calculation are shown below:

1. General correction = $\frac{(\Sigma x)^2}{N} = \frac{(5313^2)}{240}$

$= \frac{28227969}{240}$

$= 117616.53$

2. T.S.S. = $\sum x^2$ – General correction

= 119639 – 117616.53

= 2022.47

3. Sum of square between sets = $\frac{1}{30}$ ($661^2 + 691^2 + 662^2 + 673^2 + 667^2$

$+ 674^2 + 652^2 + 633^2$) – 117616.53

$= \frac{1}{30}$ (436921 + 477481 +438244 +452929 + 444889

+ 454276 + 425104 + 400689) – 117616.53

$= \frac{3530533}{30}$ – 117616.53

= 117684.43 – 117616.53

= 67.9

4. Sum of square within sets

T.S.S. within sets = T.S.S. – T.S.S. between sets

= 2022.47 – 67.9

= 1954.57

5. **A- Main effect between Gender and Socio-Economic Status (SES)**

Variables	Male	Female	Total
Low SES	661 +662 = 1323	667 +652 =1319	2642
High SES	691 +673 = 1364	674 + 633 =1307	2671
Total	2687	2626	5313

i) Sum of square in the main effect between Gender and Socio-Economic Status

$= \frac{1}{60} [(1323^2 + 1319^2 + 1364^2 + 1307^2)] - 117616.53$

$= \frac{1}{60} (1750329 + 1739761 + 1860496 + 1708249) - 117616.53$

$= \frac{7058835}{60} - 117616.53$

$= 117647.25 - 117616.53$

$= 30.72$

ii) Sum of square between Male and Female

$= \frac{1}{120} (2687^2 + 2626^2) - 117616.53$

$= \frac{1}{120} (7219969 + 6895876) - 117616.53$

$= \frac{14115845}{120} - 117616.53$

$= 117632.04 - 117616.53$

= 15.51

iii) Sum of square between Low Socio-Economic Status & High Socio-Economic Status

$$= \frac{1}{120}(2642^2 + 2671^2) - 117616.53$$

$$= \frac{1}{120}(6980164 + 7134241) - 117616.53$$

$$= \frac{14114405}{120} - 117616.53$$

$$= 117620.04 - 117616.53$$

$$= 3.51$$

iv) Interaction between Gender and Socio-Economic Status

$$= 30.72 - 15.51 - 3.51$$

$$= 11.7$$

B- Main effect between Socio-Economic Status and Locality

Variables	Low SES	High SES	Total
Urban	661 +667 = 1328	691 +674 =1365	2693
Rural	662 + 652 = 1314	673 + 633 = 1306	2620
Total	2642	2671	5313

i) The main effect between Socio-Economic Status and Locality

$$= \frac{1}{60}[(1328^2 + 1365^2 + 1314^2 + 1306^2)] - 117616.53$$

$$= \frac{1}{60}(1763584 + 1863225 + 1726596 + 1705636) - 117616.53$$

$$= \frac{7059041}{60} - 117616.53$$

$$= 117650.58 - 117616.53$$

$$= 34.15$$

ii) Sum of square between Low Socio-Economic Status and High Socio-Economic Status

$$= \frac{1}{120}(2642^2 + 2671^2) - 117616.53$$

$$= \frac{1}{120}(6980164 + 7134241) - 117616.53$$

$$= \frac{14114405}{120} - 117616.53$$

$$= 117620 - 117616.53$$

$$= 3.51$$

iii) Sum of square between Urban and Rural

$$= \frac{1}{120}(2693^2 + 2620^2) - 117616.53$$

$$= \frac{1}{120}(7252249 + 6864400) - 117616.53$$

$$= \frac{14116649}{120} - 117616.53$$

$$= 117638.74 - 117616.53$$

$$= 22.21$$

iv) Interaction between Socio-Economic Status and Locality

$$= 34.15 - 3.51 - 22.21$$

= 8.43

C – Main effect between Gender and Locality

Variables	Male	Female	Total
Urban	661 +691 =1352	667 +674 =1341	2693
Rural	662 + 673 =1335	652 + 633 = 1285	2620
Total	2687	2626	5313

i) The main effect between Gender and Locality

$$= \frac{1}{60}[(1352^2 + 1341^2 + 1335^2 + 1285^2)] - 117616.53$$

$$= \frac{1}{60}(1827904 + 1798281 + 1782225 + 1651225) - 117616.53$$

$$= \frac{7059635}{60} - 117616.53$$

$$= 117660.58 - 117616.53$$

$$= 44.05$$

ii) Sum of square between Male and Female

$$= \frac{1}{120}(2687^2 + 2626^2) - 117616.53$$

$$= \frac{1}{120}(7219969 + 6895876) - 117616.53$$

$$= \frac{14115845}{120} - 117616.53$$

$$= 117632.04 - 117616.53$$

$$= 15.51$$

iii) Sum of square between Urban and Rural

$$= \frac{1}{120}(2693^2 + 2620^2) - 117616.53$$

$$= \frac{1}{120}(7252249 + 6864400) - 117616.53$$

$$= \frac{14116649}{120} - 117616.53$$

$$= 117638.74 - 117616.53$$

$$= 22.21$$

iv) Interaction between Gender and Locality

$$=44.05 - 15.51 - 22.21$$

$$= 6.33$$

Interaction: Gender × Locality × Socio-Economic Status

= T.S.S. between sets – S.S. between Streams of Study – S.S. between Intelligence – S.S. between Academic Achievements – All Interaction

$$= 67.9 - 15.51 - 22.21 - 3.51 - 11.7 - 8.43 - 6.33$$

$$= 0.21$$

Table -4.8: Summary of Analysis of Variance (Human Rights Education Awareness of Pupil teachers in relation to Non-Cognitive Variables)

Sl. No.	Sources of Variance	S.S.	df	Mean Square	F- value
1	Gender (A)	15.51	1	15.51	1.84
2	SES (B)	3.51	1	3.51	0.41
3	Locality (C)	22.21	1	22.21	2.63
4	A × B	11.7	1	11.7	1.38
5	B × C	8.43	1	8.43	1.00
6	A × C	6.33	1	6.33	0.75
7	A × B × C	0.21	1	0.21	0.02
8	Treatments within sets	1954.57	232	8.42	

Interpretation:

i) The table-4.8 indicates that the obtained F-value for the main effect of gender came out to be 1.84 whereas the table F-value for 1/232 degree of freedom at 0.01 level is 6.76. The obtained F-value is lesser than the table F-value (6.76). Therefore, it is interpreted that the mean scores of human rights education awareness of male and female do not differ significantly. The hypothesis got retained as the variable gender does not influence human rights education awareness.

