CHAPTER IV

METHODODOLOGY

This chapter presents the objectives of the study, the method of analysis used to answer the research questions, description of the research design, and discusses the sources of data. A brief note of the statistical procedures adopted for the study is also given.

As explained in Chapter I, English is mainly used as a language of interpersonal communication across language areas in the Indian context. The use of language in its written form is relatively more extensive than in its spoken form in the academic field. Hence, the development of writing skills acquires a greater significance. From experience and practical observation, it can be clearly seen that the development of writing skills for specific need-based purposes has generally been neglected in the curriculum and in classroom practice over the decades.

4.1. Statement of the Problem:

The writing competence of the students of undergraduate courses in colleges of Acharya Nagarjuna University is found to be poor. So the study has been taken up to evaluate critically the component of writing in Part I General English Course at the undergraduate level of Acharya Nagarjuna University. As a teacher of English at Intermediate and Degree levels, the researcher realized the need for teaching and learning writing skills in English as a second language in a more effective manner. Though the teachers and the students are aware of the practical value and the complex nature of writing skill, proper attention is not paid. There is a gap between the acquired competence that ESL learner develops and the real life situation demands of the writer. The teaching
and learning of writing, which is a very important skill, is not satisfactory and is totally neglected.

The study is made mainly in three stages. In the first stage, an attempt is made to identify the problems associated with the writing component through detailed questionnaires to students and teachers at undergraduate level. Secondly, the data was analysed and certain observations were made. Thirdly, basing on the theories of learning and teaching of ESL writing, suggestions of pragmatic value are given to improve the situation.

The study mainly concentrates on four main areas of composition instruction namely, aims and objectives, instructional materials, classroom methods, and testing procedures, as these are the influential factors for the outcome. The study attempts to analyse the opinions of two groups of respondents i.e. teachers and students, associated with the teaching and learning process. These are the two groups of people who can give a true picture of what actually is going on. To satisfy the needs of the learners, the teachers also can suggest what to do, in order to improve the writing skill. Their opinions show their perceptions regarding the writing component.

The title of the thesis is “A Study of the Teaching of Writing Skills in General English Course at the Undergraduate Level in Acharya Nagarjuna University”. Writing is an important component of language teaching. In the present study, the students and teachers from affiliated colleges of the university are considered as representative samples.

4.2. The Scope and the Nature of the Study:

As the written communication skills of most of the students at undergraduate level are found to be ineffective, the need for the study of writing skills is felt. The aim of the study is to identify the problems associated with writing skills and to examine the different
factors influencing writing: objectives, materials, methods and examinations adopted in General English Course of the university. The theoretical aspects are discussed and the opinions of a few teachers and students are collected through detailed questionnaires. The data is analysed and some conclusions are drawn. Suggestions which are based on communicative approach are given to solve some of the practical problems.

Writing is one of the important skills of the four major skills, which is taken for study on a limited scale. A small group of teachers and learners have been chosen as subjects for the study due to the limitation of time and other constraints.

4.3. Objectives of the Study:

The present investigation is designed to study about what is going on in the teaching and learning of English composition at the undergraduate level of Acharya Nagarjuna University. The objectives of the study are —

1. To identify the problems associated with the teaching and learning of writing skills of students at undergraduate level of Acharya Nagarjuna University.
2. To analyse the factors influencing the teaching and learning of writing skills.
3. To examine the major factors influencing writing competence with reference to (a) instructional objectives, (b) syllabus and material, (c) classroom methodology and (d) testing procedures.
4. To find out the possible measures to be taken for the improvement of writing competence in the light of the findings.

4.4. Research Questions:

Research studies on second language writing have provided insights for writing development and instruction, to produce optimal learning benefits. This set of insights which can make the planning of a writing course include attitudes of teachers and learners,
planning, objectives, materials, methods, examinations, and other issues. The study of these factors resulted in emergence of certain research questions to be tested in the questionnaires. The questionnaire is designed to compare the actual practices and understanding against theoretical model of best practices.

Research work of this type is a time-bound activity and hence a comprehensive study is not possible. The research questions are—

1. What are the attitudes of the learner and the teachers towards ESL writing?
2. What are the objectives of composition teaching and what is the expected outcome?
3. Are the prescribed materials adequate in the teaching and learning composition at the undergraduate level?
4. What is the nature of composition activities?
5. What is the methodology adopted and the guidance the teacher can give?
6. What is the guidance the learners and teachers get from the course books?
7. What is the influence of the examination system?
8. Is there any gap existing between expected outcome and the achieved competence?
9. What are the changes to be brought about in the objectives, materials, methodology, and examinations which are the main factors influencing the writing skill?
10. What are the problems related to the efficiency in teaching and learning of composition?

