CHAPTER - V

ANALYSIS AND INTERPRETATION OF DATA

No human investigation can be called true science without passing through mathematical tests said Leonard da vince and very truly so. Thus the investigator has analyzed the data collected statistically so as to establish scientifically whether the objectives of the study have been fulfilled or not.

5.1 Analysis of the effectiveness of the tool :

R.Q.1 Whether the tool developed by investigator is effective in measuring the selected values?

The data was analyzed in two ways. The interpretation is discussed under Descriptive validity and Test Reliability.

Descriptive Validity:

Descriptive Validity concerns the clarity of concepts and language in operation in empirical terms. 40 behavioural situations, belonging to four values domains Secularism (S) Conservation (C) Equality (E) and Scientific Temper (St.) were developed. Each item was analyzed and rated by four judges. 85% items (36) obtained hundred percent agreement. 45% items (2) obtained 75% agreement and 10% (4) Were rejected. Hence 36 items were retained for the final try out.

Inter Rater agreement for Try Out items on selected values has been given in table No. 3.2 page 29.

Test Reliability :

Reliability was tested on the sample group of 50. Reliability coefficient r_{11} was found to be .75. Thus was considered significantly reliable.

5.2   Analysis of Status of Four values in the group at the time of assessment.

R.Q.3   What is the status of four selected values among the students?

Table - 5.1: Distribution above and below Mean

Name of Value	% above Mean	% below Mean
Secularism (S_1)	44.8%	29.50
Conservation (C_1)	47.54%	33.87%
Equality (E_1)	53.00%	36.61%
Scientific Temper (St_1)	39.34%	41.53%

Analysis of the Table 5.2 The percentage distribution of students above and below mean can be interpreted as -

1.   Only Equality as a Value has more than 50% students with perception higher than mean indicates that equality has been better internalized as compared to other values but 37% below mean also suggests clarification strategies are still required.

2.   Secularism as a value though has 45% of students above group mean and about 30% below mean indicates that more effort on

the inculcation strategies focusing secularism may yield a better result.

3. Conservation as a Value has about 48% students above mean but about 34% students are still below mean which indicates that the value needs marked efforts so as to strengthen conceptualization and internalization.

4. The status of 41.53% students below mean in scientific temper indicates that a special focus is required as far as this particular value is concerned.

R.Q.2 Whether the atmosphere is equally conducive for all the selected values?

Table - 5.2 : Descriptive Statistics for Group

	N	Minimum	Maximum	Mean	Average Score in% marks	Skewness
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
S1	183	2.00	18.00	12.3060	68.33%	-.513
C1	183	4.00	18.00	12.3552	68.61%	-.324
E1	183	6.00	18.00	12.7049	70.55%	-.386
ST1	183	6.00	16.00	11.7049	65.00%	-.164

S_1 = Secularism; C_1 = Conservation

E_1 = Equality; St_1 = Scientific Temper

1. According to the Table 5.3 Descriptive statistics for the group. We find that the status of perception of only one value i.e. Equality (E1) is above 70% whereas all the other three value have a perception of 68% in secularism & Conservation and 65% in Scientific Temper.

The data suggests that while that atmosphere is quiet conducive for equality it has much scope for efforts in the domains of secularism (conservation, scientific temper)

2. The Skewness for the four values in table 5.3 indicate a tendency towards negative skewness but the magnitude of skewness being small the distribution of scores can be considered more or less normal.

    Thus the data clearly outlines average status of the four values.

5.3   Analysis of the effect of School type on the four values.

R.Q.4   Whether the School type has any effect on the values?

Is there any significant difference between the students of two types of school?

Table - 5.3 : t - Test for School Type (Group)

	SC. Type	N	Mean	Std. Deviation	df.	t	Level of significan
Secularism	1.00	101	12.1287	2.8519	181	-.962	in-signific
	2.00	82	12.5244	2.6584	177.536	-.969	
Conservation	1.00	101	12.1881	2.5718	181	-1.319	in-signific
	2.00	82	12.6829	2.4640	176.079	-.1.325	
Equality	1.00	101	12.4455	3.,0577	181	-1.294	in-signific
	2.00	82	13.0244	2.9480	175.711	-1.299	
Scientific Temper	1.00	101	11.6733	3.1084	181	-.156	in-signific
	2.00	82	11.7439	2.9848	175.949	-.156	

SC = School type.