ii) The F-value for the main effect of socio-economic status came out to be 0.41 and the computed F-value (0.41) is lesser than the table F-value 6.76 for 1/232 df at 0.01 level of confidence. Hence, the hypothesis got retained and it is

interpreted that the variable socio-economic status does not influence the human rights education awareness mean scores of pupil teachers.

iii) Table-4.8 shows that the computed F-value of the locality came out to be 2.63 which is not significant at 0.01 level of confidence for 1/232 df as the obtained value is lesser than the table F-value 6.76. Therefore, the hypothesis got retained and it is interpreted that the variable locality does not influence the human rights education awareness mean scores of pupil teachers of secondary teacher education.

iv) Table –4.8 indicates that the obtained F-values of interactions between gender and socio-economic status, socio-economic status and locality and gender and locality and the interaction among gender, socio-economic status and locality were found to be 1.38, 1.00, 0.75 and 0.02 respectively. These computed F-values are lesser than the table F-value (6.76) which indicates that these values are not significant at 0.01 level of confidence and the hypotheses are retained. Thus, it is concluded that the interactions of the above-mentioned variables do not influence the human rights education awareness scores of pupil teachers.

The computed f-values concerning to the non-cognitive variables like gender, socio-economic status, and locality, have not been found significant, therefore, the pupil teachers have been observed poor in their human rights and human rights education awareness in respect to their gender, socio-economic status, and locality. So, the pupil teachers need some more content and activities to arrive at the desired level of awareness.

4.5. ATTITUDE OF PUPIL TEACHERS TOWARDS HUMAN RIGHTS EDUCATION

Objective-5: To find out the attitude towards human rights education among the pupil teachers of secondary school stage in Nagaland.

To find out the attitude of pupil teachers towards human rights education the raw scores of 640 pupil teachers have been taken into consideration for preparing the frequency distribution.

Table-4.9: Frequency Distribution of Attitude Scores of Pupil teachers towards Human Rights Education

CI	F	x	fx	fx^2
131-145	3	2	6	12
116-130	96	1	96	96
101-115	374	0	0	0
86-100	124	−1	−124	124
71-85	29	−2	−58	116
56-70	10	−3	−30	90
41-55	3	−4	−12	40
26-40	0	−5	0	0
11-25	1	−6	−6	36
	N= 640		$\sum FX = -128$	$\sum fx^2 = 522$

Computation of Mean = AM + $\left(\frac{\sum fx}{N}\right) \times i$

$$= 108 + \left(\frac{-128}{640}\right) \times 15$$

$$= 105.00$$

Computation of SD = $\frac{i}{N}\sqrt{N\sum fx^2 - (\sum fx)^2}$

$$= \frac{15}{640}\sqrt{640\,(522) - \,(-128)^2}$$

$$= 13.18$$

Range of Mean = 91.82 to 118.18

$P_{25} = L + \frac{\left(\frac{N}{4} - fb\right)}{fw} \times i$

$= 85.5 + \left(\frac{160 - 43}{124}\right) \times 15$

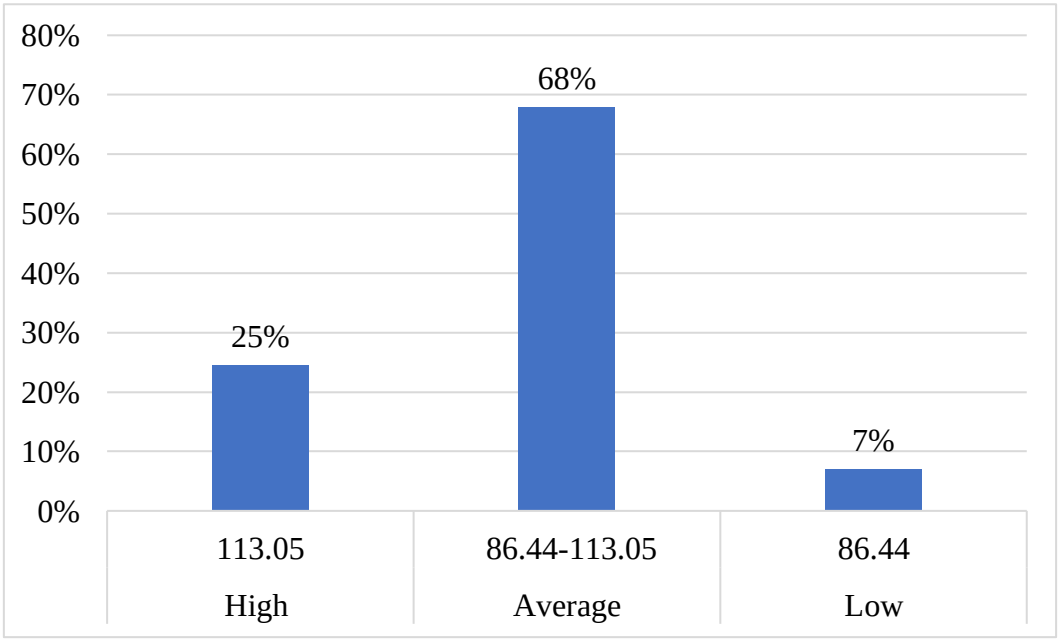
$= 86.44$

$P_{75} = L + \frac{\left(\frac{N3}{4} - fb\right)}{fw} \times i$

$= 100.5 + \left(\frac{480 - 167}{374}\right) \times 15$

$= 113.05$

Figure 4.4: Showing the Level of Scores of Pupil teachers Attitude towards Human Rights Education



Interpretation:

i) The computed attitude mean score of pupil teachers towards human rights education came out to be 105 which came out to be 70 per cent of the total means score. The computed value of SD was found to be 13.18 therefore, the computed attitude mean score ranges from 91.82 to 118.18 and it shows a positive attitude towards human rights education among the pupil teachers of secondary teacher education in Nagaland. Further, the investigators computed the value of 25^{th} and 75^{th} percentiles which came out to be 86.44 and 113.05 respectively. These computed percentile values are indicative of that 7 per cent of pupil teachers have been found below to the score of 86.44 on attitude towards human rights education and 25 per cent pupil teachers happened to be above 113.05. The remaining 68 per cent of pupil teachers were found to be in between 86.44 to 113.05 scores on the attitude test and it shows that majority of the scores of pupil teachers lies in the category of average.

