CHAPTER 4
DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This study of scientific attitude of science pupil teachers focused on the following three objectives:

1. To measure the scientific attitude of science pupil teachers of the following courses:
a) B.Sc.- B.Ed. program
b) B.Ed.-M.Ed. program
c) B.Ed. program

2. To compare the mean scores of scientific attitude of science pupil teachers of B.Sc.-B.Ed., B.Ed.-M.Ed. and B.Ed. programs.

3. To compare the mean scores of scientific attitude of male and female science pupil teachers.

In order to meet these objectives, a detailed study was undertaken in the following manner:

4.2 Objective 1

To measure the scientific attitude of science pupil teachers of the following courses:
a) B.Sc.- B.Ed. program
b) B.Ed.-M.Ed. program
c) B.Ed. program

To meet this objective, responses for the scientific attitude scale were first organized based on their courses i.e., B.Ed.-M.Ed., B.Sc.-B.Ed. and B.Ed. The responses were then scored and final scores were calculated according to **Table3.3**. The final scores were then analysed based on **Table3.4.**

4.2.1 Overall Analysis of Scientific Attitude Scores of Science Pupil Teachers:

Table 4.1 shows that among all the 90 science pupil teachers, 2.2% have very low scientific attitude; 31.1% have low scientific attitude; 47.7% have moderate scientific attitude and only 18.8% have high scientific attitude.

	Total Pupil Teachers	VERY LOW		LOW		MODERATE		HIGH	
Scientific Attitude	90	No.	%	No.	%	No.	%	No.	%
		2	2.2	28	31.1	43	47.7	17	18.8

Table 4.1 Level of Scientific Attitude of Science Pupil Teachers

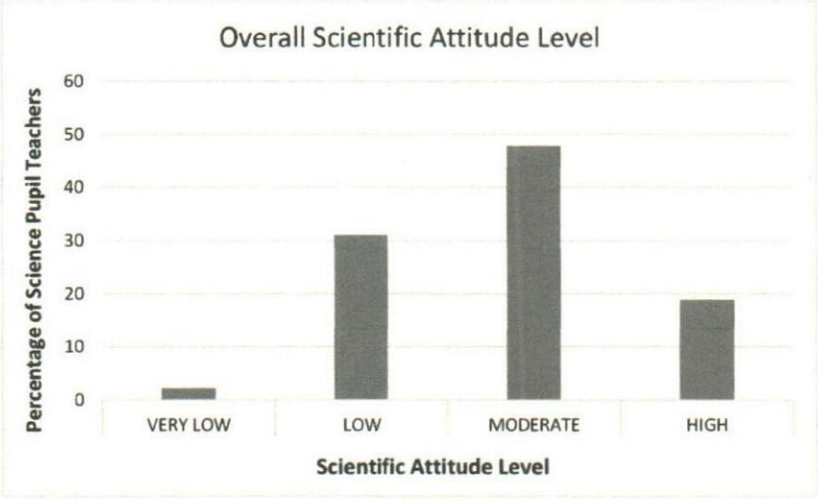

Figure 4.1Overall Scientific Attitude Level of Science Pupil Teachers

4.2.2 Analysis of Scientific Attitude Scores with respect to the three courses:

S.NO.	COURSE	VERY LOW		LOW		MODERATE		HIGH	
		No.	%	No.	%	No.	%	No.	%
1	B.Ed.-M.Ed.	1	3.3	10	33.3	15	50	4	13.3
2	B.Sc.-B.Ed.	1	3.3	9	30	13	43.3	7	23.3
3	B.Ed.	0	0	9	30	15	50	6	20

Table 4.2 Level of Scientific Attitude of Science Pupil Teachers with respect to their courses

Table 4.2 shows that among the 30 science pupil teachers of B.Ed.-M.Ed., 3.3% have very low scientific attitude level, 33.3% have low scientific attitude level, 50% have moderate scientific attitude level and 13.3 % have high scientific attitude level.

Among the 30 science pupil teachers of B.Sc.-B.Ed., 3.3% have very low scientific attitude level, 30% have low scientific attitude level, 43.3% have moderate scientific attitude level and 23.3 % have high scientific attitude level.

Among the 30 science pupil teachers of B.Ed., 0% have very low scientific attitude level, 30% have low scientific attitude level, 50% have moderate scientific attitude level and 20% have high scientific attitude level.

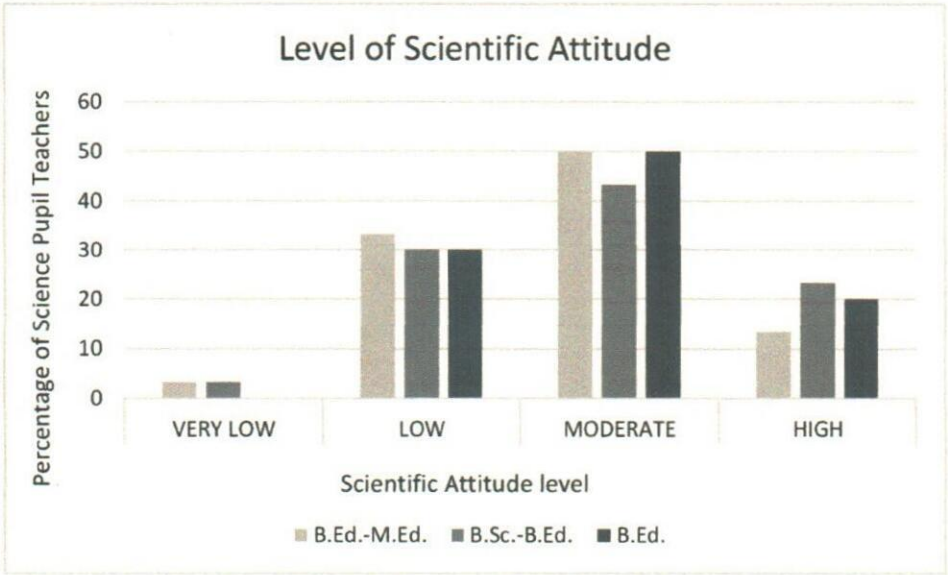

Figure 4.2 Level of Scientific Attitude of Science Pupil Teachers with respect to their courses

4.3 Objective 2

To compare the mean scores of scientific attitude of science pupil teachers of B.Sc.-B.Ed., B.Ed.-M.Ed. and B.Ed. programs.