1. Values in the Table 5.4 are interpreted as declaring that there is no significant difference between the students of two type of schools. So we can say that perception in values is independent of school type. Studies by DAS (1991), Chand (1992), Pradhan, Chandra and Thakkar (1994) mentioned earlier, also came to

the same conclusion while Pradhan (1992) found that mean DIT scores of private school students were slightly higher although the difference was statistically insignificant.

Table - 5.4 : - t - Test for School type only girls

	SC. Type	N	Mean	Std. Deviation	df.	t	Level of significanc
Secularism	1.00	62	11.6290	3.0040	108	-1.966	in-significal
	2.00	48	12.7083	2.6494	106.120	-1.998	
Conservation	1.00	62	12.1774	2.4261	108	-.636	in-significal
	2.00	48	12.4792	2.5179	99.313	-.633	
Equality	1.00	62	12.5968	2.9110	108	-1.366	in-significal
	2.00	48	13.3542	2.8471	102.257	-1.370	
Scientific Temper	1.00	62	11.7097	3.1952	108	1.044	in-significal
	2.00	48	11.0833	3.0235	103.636	1.051	

2. 't' Values in the Table 5.5 declare that there is no significant difference between the girls of two types of schools. Hence we can say that school type has no significant effect on the perception of values among girls.

Table - 5.5 : t - Test for school type only boys

	SC. Type	N	Mean	Std. Deviation	df.	t	Level of significance
Secularism	1.00	39	12.9231	2.4212	71	1.101	in-significar
	2.00	34	12.2647	2.6890	67.047		
Conservation	1.00	39	12.2051	2.8208	71	-1.240	in-significar
	2.00	34	12.9706	2.3930	70.955	-1.254	
Equality	1.00	39	12.2051	3.3021	71	-.472	in-significar
	2.00	34	12.5588	3.0668	70.699	-.474	
Scientific Temper	1.00	39	11.6154	3.0054	71	-1.576	in-significar
	2.00	34	12.6765	2.7049	70.919	-1.587	

The 't' value in the table are interpreted as declaring no significant difference between, the boys of two types of schools. Thus we can now say that perception of values is independent of school type. Studies by Das (1991) Pradhan (1992) and

Pradhan, Chandra and Thakkar (1994) referred earlier had both boys and girls in their sample. Hence their generalization can be extended both for boys and girls.

Analyses of effect of Gender on the Value.

RQ.5   To examine whether achievement in selected values is affected by the gender?

Table - 5.6 : t - Test Gender

	SC. Type	N	Mean	Std. Deviation	df.	t	Level of significar
Secularism	1.00	110	12.4000	2.8924	181	-1.238	in-signific
	2.00	73	12.6164	2.5529	166.910	-1.270	
Conservation	1.00	110	12.3091	2.4598	181	-.660	in-signific
	2.00	73	12.5616	2.6404	146.678	-.651	
Equality	1.00	110	12.9273	2.8948	181	1.226	in-signific
	2.00	73	12.3699	3.1776	144.247	1.204	
Scientific Temper	1.00	110	11.4364	3.1229	181	-1.469	in-signific
	2.00	73	12.1096	2.8990	162.095	-1.491	

Obtained 't' valves are interpreted as declaring no significant difference between the value perception in boys or girls. Thus it can be said that value perception is independent of gender. Studies by Chand (1992), Pradhan, Chandra and Thakkar (1994), Bajpai (1991) also come upon such findings.

5.5   Analysis of Ratings of Selected Values done by the Students.

R.Q.   How do the students rate the selected values according to their own perception?

Rating has been interpreted in two ways:

1.   Interpretation of Ratings for individually for each value.
2.   Interpretation of Rating for four values in comparison.

Frequency Table

Table - 5.7 : Secularism (S2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4.00	39	21.2	21.3	100.0
	3.00	43	23.4	23.5	78.7
	2.00	45	24.5	24.6	55.2
	1.00	56	30.4	30.6	30.6
	Total	183	99.5	100.0	

Table - 5.8 : Conservation (C2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4.00	22	12.0	12.0	100.0
	3.00	44	23.9	24.0	88.0
	2.00	63	34.2	34.4	63.9
	1.00	54	29.3	29.5	29.5
	Total	183	99.5	100.0	

Table - 5.9 : Equality (E2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4.00	65	35.3	35.5	100.0
	3.00	61	33.2	33.3	64.5
	2.00	38	20.7	20.8	31.1
	1.00	19	10.3	10.4	10.4
	Total	183	99.5	100.0	