An attitude mean score came out a bit higher which indicates that the pupil teachers do possess quite a favorable attitude towards human rights and human rights education which means that these pupil teachers are quite positive in learning about human rights and human rights education and they feel like to learn and teach the human rights and human rights education related content and various recent issues. Therefore, only little efforts are to put for imparting training on human rights and human rights education for the teachers and they will be able to create adequate awareness about human rights and human rights education among their secondary school students.

4.6. ATTITUDE OF PUPIL TEACHERS TOWARDS HUMAN RIGHTS EDUCATION IN RELATION TO COGNITIVE VARIABLES

Objective-6(a): To find out the attitude towards human rights education among the pupil teachers of secondary school stage in relation to cognitive variables.

Hypotheses: H_0 (5): There is no significant difference between the attitude mean scores of pupil teachers towards human rights education belonging to;

i. Arts and Science streams of study

ii. Low and high-level intelligence groups

iii. Low and high academic achievement groups

H_0 (6): There is no significant influence of double and triple interactions of cognitive variables on the attitude of pupil teachers towards human rights education.

Table- 4.10: Bartlett's test of Homogeneity (Attitude towards Human Rights Education Scores of Cognitive variables)

Treatment no. (K)	Df	$\sum XK^2$	SK^2	Log SK^2
1	24	1458.64	60.7	1.7
2	24	1064	44.3	1.6
3	24	1680	70	1.8
4	24	2611.04	108.7	2.0
5	24	3236.56	134.8	2.1
6	24	5963.04	248.4	2.3
7	24	5336.96	222.3	2.3
8	24	1960.96	81.7	1.9

$\sum SK^2 = 970.9$ $\sum \log SK^2 = 15.7$

Computations:

1. Log $\frac{\Sigma SK^2}{K}$ = log $\frac{970.9}{8}$ = 121.3 = 2.0

2. K log $\frac{\Sigma SK^2}{K}$ = 8× 2.0 = 16

3. (Difference) K log $\frac{\Sigma SK^2}{K}$ − ∑log SK^2

   = 16 – 15.7

   = 0.3

4. χ^2 = 2.3026 × (N−1) × D

   = 2.3026 × 24 × 0.3 = 16.57

5. Correction (C) = 1+ $\frac{K+1}{3k\,(N-1)}$

   = 1+ $\frac{8+1}{3 \times 8 \times 24}$

   = 1+ $\frac{9}{576}$ = 0.0156

   = 1+ 0.0156

   = 1.0156

6. Corrected χ^2 = $\frac{\chi^2}{Correction}$ = $\frac{16.57}{1.0156}$ = 16.31

The Chi-square (χ^2) required for significance at 0.01 level with 7 degrees of freedom (df) is 18.475, and the obtained value is (16.31), which indicates that it is not significant. This reveals that the sample is homogeneous in nature and not heterogeneous.

Table-4.11 (a): Attitude Scores of Secondary Teacher Education Pupil teachers of Arts and Science Stream, Low and High Intelligence and Low and High Academic Achievement (Cognitive Variables).

ALILAA	ALIHAA	AHILAA	AHIHAA	SLILAA	SLIHAA	SHILAA	SHIHAA
Category (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
111	103	110	98	113	101	102	112
92	88	112	120	113	128	108	95
107	110	99	108	105	108	118	107
110	112	116	110	114	115	115	111
118	107	114	116	102	72	117	108
108	101	105	107	117	106	65	110
105	106	119	92	84	73	105	105
116	105	97	103	72	105	111	111
114	104	107	111	104	89	99	115
117	107	106	114	107	76	109	108
113	109	109	115	111	69	98	101
89	106	114	106	76	88	115	105
107	115	92	109	112	101	114	110
113	111	101	121	100	88	114	92
119	92	115	75	107	97	112	98
96	101	100	100	97	115	105	108
101	100	111	101	115	100	56	121
106	99	101	97	98	123	102	110
103	106	111	100	115	98	117	92
100	116	107	104	102	101	110	94
101	102	114	119	106	101	96	112
104	106	90	102	112	91	108	113
111	107	98	110	108	119	103	81
109	114	124	89	108	107	109	109
102	113	108	105	108	111	118	98
∑2672	∑2640	∑2680	∑2632	∑2606	∑2482	∑2626	∑2626

∑x=20964

Table-4.11 (b): Squared Data of Attitude Scores of Secondary Teacher Education Pupil teachers of Arts and Science Stream, Low and High Intelligence and Low and High Academic Achievement (Cognitive Variables).

ALILAA	ALIHAA	AHILAA	AHIHAA	SLILAA	SLIHAA	SHILAA	SHIHAA
Category (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12321	10609	12100	9604	12769	10201	10404	12544
8464	7744	12544	14400	12769	16384	11664	9025
11449	12100	9801	11664	11025	11664	13924	11449
12100	12544	13456	12100	12996	13225	13225	12321
13924	11449	12996	13456	10404	5184	13689	11664
11664	10201	11025	11449	13689	11236	4225	12100
11025	11236	14161	8464	7056	5329	11025	11025
13456	11025	9409	10609	5184	11025	12321	12321
12996	10816	11449	12321	10816	7921	9801	13225
13689	11449	11236	12996	11449	5776	11881	11664
12769	11881	11881	13225	12321	4761	9604	10201
7921	11236	12996	11236	5776	7744	13225	11025
11449	13225	8464	11881	12544	10201	12996	12100
12769	12321	10201	14641	10000	7744	12996	8464
14161	8464	13225	5625	11449	9409	12544	9604
9216	10201	10000	10000	9409	13225	11025	11664
10201	10000	12321	10201	13225	10000	3136	14641
11236	9801	10201	9409	9604	15129	10404	12100
10609	11236	12321	10000	13225	9604	13689	8464
10000	13456	11449	10816	10404	10201	12100	8836
10201	10404	12996	14161	11236	10201	9216	12544
10816	11236	8100	10404	12544	8281	11664	12769
12321	11449	9604	12100	11664	14161	10609	6561
11881	12996	15376	7921	11664	11449	11881	11881
10404	12769	11664	11025	11664	12321	13924	9604
∑287042	∑279848	∑288976	∑279708	∑274886	∑252376	∑281172	∑277796

∑fx=2221804

For computing, the results on the attitude scores among the pupil teachers (Cognitive Variables), table-4.11 (a) and table-4.11 (b) were used. The computational works are shown as under:

1. General correction = $\frac{(\Sigma x)^2}{N} = \frac{(20964)^2}{200}$

$$= \frac{439489296}{200}$$

$$= 2197446.48$$

2. Total Sum of Squares (T.S.S.) = $\sum x^2$ – General correction

$$= 2221804 - 2197446.48$$

$$= 24357.52$$

3. T.S.S. between sets (treatment) = $\frac{1}{25}(2672^2 + 2640^2 + 2680^2 + 2632^2 + 2606^2 + 2482^2 + 2626^2 + 2626^2) - 2197446.48$

$$= \frac{1}{25}(7139584 + 6969600 + 7182400 + 6927424 + 6791236 + 6160324 + 6895876 + 6895876) - 2197446.48$$

$$= \frac{54962320}{25} - 2197446.48$$

$$= 2198492.8 - 2197446.48$$

$$= 1046.32$$

4. Sum of square within sets:

T.S.S. within sets = T.S.S. – T.S.S. between sets

$$= 24357 - 1046.32$$

$$= 23311.2$$

5. **A- Main effect between Streams of Study and Intelligence**

Variables	Arts	Science	Total
Low Intelligence	2672 + 2640 = 5312	2606 +2482 = 5088	10400
High Intelligence	2680 +2632 = 5312	2626 + 2626 = 5252	10564
Total	10624	10340	20964

i) Sum of square in the main effect between Streams of Study and Intelligence

$$= \frac{1}{50} [(5312^2 + 5088^2 + 5312^2 + 5252^2)] - 2197446.48$$

$$= \frac{1}{50} (28217344 + 25887744 + 28217344 + 27583504) - 2197446.48$$

$$= \frac{109905936}{50} - 2197446.48$$

$$= 2198118.72 - 2197446.48$$

$$= 672.24$$

ii) Sum of square between Arts and Science Streams of Study

$$= \frac{1}{100} (10624^2 + 10340^2) - 2197446.48$$

$$= \frac{1}{100} (112869376 + 106915600) - 2197446.48$$

$$= \frac{219784976}{100} - 2197446.48$$

$$= 2197849.76 - 2197446.48$$

$$= 403.28$$

iii) Sum of square between Low Intelligence and High Intelligence

$$= \frac{1}{100}(10400^2 + 10564^2) - 2197446.48$$

$$= \frac{1}{100}(108160000 + 11598096) - 2197446.48$$

$$= \frac{219758096}{100} - 2197446.48$$

$$= 2197580.96 - 2197446.48$$

$$= 134.48$$

iv) Interaction between Streams of Study and Intelligence

$$= 672.24 - 403.28 - 134.48$$

$$= 134.48$$

B- Main effect between Intelligence and Academic Achievement

Variables	Low Intelligence	High Intelligence	Total
Low Achievement	2672+2606= 5278	2680 +2626 = 5306	10584
High Achievement	2640 + 2482 = 5122	2632 + 2626 = 5258	10380
Total	10400	10567	20964

i) Main effect between Intelligence and Academic Achievement

$$= \frac{1}{50}[(5278^2 + 5306^2 + 5122^2 + 5258^2)] - 2197446.48$$

$$= \frac{1}{50}(27857284 + 28153636 + 26234884 + 27646564) - 2197446.48$$

$$= \frac{109892368}{50} - 2197446.48$$

$$= 2197847.36 - 2197446.48$$

$$= 400.88$$

ii) Sum of square between Low Intelligence and High Intelligence

$$= \frac{1}{100}(10400^2 + 10564^2) - 2197446.48$$

$$= \frac{1}{100}(108160000 + 111598096) - 2197446.48$$

$$= \frac{219758096}{100} - 2197446.48$$

$$= 2197580.96 - 2197446.48$$

$$= 134.48$$

iii) Sum of square between Low and High Academic Achievement

$$= \frac{1}{100}(10584^2 + 10380^2) - 2197446.48$$

$$= \frac{1}{100}(112021056 + 107744400) - 2197446.48$$

$$= \frac{219765456}{100} - 2197446.48$$

$$= 2197654.56 - 2197446.48$$

$$= 208.08$$

iv) Interaction between Intelligence and Academic Achievement

= 400.88 – 134.48 – 208.08

= 58.32

C – Main effect between Streams of Study and Academic Achievement

Variables	Arts	Science	Total
Low Achievement	2672 +2680 =5352	2606 + 2626 = 5232	10584
High Achievement	2640 + 2632 =5272	2482 + 2626 = 5108	10380
Total	10624	10340	20964

i) The main effect between Stream of Study and Academic Achievement

$$= \frac{1}{50}[(5352^2 + 5232^2 + {}^2 + 15272^2 + 5108^2)] - 2197446.48$$

$$= \frac{1}{50}(28643904 + 27373824 + 27793984 + 26091644) - 2197446.48$$

$$= \frac{109903376}{50} - 2197446.48$$

$$= 2198067.52 - 2197446.48$$

$$= 621.04$$

ii) Sum of square between Arts and Science Streams of Study

$$= \frac{1}{100}(10624^2 + 10340^2) - 2197446.48$$

$$= \frac{1}{100}(112869376 + 106915600) - 2197446.4$$

$$= \frac{219784976}{100} - 2197446.48$$

$$= 2197849.76 - 2197446.48$$

$$= 403.28$$

iii) Sum of square between Low and High Academic Achievement

$$= \frac{1}{100}(10584^2 + 10380^2) - 2197446.48$$

$$= \frac{1}{100}(112021056 + 107744400) - 2197446.48$$

$$= \frac{219765456}{100} - 2197446.48$$

$$= 2197654.56 - 2197446.48$$

$$= 208.08$$

iv) Interaction between Streams of Study and Academic Achievement

$$= 621.04 - 403.28 - 208.08$$

$$= 9.68$$

Interaction: Stream of Study × Intelligence × Academic Achievement

= T.S.S. between sets – S.S. between Streams of Study – S.S. between Intelligence – S.S. between Academic Achievements – All Interaction

$$= 1046.32 - 403.28 - 134.48 - 208.08 - 134.48 - 58.32 - 9.68$$

$$= 98$$

Table -4.12: Summary of Analysis of Variance (Attitude towards Human Rights Education of Pupil teachers in relation to Cognitive Variables)

Sl. No.	Sources of Variance	S.S.	df	Mean Square	F- value
1	Streams of study (A)	403.28	1	403.28	3.32
2	Intelligence (B)	134.48	1	134.48	1.10
3	Achievements (C)	208.08	1	208.08	1.71
4	A × B	134.48	1	134.48	1.10
5	B × C	58.32	1	58.32	0.48
6	A × C	9.68	1	9.68	0.07
7	A × B × C	98	1	98	0.80
8	Treatments within sets	23311.2	192	121.41	