The main objective of this research study is to make composition teaching and learning more effective and to provide answers to the pedagogical questions about writing. To achieve this, the researcher decided to investigate into the present conditions of teaching
writing at undergraduate classes in affiliated colleges of Acharya Nagarjuna University. There is a need to establish a healthy relationship among the needs analyst, determiner of objectives, syllabus designer, classroom teacher, learner and examination paper-setter.

4.5. Nature of the Sample:

The teachers’ sample consists of a group of fifty teachers, working at degree level in the colleges affiliated to Acharya Nagarjuna University. This is chosen by using a simple random sampling method. The colleges in which they work cover both rural and urban areas. The researcher did not concentrate on a single college or two colleges. If all the members of the sample were taken from the same college, it might turn out that the teaching methodology at a particular college and the teachers’ and the learners’ social, economical, and educational background would be the same. The researcher wanted to cover a cross-section of the population with the same criteria that: they must be working in colleges affiliated to Acharya Nagarjuna University from the conventional regular mode of education from school-level, and that they must be following the prescribed material and examination pattern set by the university.

The learners’ sample consists of a group of two hundred students, studying in the second year degree courses in different colleges affiliated to Acharya Nagarjuna University. The sample is chosen by using simple random sampling technique. The colleges belong to both urban and rural areas. The sample includes both boys and girls from arts, commerce and science groups. Their mother tongue is Telugu and they might be from either Telugu or English medium classes. Most of the students come from families with an agricultural background. Some of their fathers are employees, business people, etc. The criteria in selecting the learner sample are that they must be studying in
colleges affiliated to Acharya Nagarjuna University and they must be from conventional regular mode of education and must be using the prescribed books by the university.

4.6. Instruments Used for the Study:

The tools used in the study are:

1. Informal interviews for the teachers.

2. A structured questionnaire for the teachers.

3. Informal interviews for the students.

4. A structured questionnaire for the learners.

5. Informal classroom observation, and examination of objectives, syllabus, methods and question papers of General English Course in the university.

The tools were used in coordination with one another. The information collected through these tools is complementary and supplementary to one another. The data was collected, tabulated, and analysed. Information about objectives, materials, methods and examinations was mainly focused on. Two or more tools were used for the same population as the information elicited is about the same items. Before administering the questionnaire, a pre-test interview was conducted for both teachers and learners, in order to establish a congenial atmosphere for the researcher and the respondents. After the administration of the questionnaire, the post-test interview was conducted in order to discuss, clarify and confirm the various aspects of the questionnaire. Some information which cannot be gathered through the questionnaire, was collected through interviews.

The questionnaire method was selected for the study of the problem because the study included literate samples and it was found to be suitable and convenient. The questions do not demand immediate responses and allow some time for busy persons to answer them at their leisure. The formats of questionnaires are adopted from Bhaskaran
Nair (1987), as they were found relevant and appropriate to the study. The questionnaires were comprehensive and the investigator ensured that different aspects of the problem were covered in the questionnaire. The sample copies of questionnaires administered for both teachers and students are included in Appendices A, B, C, D. The question forms are of close-ended type, yes/no type, free-ended or open-ended type inviting responses, marking on the ranking scale, or ticking the relevant information. The questions are vital to the research problem and they move from the general to the particular. The questionnaires were finalized after the pilot study for the main study. The questionnaires are divided into different sections with necessary instructions for each section.

Informal interviews were conducted in the form of discussion to enable the respondents to share their beliefs, feelings, ideas, and viewpoints on the various problems related to writing. The respondents can include or exclude some aspects of the problem. The problem can be discussed in full length and in detail. The respondent is given more time to speak. There are some open-ended questions, which cannot be subjected to statistical treatment. These responses which are not conducive for analytical data are discussed in the informal interviews.

The researcher had the chance of observing some composition classes of teachers. The teachers were trying to organize and implement some of the activities, but probably due to large classes, the teachers were not able to help the individual students. The researcher, as an examiner, in the university examinations had the opportunity to read the answer scripts of students for the past several years. An attempt is made to examine the objectives, materials, methods and examination papers and certain conclusions are drawn.
4.7. Description of Tools:

Informal interviews with the teachers: A pre-test interview was conducted as a preliminary warm up exercise for preparing the teachers and giving guidance to fill up the questionnaire. A request was made asking them to express their opinions through responses. The need for their cooperation was explained and they were told that their opinion is valuable. It was a combination of discussion and interview with no set pattern.

As there was a change in the syllabus of degree courses in 2005-2006 (I year) and 2006-2007 (II year) and again in 2008-2009 (I year) and 2009-2010 (II year), a detailed discussion was held with special reference to the writing component. There were heated discussions, and the outcome was useful and valid for the researcher’s work. The main aim was to cover the topics for which free response could not be given through the questionnaire. Post-test interviews were also conducted with the teachers, in order to confirm and clarify the responses from the questionnaires. This helped the researcher to arrive at some conclusions.