Table - 5.10 : Scientific Temper (ST2)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4.00	56	30.4	30.6	100.0
	3.00	34	18.5	18.6	69.4
	2.00	37	20.1	20.2	50.8
	1.00	56	30.4	30.6	30.6
	Total	183	99.5	100.0	

1.   Secularism (S_2)

Rank 4 .... Rank

30.4% 21.2%
23.5% 24.6%

1st Qtr
2nd Qtr
3rd Qtr
4th Qtr

Rank .... Rank 2
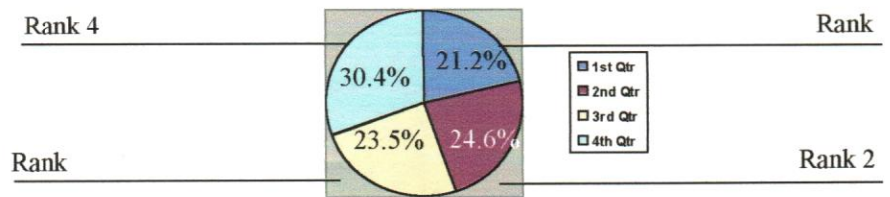
Fig. 5.1 : Pie Chart for Frequency in S_2

Referring to the pie chart s2 and frequency table (S2) 5.8 the rating for this value show a very distinct trend showing that 30.6% of the students have ranked it at the fourth place and only 21.3/% rate it at the first place. Also second and third ratings together make a 50% of the student.

Trend clearly indicates a lacunae where perception of secularism is concerned and calls for immediate attention

2.   Conservation : (C2)

Rank 4 .... Rank

12%
29.5% 24%
34.4%

1st Qtr
2nd Qtr
3rd Qtr
4th Qtr

Rank 3 .... Rank 2
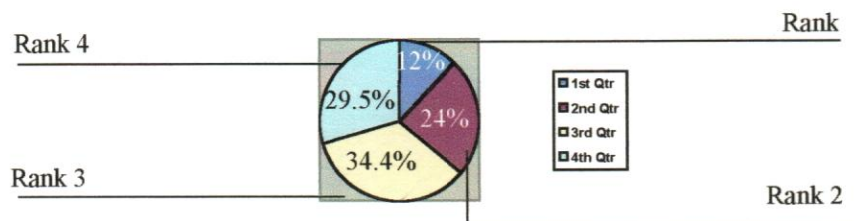
Fig. 5.2 : Pie chart for C2

The pie chart for C2 and frequency table 5.9 when interpreted relate that very few (12%) of students rank it at first place whereas 63.9% student consider its importance at third (34.4%) and fourth (29.5%) place.

Analyses clearly signifies that perceptualization of conservation as a value of primary importance has to be nourished by
discussing the rationale of conservation with human survival
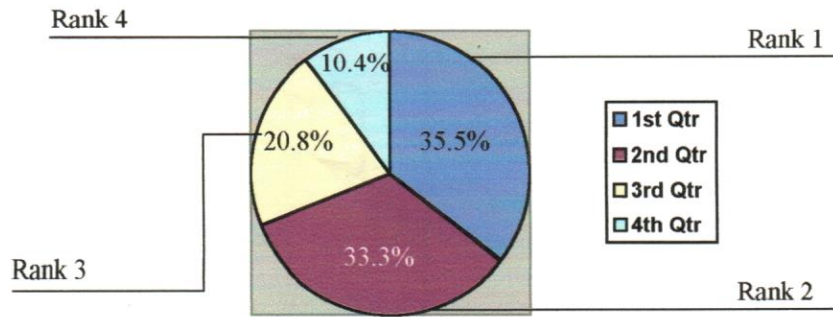
3.   Equality (E2

Fig. 5.3 : Pie Chart for E2

Pie chart for E2 and frequency table 5.10 when analysed show a marked preference for the value with 35.5% students ranking it at the first place and 33.3 giving it second place thus only about 40% students rank it at third and fourth place. Hence we may interpret that clear preference for the value is present and must be encouraged.
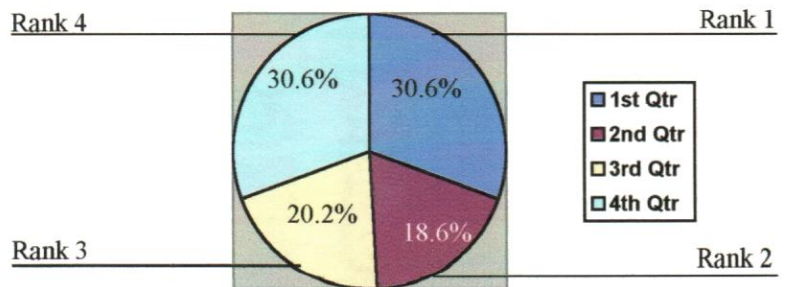
4.   Scientific Temper (ST2)