Interpretation:

i) The table- 4.12 shows that the computed F-value for streams of the study came out to be 3.32 and the table F-value for 1/ 192 degree of freedom (df) at 0.01 level of confidence is 6.76, which is greater than the computed F- value (3.32). Therefore, it is interpreted that the mean scores of pupil teachers regarding their attitude towards human rights education based on streams of study i.e., Arts and Science do not differ significantly and the hypothesis got retained as streams of study does not influence the attitude scores of human rights education of pupil teachers of secondary teacher education.

ii) At 0.01 level of confidence the computed F- value for Intelligence came out to be 1.10 and the table F-value is 6.76 for the degree of freedom 1/192. As the computed F-value is lesser than the table F-value the null hypothesis is not rejected and it is concluded that the mean scores of low and high intelligence level of pupil teachers attitude towards human rights education do not differ

significantly, which means that intelligence does not influence the attitude scores of pupil teachers.

iii) The obtained F-value for academic achievement came out to be 1.71 which is lesser than the table F-value (6.76) for 1/192 degree of freedom at 0.01 level of confidence. Hence, the hypothesis got retained and is interpreted that there is no significant difference in the attitude mean scores of pupil teachers belonging to low and high levels of academic achievement.

iv) Table –4.12 indicates that the obtained F-values of interactions between streams of study and intelligence, intelligence and academic achievements, streams of study and academic achievement, and the interaction among streams of study, intelligence and academic achievement were found to be 1.10, 0.48, 0.07, and 0.80 respectively, which are lesser than the table F-value (6.76). Thus, it is concluded that the interactions of the above-mentioned variables do not influence the attitude scores of pupil teachers towards human rights education.

4.7. ATTITUDE OF PUPIL TEACHERS TOWARDS HUMAN RIGHTS EDUCATION IN RELATION TO NON-COGNITIVE VARIABLES

Objective-6 (b): To find out the attitude towards human rights education among the pupil teachers of secondary school stage in relation to non-cognitive variables.

Hypotheses: H_0 (7): There is no significant difference between the attitude mean scores of pupil teachers towards human rights education belonging to;

i. Male and female

ii. Urban and rural

iii. Low and high socio-economic status groups

H_0 (8): There is no significant influence of double and triple interactions of non-cognitive variables on the attitude of pupil teachers towards human rights education.

Table-4.13: Bartlett's test of Homogeneity (Attitude towards Human Rights Education Scores of Non-Cognitive Variables)

Treatment no. (K)	Df	$\sum XK^2$	SK^2	Log SK^2
1	29	3490.3	120.35	2.08
2	29	1260.3	43.45	1.63
3	29	4158.97	143.41	2.15
4	29	3301.5	113.84	2.05
5	29	1298.67	44.78	1.65
6	29	2404.2	82.90	1.91
7	29	1112.7	38.36	1.58
8	29	3249.2	112.04	2.04

$\sum SK^2 = 699.13$ $\sum \log SK^2 = 15.09$

Computations:

1. Log $\frac{\Sigma SK^2}{K}$ = log $\frac{699.13}{8}$ = 87.35 = 1.9

2. K log $\frac{\Sigma SK^2}{K}$ = 8× 1.9 = 15.2

3. (Difference) K log $\frac{\Sigma SK^2}{K}$ − $\sum \log SK^2$

   = 15.2 – 15.09

   = 0.11

4. χ^2 = 2.3026 × (N−1) × D

   = 2.3026 × 24 × 0.11 = 7.34

5. Correction (C) = $1+\frac{K+1}{3k\,(N-1)}$

$= 1+\frac{8+1}{3 \times 8 \times 29}$

$= 1+\frac{9}{696} = 0.0129$

$= 1+ 0.0129$

$= 1.0129$

6. Corrected $\chi^2 = \frac{\chi^2}{\text{Correction}} = \frac{7.34}{1.0129} = 7.24$

The Chi-square (χ^2) required for significance at 0.01 level with 7 degrees of freedom (df) is 18.475, and the obtained value is (7.24), which indicates that it is not significant. This reveals that the sample is homogeneous in nature and not heterogeneous.

Table-4.14 (a): Attitude Scores of Secondary Teacher Education Pupil teachers of Male and Female, Urban and Rural, Low and High Socio-Economic Status (Non-Cognitive Variables).

MULSES	MUHSES	MRLSES	MRHSES	FULSES	FUHSES	FRLSES	FRHSES
Category (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
115	96	106	92	98	115	101	110
92	110	102	108	116	108	107	103
101	101	116	103	108	116	102	114
110	113	100	89	109	103	112	100
99	102	103	102	104	114	105	98
112	109	107	108	113	105	106	112
108	102	111	101	99	92	112	115
107	101	110	112	102	109	107	113
74	95	106	109	109	99	113	101
102	110	113	97	105	102	119	109
106	112	80	111	112	100	114	111
102	111	115	80	107	104	110	56
84	102	89	80	115	100	108	111
105	111	109	98	100	107	108	102
116	110	101	89	111	114	110	111
109	114	105	76	97	106	107	110
111	110	110	107	112	88	109	107
98	104	69	96	117	81	107	93
108	109	74	112	91	105	96	112
115	112	101	98	103	113	103	106
107	98	87	106	103	115	105	108
111	100	97	92	110	112	107	102
98	90	106	110	114	89	98	101
73	110	106	91	103	110	106	104
102	107	83	106	102	97	111	105
110	105	96	108	118	115	114	104
103	92	106	89	102	117	90	107
113	98	109	116	98	111	115	105
94	107	100	101	108	107	102	98
114	100	112	87	104	101	116	104
∑3099	∑3141	∑3029	∑2974	∑3190	∑3155	∑3220	∑3132

∑x=24940

Table-4.14 (b): Squared Data of Attitude Scores of Secondary Teacher Education Pupil teachers of Male and Female, Urban and Rural, Low and High Socio-Economic Status (Non-Cognitive Variables).