Hypothesis 1:
There is no significant difference in the mean scores of scientific attitude of science pupil teachers of B.Sc.-B.Ed., B.Ed.-M.Ed. and B.Ed. courses.

To test the hypothesis, first the mean scores of scientific attitude of science pupil teachers of the three groups (courses) were calculated and analysed using Microsoft Excel.

Groups	Count	Sum	Average	Variance
B.Ed.-M.Ed.	30	1344	44.8	26.71724138
B.Sc.-B.Ed.	30	1398	46.6	40.66206897
B.Ed.	30	1397	46.5	23.28850575

Table 4.3 Descriptive statistics showing mean scores of Scientific Attitude of the three courses

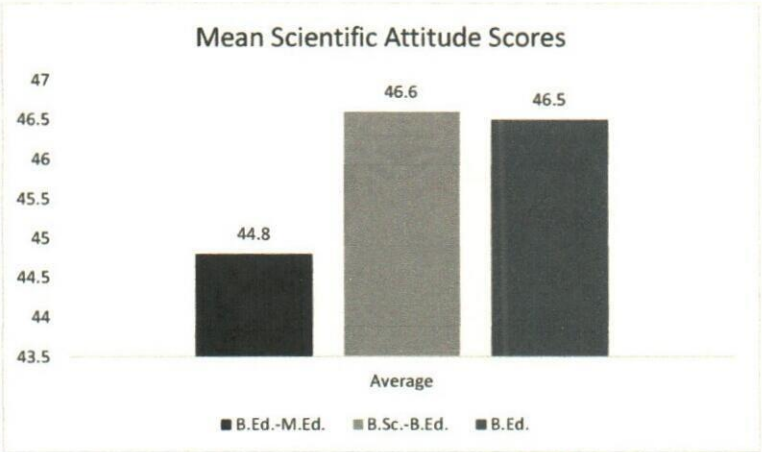

Figure 4.3 Descriptive statistics showing mean scores of Scientific Attitude of the three courses

Further, a one-way ANOVA was performed to compare the mean scores of Scientific Attitude of science pupil teachers belonging to the three courses.

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	63.6222	2	31.8111	1.0525	0.3534	3.1012
Within Groups	2629.3666	87	30.2226			
Total	2692.9888	89				

Table 4.4 One-Way ANOVA Result

The one-way ANOVA revealed **F (2,87) = 1.052; p = 0.353,** inferring that the mean scores of scientific attitude of science pupil teachers belonging to B.Ed.-M.Ed., B.Sc.-B.Ed. and B.Ed. courses do not differ significantly, since the p-value (0.353) is larger than the level of significance of 0.05. Thus, the hypothesis is not rejected.

4.4 Objective 3

To compare the mean scores of scientific attitude of male and female science pupil teachers.

Hypothesis 2:
There is no significant difference in the mean scores of scientific attitude of male and female science pupil teachers

To test the hypothesis, the mean scores of scientific attitude of male and female science pupil teachers were calculated and analysed using Microsoft Excel. The same software was then used to calculate t-value which wan then compared with the table value to test the hypothesis.

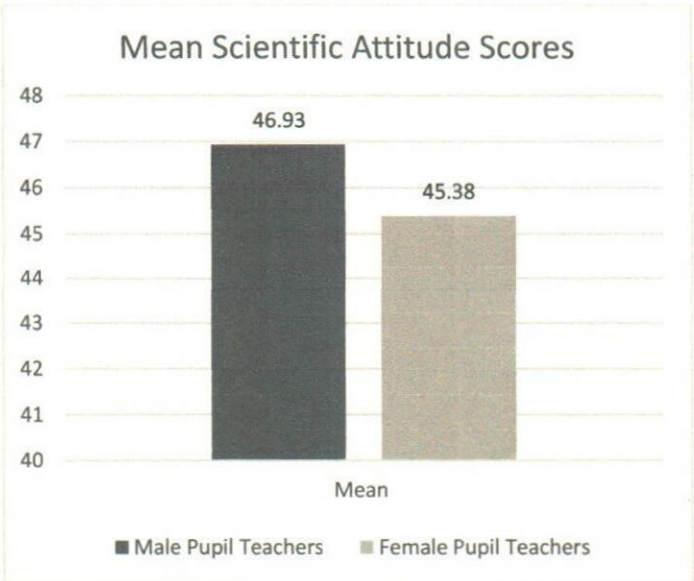

Figure 4.4 Mean Scientific Attitude Scores of male and female science pupil teachers

Science Pupil Teachers	N	Mean	SD	Calculated t-value	df	Table Value	Significance
Male	42	46.92	4.64	0.093	88	0.95	Not Significant
Female	48	45.37	6.15				

Table 4.5 T-test Result

The calculated t-value is 0.093 and its corresponding probability value is 0.95. By comparing the probability value with the level of significance value of 0.05, we cannot reject the null hypothesis since the corresponding probability value is much higher than the level of significance.

This shows that our hypothesis that there is no significant difference between the mean scores of scientific attitude of male and female science pupil teachers is true.