CHAPTER-4
PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

"Data analysis is the process of bringing order, structure and meaning to the mass of collected data. It is a messy, ambiguous, time consuming, creative, and fascinating process. It does not proceed in a linear fashion; it is not neat. Data analysis is a search for answers about relationships among categories of data." - Marshall and Rossman, 1990:111

Hitchcock and Hughes take this one step further: "...the ways in which the researcher moves from a description of what is the case to an explanation of why what is the case is the case." - Hitchcock and Hughes 1995:295

IV.1 INTRODUCTION

In Chapter three, researcher had discussed the research design and methodology, origin of the research, design of the research, variable of the research, population and sample of the research, tools for data collection, development stage of the CAI package, procedure for data collection, statistical analysis done in research work.

Data analysis is considered to be important step and heart of the research in research work.

In the beginning the data is raw in nature but after it is arranged in a certain format or a meaningful order this raw data takes the form of the information. The most critical and essential supporting pillars of the research are the analysis and the interpretation of the data. With the help of the interpretation step one is able to achieve a conclusion from the set of the gathered data. Interpretation has two major aspects namely establishing continuity in the research through linking the results of a given study with those of another and the establishment of some relationship with the collected data. Interpretation can be defined as the device through which the factors, which seem to explain what has been observed by the researcher in the course of the
study, can be better understood. Interpretation provides a theoretical conception which can serve as a guide for the further research work.

Interpretation of the data has become a very important and essential process, mainly because of some of the following factors –
1. Enables the researcher to have an in-depth knowledge about the abstract principle behind his own findings.
2. The researcher is able to understand his findings and the reasons behind their existence.
3. More understanding and knowledge can be obtained with the help of the further research.
4. Provides a very good guidance in the studies relating to the research work.

On keeping the above information in mind an attempt has been made by the researcher to analysis and interprets the results on the basis of collected data. The results have been accessible in this chapter in three major parts-

- **PART-A** - ANOVAs based
- **PART-B** - 't' test based
- **PART-C** - % analysis based

In Part-A, results calculated on the basis of ANOVA test has been drawn out.

In Part-B results are calculated on t-test and their results related to educational, personal and vocational problems of students of selected professional courses are further divided into five criteria. These criteria are specified in sections-1 for their detail analysis and interpretation of data. They are as follows-

**Section-1**-

- **On the basis of hypothesis**-

Presentation, analysis and interpretation of obtained results have 5 criteria-

- **Criteria-I** - problems in context to personality characteristics
- **Criteria-II** - problems in context to sex (gender difference)
- **Criteria-III** - problems in context to institutional environment
- **Criteria-IV** - problems on the basis of eligibility criteria for admission (10+2 & 10+2+3)
- **Criteria-V** - problems on the basis of duration of course (1, 2 & 4 years)
In part-C results are interpret on the basis of % analysis in section-2 & 3. Section-2 has two criteria and section- 3 has only one.

Section-2

- **On the basis of interviews**
  Presentation, analysis and interpretation of obtained results have two criteria-
  - Criteria-VI- Interview schedule of the students of ED, EN, MD & MN course.
  - Criteria-VII- Focus group interview of the faculties of ED, EN, MD & MN course.

Section-3

- **On the basis of observation schedule**
  - Criteria-VIII (self-observed)

### IV.2 PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

#### Conceptual hypothesis

A. There is no significant difference between the problems of students studying in different professional courses in context to the following areas of their problems.
   1. Educational problems
   2. Personal problems
   3. Vocational problems

#### Operational hypothesis

IVA.1 There is no significant difference between the educational problems of students studying in education, engineering, medical science and business management courses.
Table 4.A Analysis of variance for groups on educational problems

<table>
<thead>
<tr>
<th>Hypo</th>
<th>Problem area</th>
<th>Groups</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVA.1</td>
<td>educational</td>
<td>Between Groups</td>
<td>2320.22</td>
<td>3</td>
<td>773.41</td>
<td>13.07</td>
<td>Significant at 0.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Within Groups</td>
<td>28167.96</td>
<td>476</td>
<td>59.18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table value at 0.05(df-3, 476) =2.63
Table value at 0.01(df-3, 476) =3.82