MULSES	MUHSES	MRLSES	MRHSES	FULSES	FUHSES	FRLSES	FRHSES
Category (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
13255	9216	11236	8464	9604	13225	10201	12100
8464	12100	10404	11664	13456	11664	11449	10609
10201	10201	13456	10609	11664	13456	10404	12996
12100	12769	10000	7921	11881	10609	12544	10000
9801	10404	10609	10404	10816	12996	11025	9604
12544	11881	11449	11664	12769	11025	11236	12544
11664	10404	12321	10201	9801	8464	12544	13225
11449	10201	12100	12544	10404	11881	11449	12769
5476	9025	11236	11881	11881	9801	12769	10201
10404	12100	12769	9409	11025	10404	14161	11881
11236	12544	6400	12321	12544	10000	12996	12321
10404	12321	13225	6400	11449	10816	12100	3136
7056	10404	7921	6400	13225	10000	11664	12321
11025	12321	11881	9604	10000	11449	11664	10404
13456	12100	10201	7921	12321	12996	12100	12321
11881	12996	11025	5776	9409	11236	11449	12100
12321	12100	12100	11449	12544	7744	11881	11449
9604	10816	4761	9216	13689	6561	11449	8649
11664	11881	5476	12544	8281	11025	9216	12544
13225	12544	10201	9604	10609	12769	10609	11236
11449	9604	7569	11236	10609	13225	11025	11664
12321	10000	9409	8464	12100	12544	11449	10404
9604	8100	11236	12100	12996	7921	9604	10201
5329	12100	11236	8281	10609	12100	11236	10816
10404	11449	6889	11236	10404	9409	12321	11025
12100	11025	9216	11664	13924	13225	12996	10816
10609	8464	11236	7921	10404	13689	8100	11449
12769	9604	11881	13456	9604	12321	13225	11025
8836	11449	10000	10201	11664	11449	10404	9604
12966	10000	12544	7569	10816	10201	13456	10816
∑323617	∑330123	∑309987	∑298124	∑340502	∑334205	∑346726	∑330230

∑fx=2613514

For computing, the results on the attitude scores among the pupil teachers in relation to non-cognitive variables, table-4.14 (a) and table-4.14 (b) were used. The computational works are shown as under:

1. General correction = $\frac{(\Sigma x)^2}{N} = \frac{(24940^2)}{240}$

$= \frac{622003600}{240}$

$= 2591681.66$

2. T.S.S. = $\sum x^2$ – General correction

$= 2613514 - 2591681.66$

$= 21832.34$

3. Sum of square between sets = $\frac{1}{30}$ $(3099^2 + 3141^2 + 3029^2 + 2974^2 + 3190^2 + 3155^2 + 3220^2 + 3132^2) - 2591681.66$

$= \frac{1}{30}$ $(9603801 + 9865881 + 9174841 + 8844676 + 10176100 + 9954025 + 10368400 + 9809424) - 2591681.66$

$= \frac{77797148}{30} - 2591681.66$

$= 2593238.26 - 2591681.66$

$= 1556.6$

4. Sum of square within sets

T.S.S. within sets = T.S.S. – T.S.S. between sets

$= 21832.34 - 2591681.66$

$= 20275.74$

5. **A- Main effect between Gender and Socio-Economic Status**

Variables	Male	Female	Total
Low SES	3099 +3029 = 6128	3190 + 3220 = 6410	12538
High SES	3141 + 2974 = 6115	3155 + 3132 = 6287	12402
Total	12243	12697	24940

i) Sum of square in the main effect between Gender and Socio-Economic Status

$= \frac{1}{60} [(6128^2 + 6410^2 + 6115^2 + 6287^2)] - 2591681.66$

$= \frac{1}{60} (37552384 + 41088100 + 37393225 + 39526369) - 2591681.66$

$= \frac{155560078}{60} - 2591681.66$

$= 2592667.96 - 2591681.66$

$= 986.3$

ii) Sum of square between Male and Female

$= \frac{1}{120} (12243^2 + 12697^2) - 2591681.66$

$= \frac{1}{120} (149891049 + 161213809) - 2591681.66$

$= \frac{311104858}{120} - 2591681.66$

$= 2592540.48 - 2591681.66$

$= 858.82$

iii) Sum of square between Low Socio-Economic Status and High Socio-Economic Status

$$= \frac{1}{120}(12538^2 + 12402^2) - 2591681.66$$

$$= \frac{1}{120}(157201444 + 153809604) - 2591681.66$$

$$= \frac{311011048}{120} - 2591681.66$$

$$= 2591758.73 - 2591681.66$$

$$= 77.07$$

iv) Interaction between Gender and Socio-Economic Status

$$= 986.3 - 858.82 - 77.07 = 50.41$$

B- Main effect between Socio-Economic Status and Locality

Variables	Low SES	High SES	Total
Urban	3099 +3190 = 6289	3141 +3155 = 6296	12585
Rural	3029 +3220 = 6249	2974 +3132 =6106	12355
Total	12538	12402	24940

i) The main effect between Socio-Economic Status and Locality

$$= \frac{1}{60}[(6289^2 + 6296^2 + 6249^2 + 6106^2)] - 2591681.66$$

$$= \frac{1}{60}(39551521 + 39639616 + 39050001 + 37283236) - 2591681.66$$

$$= \frac{155524374}{60} - 2591681.66$$

$$= 2592072.9 - 2591681.66$$

= 391.24

ii) Sum of square between Low Socio-Economic Status and High Socio-Economic Status

$$= \frac{1}{120}(12538^2 + 12402^2) - 2591681.66$$

$$= \frac{1}{120}(157201444 + 153809604) - 2591681.66$$

$$= \frac{311011048}{120} - 2591681.66$$

$$= 2591758.73 - 2591681.66$$

$$= 77.07$$

iii) Sum of square between Urban and Rural

$$= \frac{1}{120}(12585^2 + 12355^2) - 2591681.66$$

$$= \frac{1}{120}(158382225 + 152646025) - 2591681.66$$

$$= \frac{311028250}{120} - 2591681.66$$

$$= 2591902.08 - 2591681.66$$

$$= 220.42$$

iv) Interaction between Socio-Economic Status and Locality

$$= 391.24 - 77.07 - 220.42$$

$$= 93.75$$

C – Main effect between Gender and Locality

Variables	Male	Female	Total
Urban	3099 + 3141 = 6240	3190 + 3155 = 6345	12585
Rural	3029 + 2974 = 6003	3220 +3132 = 6352	12355
Total	12243	12697	24940