Fig. 5.4 : Pie Chart (ST2)

Pie chart ST2 and frequency table 5.11 present a very interesting trend in the opinion about the value. There is a clear split of opinion regarding worth of scientific temper with 30.6% students ranking it at first place and 30.66% students ranking it at first place and 30.6% students regard it at second or third place. Ranking indicates that a focus must be increased on

B. **Interpretation of four value in comparison.**

Bar diagrams for 4 Values at Ranks 1, 2, 3 & 4.

Fig. 5.5, Fig. 5.6, Fig. 5.7, Fig. 5.8

Rank 1 Fig. 5.5

Rank 2 Fig. 5.6

Rank 3 Fig. 5.7

Rank 4 Fig. 5.5
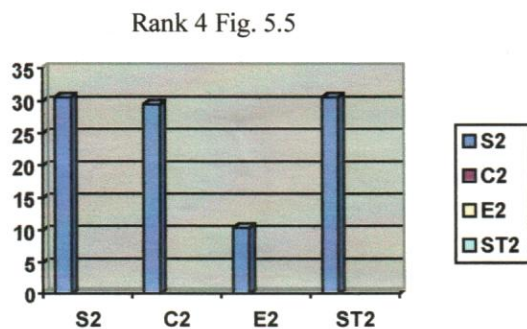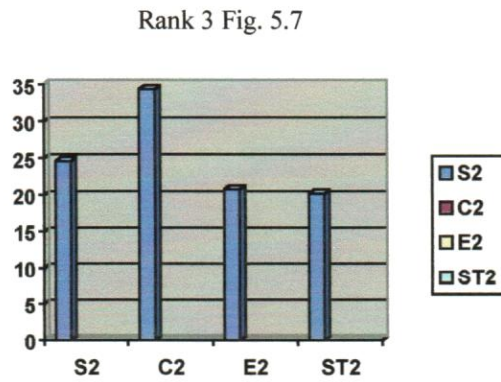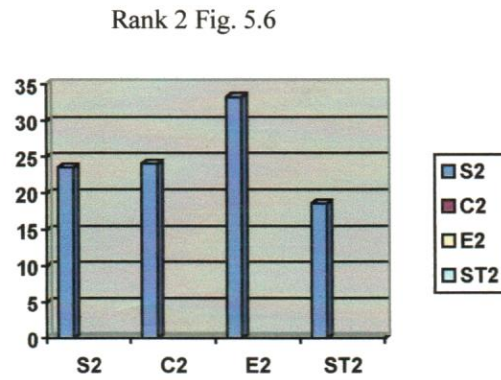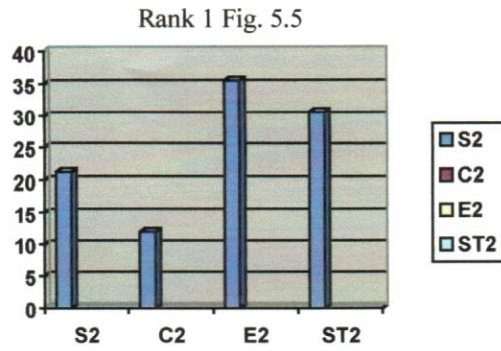
1. Bar diagrams for the four values at ranks 1,2,3 and 4 when analyzed indicate that equality as a value has a strong recommendation in the minds of students which can be taken as a positive sign. Whereas secularism with highest place fourth rank needs special focus so as to clarify the concept.

2. Also the Bar diagrams for Ranks three and four clarly indicate that conservation as a value emerges in a low profile indicating scope for inculcation strategies to be strengthened.

3. Scientific temper with its comparatively high position both on first as well as fourth place makes way for an enquiry into the reason. Nevertheless it also indicates that comparatively more attention is to be paid into this value.

The Analysis and interpretation of the data has disclosed certain major findings and perhaps will be of some use in the field of elementary education. These conclusions major findings and educational implications have been discussed in next chapter