Analysis and Interpretation

Table 4.A is representing the statistical scores of ANOVA for educational problems of students studying in education, engineering, medical science and business management courses. The probable reasons of the result may be that students coming in these courses from different educational background as well as belong to different categories of their personality and institutional environment. Thus they might be facing various educational problems like freedom of choosing the courses or career, frequent changes in the pattern of education system, uncomfortable with study pattern of colleges or universities, lack of good and effective teachers, boring and monotonous methods of teaching in classes, absence of innovative and interesting methods of teaching, inconvenient library rules, negative attitude of teachers as well as management, favoritism by the teachers, having a problem of medium of language in study/exams/teaching, absence of practical demonstration of study topics, non-availability of sufficient labs and lab materials, books, references, research material in library, absence of provision of extra-classes / remedial /tutorials classes in the institution, no expert lectures in institutions for better updating of knowledge, non-availability of proper educational guidance and counseling for students in institution. They may be facing problems due to having a feeling of not getting benefited in any sense by college or institution, not able to get the admission in professional course of self preferred area, high expectations of the parents in studies and results. They might get disturbed as classes of professional skill development in the college like personality development / soft skills / spoken language normally not-available / ineffective / not beneficial and rare opportunities for academic conferences / seminars / symposia / exchange program etc. As per table 4.A calculated ‘F’- value is 13.07,
which is higher than the table value (3.82) at 0.01 level of significance. It shows a significant difference between the educational problems of students studying in education, engineering, medical science and business management courses. Therefore formulated H.IVA.1 is rejected.

**IVA.2** There is no significant difference between the personal problems of students studying in education, engineering, medical science and business management courses.

**Table - 4.B**

Analysis of variance for groups on personal problems

<table>
<thead>
<tr>
<th>Groups- ED, EN, MD, MN</th>
<th>N- 480- (120 each group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypo Problem area</td>
<td>Sum of Squares</td>
</tr>
<tr>
<td>IVA.2 Personal Between Groups</td>
<td>7762.43</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
</tr>
</tbody>
</table>

Table value at 0.05(df-3, 476) =2.63
Table value at 0.01(df-3, 476) =3.82

**Analysis and Interpretation**

Table 4.B is representing the statistical scores of ANOVA for personal problems of students studying in education, engineering, medical science and business management courses. The probable reasons of the result may be that students coming in these course from different educational background as well as belong to different categories of their personality and institutional environment in which they are studying. Therefore, mainly on the basis of their personal behaviour, IQ, attitude and different dimensions of personality they may be facing personal problems like sleeplessness, disturbed sleep or appetite, nervousness, less interactive, low self-Esteem, lack of confidence, feeling of inferiority, attraction towards opposite sex, feeling of dependence (economical/ emotional), their argumentative behavior, not being very punctual, sweating/dryness of mouth and body pains like headache and fatigue, inability to cope with friend /teachers /colleagues, loss of romantic relationships or loved ones. They may possibly get neglected by parents, upset by institution environment/ friends/ roommate/ teachers/ rules and regulations. They may be having problems due to self-consciousness in the group of people, difficulty in
starting conversation, in making friends and difficulty in contacts with opposite sex, conscious about personal appearance, get easily hurt by others for any reason. They may lack in leadership behavior and favorable environment in institution. They may have restrictions by the parents due to single child/girl child/boy child. They might have other problems i.e. problem of boarding /lodging by day scholars, homesickness, feeling extra responsibility of family, not having close friends, parents disapproving of friends, need guidance related to sex education, not having anyone to share problems at home/class/college, unable to disclose the problems to others. They may think about sex too often as passing through the young age. As per table 4.B calculated ‘F’- value is 35.68, which is higher than the table value (3.82) at 0.01 level of significance. It shows a significant difference between the personal problems of students studying in education, engineering, medical science and business management courses. Therefore formulated H.IVA.2 is rejected.

IVA.3 There is no significant difference between the vocational problems of students studying in education, engineering, medical science and business management courses.

Table-4.C Analysis of variance for groups on vocational problems

<table>
<thead>
<tr>
<th>Groups- ED, EN, MD, MN</th>
<th>N- 480- (120 each group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypo</td>
<td>Problem area</td>
</tr>
<tr>
<td>IVA.3</td>
<td>vocational</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table value at 0.05(df-3, 476) =2.63
Table value at 0.01(df-3, 476) =3.82

Analysis and Interpretation

Table 4.C is representing the statistical scores of ANOVA for vocational problems of students studying in education, engineering, medical science and business management courses. The probable reasons of the result may be because of unawareness of good vocational plans before and after taking the admission in the courses, lack of professional attitude, lack of financial assistance in institution like scholarship or fellow ships, absence of suitable jobs in their chosen field, non-