i) The main effect between Gender and Locality

$$= \frac{1}{60}\left[(6240^2 + 6345^2 + 6003^2 + 6352^2)\right] - 2591681.66$$

$$= \frac{1}{60}(38937600 + 40259025 + 36036009 + 40347904) - 2591681.66$$

$$= \frac{155580538}{60} - 2591681.66$$

$$= 2593008.96 - 2591681.66$$

$$= 1327.3$$

ii) Sum of square between Male and Female

$$= \frac{1}{120}(12243^2 + 12697^2) - 2591681.66$$

$$= \frac{1}{120}(149891049 + 161213809) - 2591681.66$$

$$= \frac{311104858}{120} - 2591681.66$$

$$= 2592540.48 - 2591681.66$$

$$= 858.82$$

iii) Sum of square between Urban and Rural

$$= \frac{1}{120}(12585^2 + 12355^2) - 2591681.66$$

$$= \frac{1}{120}(158382225 + 152646025) - 2591681.66$$

$$= \frac{311028250}{120} - 2591681.66$$

$$= 2591902.08 - 2591681.66$$

$$= 220.42$$

iv) Interaction between Gender and Locality

$$= 1327.35 - 858.82 - 220.42$$

$$= 248.06$$

Interaction: Gender × Locality × Socio-Economic Status

= T.S.S. between sets – S.S. between Streams of Study – S.S. between Intelligence – S.S. between Academic Achievements – All Interaction

$$= 1556.6 - 858.82 - 220.42 - 77.07 - 50.41 - 93.75 - 248.06$$

$$= 8.07$$

Table -4.15: Summary of Analysis of Variance (Attitude towards Human Rights Education of Pupil teachers in relation to Non-Cognitive Variables)

Sl. No.	Sources of Variance	S.S.	df	Mean Square	F- value
1	Gender (A)	858.82	1	858.82	9.82
2	SES (B)	77.07	1	77.07	0.88
3	Locality (C)	220.42	1	220.42	2.52
4	A × B	50.41	1	50.41	0.57
5	B× C	93.75	1	93.75	1.07
6	A × C	248.06	1	248.06	2.83
7	A × B × C	8.07	1	8.07	0.92
8	Treatments within sets	20275.74	232	87.39	

Interpretation:

i) The table-4.15 indicates that the obtained F-value for the main effect of gender came out to be 9.82 whereas the table F-value for 1/232 degree of freedom at 0.01 level is 6.76. The obtained F-value is greater than the table F-value (6.76). Therefore, it is interpreted that the attitude mean score of male and female differ significantly and the hypothesis got rejected as the variable gender influences the attitude of pupil teachers towards human rights education.

ii) The F-value for the main effect of socio-economic status came out to be 0.88 and the computed F-value (0.88) is lesser than the table F-value 6.76 for 1/232 df at 0.01 level of confidence. Hence, the hypothesis is not rejected and it is interpreted that the variable socio-economic status does not influence the attitude mean score of pupil teachers towards human rights education.

iii) Table- 4.15 shows that the computed F-value of the locality came out to be 2.52 which is not significant at 0.01 level of confidence for 1/232 df as the obtained

value is lesser than the table F-value 6.76. Therefore, the hypothesis got retained and it is interpreted that the variable locality does not influence the attitude mean scores of pupil teachers of secondary teacher education.

iv) Table – 4.15 reveals that the computed F-values of interactions between gender and socio-economic status were found to be 0.57 which is not significant at 0.01 level for 1/232 df. The obtained F-value (0.57) is lesser than the table F-value (6.76) at 0.01 level of confidence. Therefore, the hypothesis got retained and it is interpreted that there is no significant influence of gender and socio-economic status on the attitude mean scores of pupil teachers regarding human rights education.

v) Table- 4.15 shows that the obtained F-value of interaction between socio-economic status and locality was found out to be 1.07 and the table F-value 6.76 for 1/ 232 degree of freedom (df) at 0.01 level of confidence is greater than the computed F- value (1.07). Therefore, it is interpreted that the mean score of pupil teachers regarding their attitude towards human rights education based on socio-economic status and locality do not differ significantly and the hypothesis is retained as it does not influence the attitude scores of pupil teachers towards human rights education.

vi) The obtained F-value for the interaction of gender and locality came out to be 2.83 which is lesser than the table F-value (6.76) for 1/232 degree of freedom at 0.01 level of confidence. Hence, the hypothesis is retained and stated that the interaction of gender and locality does not influence the attitude mean scores of pupil teachers towards human rights education.

vii) Table-4.15 shows that the computed F-value of triple interaction of gender, socio-economic status and locality was found to be 0.92 and is lesser than the table F-value (6.76) which indicates that the value is not significant at 0.01 level of confidence and the hypothesis got retained. Thus, it is concluded that the triple interactions of gender, socio-economic status and locality does not influence the attitude mean score of pupil teachers towards human rights education.

All the computed f-values for cognitive and other two non-cognitive variables (socio-economic status and locality) came out to be not significant about the attitude of pupil teachers towards human rights and human rights education. It means that the pupil teachers possess a favorable attitude towards human rights and human rights education irrespective of streams of study, intelligence, academic achievement, socio-economic status and locality. Whereas, concerning gender, the attitude mean score of female pupil teachers was found higher than the male pupil teachers. Female pupil teachers having better or more positive or favorable attitude than male pupil teachers proves that female pupil teachers seem to perceive better knowledge on the importance of human rights education. It could also lead to the conclusion that male pupil teachers were taking human rights education for granted to an extent. So, human rights and human rights education awareness training programme may be organized and it will enhance their ability to teach about human rights and human rights education at the secondary school stage. For this purpose, the government of Nagaland especially the educational administrators are to take some initiatives in this direction.

4.8. RELATIONSHIP BETWEEN HUMAN RIGHTS EDUCATION AWARENESS OF PUPIL TEACHERS AND THEIR COGNITIVE VARIABLES

Objective-7 (a): To find out the relationship between human rights education awareness among the pupil teachers and their cognitive variables.

Hypothesis: H_0 (9): There is no significant relationship between the human rights education awareness scores of pupil teachers and their Intelligence, Academic Achievement, Streams of Study.

Table 4.16: Correlation of Human Rights Education Awareness (HREA) and Cognitive Variables

Dependent Variable	Intelligence	Academic Achievement	Streams of Study
HREA	0.089		
		-0.075	
			0.054

Interpretation:

i) The table- 4.16 reveals that the computed coefficient of correlation value came out to be 0.089 which is greater than the criterion (table) value of the coefficient of correlation 0.062 for 638 degree of freedom (df) at .05 level of significance, hence, the computed 'r' value (0.089) has been considered significant and the formulated hypothesis " there is no significant relationship between the human rights education awareness scores of pupil teachers and their Intelligence" got rejected. From this, it is interpreted that human rights education awareness among the pupil teachers is significantly related to their intelligence.

ii) The table- 4.16 further shows that the computed coefficient of correlation between the human rights education awareness and academic achievement scores of the pupil teachers came out to be – 0.075, which is greater than the table value of coefficient correlation 0.062 for 638 degree of freedom (df) at .05 level of significance, hence, the computed 'r' value (-0.075) has been considered significant and the formulated hypothesis "There is no significant relationship between the human rights education awareness scores of pupil teachers and their Academic Achievement" got rejected, and it shows that the relationship exists and it has been found negative in nature which means that good academic performers have been found poor in human rights education awareness and good in human rights education awareness have been observed poor in academic performance.

iii) The table- 4.16 indicates that the computed coefficient of correlation was found 0.054 between the human rights education awareness scores of arts and science pupil teachers. The computed 'r' value (0.054) has been found lesser than the criterion 'r' value (0.138) at .05 level of significance for 266 degree of freedom, hence the formulated hypothesis "There is no significant relationship between the human rights education awareness scores of pupil teachers and their Streams of Study" got retained. From this, it is interpreted that the human rights education awareness scores of arts and science pupil teachers do not have any significant relationship.

4.9. RELATIONSHIP BETWEEN HUMAN RIGHTS EDUCATION AWARENESS OF PUPIL TEACHERS AND THEIR NON-COGNITIVE VARIABLES

Objective-7 (b): To find out the relationship between human rights education awareness among the pupil teachers and their non-cognitive variables

Hypothesis: H_0 (10): There is no significant relationship between the human rights education awareness scores of pupil teachers and their Gender, Socio-economic Status, Locality.

Table 4.17: Correlation of Human Rights Education Awareness (HREA) and Non-Cognitive Variables

Dependent Variable	Gender	Socio-economic Status	Locality
HREA	0.054		
		0.012	
			0.076

Interpretation:

i) The table- 4.17 shows that the computed coefficient of correlation between the human rights education awareness scores of male and female pupil teachers came out to be 0.054 which is lesser than the criterion 'r' value (0.138) at .05 level of significance for 252 degree of freedom, hence, the computed 'r' value (0.054) has not been considered significant and the formulated hypothesis "There is no significant relationship between the human rights education awareness scores of pupil teachers and their Gender" got retained. From this, it is interpreted that the human rights education awareness scores of male and female pupil teachers do not have any relationship. They were found independent in terms of their gender.

ii) Similarly, the table- 4.17 shows that the computed 'r' value came out to be 0.012 which is lesser than the criterion 'r' value (0.062) at .05 level of significance for 638 degree of freedom, therefore, the computed 'r' value (0.012) has not been considered significant and the formulated hypothesis "There is no significant relationship between the human rights education awareness scores of pupil teachers and their Socio-Economic Status" got retained. From this, it is interpreted that the human rights education awareness scores do not have any matching with socio-economic status scores of pupil teachers. These scores were found quite independent in nature.

iii) The table- 4.17 reveals that the computed 'r' value between the human rights education awareness scores of urban and rural background pupil teachers came out to be 0.076 which is lesser than the criterion 'r' value (0.113) at .05 level of significance for 306 degree of freedom, hence, the computed 'r' value (0.076) has not been considered significant and the formulated hypothesis "There is no significant relationship between the human rights education awareness scores of pupil teachers and their Locality" got retained. From this, it is interpreted that the human rights education awareness scores of urban and rural background pupil teachers do not have any significant relationship and these scores were found independent in nature.

4.10. RELATIONSHIP BETWEEN THE ATTITUDE OF PUPIL TEACHERS TOWARDS HUMAN RIGHTS EDUCATION AND THEIR COGNITIVE VARIABLES

Objective-8 (a): To find out the relationship between the attitude of pupil teachers towards human rights education and their cognitive variables.

Hypothesis: H_0 (11): There is no significant relationship between the attitude scores of pupil teachers towards human rights education and their Intelligence, Academic Achievement, Stream of Study.

Table 4.18: Correlation of Attitude Towards Human Rights Education and Cognitive Variables

Dependent Variable	Intelligence	Academic Achievement	Streams of Study
Attitude	0.046		
		- 0.009	
			0.035

Interpretation:

i) The table- 4.18 indicates that the computed 'r' values between attitude scores and all the cognitive variables like intelligence, academic achievement, and streams of study of pupil teachers came out to be 0.046, - 0.009, and 0.035 respectively which is lesser than the table 'r' value (0.062), (0.062), (0.138) for 638, 638, and 266 degrees of freedom and all these computed 'r' values were not found significant at .05 level of confidence, so the formulated hypothesis "There is no significant relationship between the attitude scores of pupil teachers towards human rights education and their Intelligence, Academic Achievement, Stream of Study" got retained. From this, it is interpreted that the

intelligence, academic achievement, and streams of study have not shown any relationship with the attitude of pupil teachers towards human rights education.

4.11. RELATIONSHIP BETWEEN THE ATTITUDE OF PUPIL TEACHERS TOWARDS HUMAN RIGHTS EDUCATION AND THEIR NON-COGNITIVE VARIABLES

Objective-8 (b): To find out the relationship between the attitude of pupil teachers towards human rights education and their non-cognitive variables.

Hypothesis: H_0 (12): There is no significant relationship between the attitude scores of pupil teachers towards human rights education and their Gender, Socio-economic Status, Locality.

Table 4.19: Correlation of Attitude Towards Human Rights Education and Non-Cognitive Variables

Dependent Variable	Gender	Socio-economic Status	Locality
Attitude	0.081		
		-0.038	
			0.070

Interpretation:

i) Table- 4.19 indicates that the computed 'r' value came out to be 0.081 relating to the attitude scores of male and female pupil teachers towards human rights education. The computed 'r' value (0.081) has not been found significant as it is found lesser than the table 'r' value (0.138) for 252 degree of freedom at .05 level of significance. Therefore, the formulated hypothesis "There is no significant relationship between the attitude scores of pupil teachers towards

human rights education and their Gender" got retained which means that the attitude scores of male and female pupil teachers were not found related to each other.

ii) In case of socio-economic status and attitude of the pupil teachers, the computed 'r' value came out to be - 0.038 which is found lesser than the table 'r' value 0.062 for 638 degree of freedom. Hence, it has not been found significant and consequently the formulated hypothesis "There is no significant relationship between the attitude scores of pupil teachers towards human rights education and their Socio-Economic Status" got retained which means that the attitude and socio-economic status scores do not have much association with each other.

iii) The table- 4.19 shows that the computed 'r' value of attitude scores of urban and rural pupil teachers came out to be 0.070 which was found lesser than the table 'r' value (0.113) at .05 level of significance for 306 degree of freedom and the computed 'r' value (0.070) has not been considered significant. Therefore, the formulated hypothesis "There is no significant relationship between the attitude scores of pupil teachers towards human rights education and their Locality" got retained which means that the attitude scores of urban and rural pupil teachers do not have a relationship.