Elements of the questionnaire:

Writing is the most difficult skill for L₂ learners to master. The difficulty lies not only in generating and organizing ideas but also in translating the ideas into a readable text. Writing pedagogy suggests the dynamic interplay among teachers, learners, objectives, materials, methods, examinations and other general issues. The objectives of the present research study are – to identify the problems associated with the teaching and learning of writing skills of students at undergraduate level of Acharya Nagarjuna University, to analyse the factors influencing the teaching and learning of writing skills with reference to instructional objectives, syllabus and material, classroom methodology and testing procedures and find out the possible measures to be taken for improvement of
writing competence in light of the findings. This study also aims to compare the actual practices and the best practices to be adopted in the teaching process of writing skills.

Teachers and learners are to be considered in every decision-making process of the curriculum. Their views carry weight and their recommendations are to be incorporated at various stages. Objectives, methods, materials and examinations are matters of importance and are kept in focus while framing the questionnaire. Theory and research recommend communicative language teaching which is an attempt to operationalise the concept of communicative competence and to apply it at all levels of the language programme. This has motivated the researcher to select these topics in the questionnaire.

The roles of the teacher have been specified in detail in different approaches. The teacher is the main agent of change and of prime importance in learner-centred approach. One of the research questions is to examine the attitude of the teacher. The teacher should be competent to implement a flexible programme to cater to different student needs. The role of teacher prompted the researcher to frame questions 1-12 in the teacher questionnaire to elicit personal information.

Learners have to be trained for their new roles and learning needs are to be integrated with language activities. Newer methodologies exhibit more concern for variation among learners. The learner is a negotiator in the communicative approach. For planning activities learner background is very essential. One of the research questions is to bring out learner attitude towards ESL writing. Questions 1-14 address the learner background in the student questionnaire.

Students write material they are currently studying in an academic course in a variety of forms to demonstrate their understanding of subject matter and to extend their knowledge in new areas. Writing is integrated with various other skills and learners
should be aware of these aims of learning English. So questions 15 and 16 in student questionnaire elicit responses on aims of learning English.

One of the research questions is to study the objectives and nature of composition activities, prescribed in the degree course. Writing has a number of uses and has a functional role in our lives. The learners will be motivated to learn if they are aware of the objectives of learning and the teachers will be facilitated in selection of learning methods and activities to achieve these objectives. Questions 13 to 15 in teacher questionnaire and questions 17 to 19 in student questionnaire elicit information about aims of teaching composition and nature of composition activities.

Planning is viewed as a key aspect of teaching a lesson effectively. It involves decisions about pedagogical dimensions of the lesson, and also the management of learners during the lesson. As this is an important factor for productive learning, questions 16 and 17 in teacher questionnaire deal with teacher preparation.

One of the objectives of the study is to examine the major factors influencing the teaching and learning of writing skills. Research questions also stress the need for the study of factors like objectives, materials, methods and examinations. The instructional system implies a particular set of roles for materials in support of syllabus, teachers and learners. As the materials specify subject matter, content, define or suggest the intensity of coverage of syllabus items, allocates the amount of time, attention and detail particular syllabus items or task items require, these are important tools for both teachers and students. So questions 18 and 19 in teacher questionnaire and questions 20 to 22 in student questionnaire deal with materials.

The review of literature emphasizes process approach in teaching of writing skills. The approach helps in orderly presentation of activities in different stages of writing-
prewriting, during-writing and after-writing. Both teachers and students play a dynamic role and one of the research questions is to study the methodology adopted and the guidance the teacher can give. So questions 20 to 23 in teacher questionnaire and questions 23 to 26 in student questionnaire deal with this issue.

Examinations are means of obtaining information about students’ abilities, knowledge, understanding, attainments or attitudes. Examination places the needs of the student at the centre of teachers’ planning. One of the research questions is to study the influence of the examinations of the university. Questions 24 to 32 in the teacher questionnaire and questions 27 to 31 in student questionnaire elicit information about these practices.

Besides the above mentioned variables there are also other factors like allotment of time for composition, reasons for inefficient teaching and learning of composition, English as a compulsory subject or optional subject, medium of examination and instruction, use of mother tongue etc. One of the research questions is to identify the other problems associated with teaching of writing skills. So teacher questions 33 to 38 and questions 32 to 40 in student questionnaire deal with these issues.

**Structured questionnaire for teachers:** The role of teachers is very important in the teaching and learning of language in the classroom. They should be dynamic, and their ideas, attitudes, personality, ability, motivation, interest and participation affect the teaching-learning process. In order to produce effective student writing, it is very important to investigate opinions about objectives, materials, methods, and examinations, regarding composition learning and teaching. These opinions helped the researcher to suggest solutions for the practical problems. It is important that the teacher is involved in
framing objectives, evolving syllabus, prescribing methodology and setting examination pattern.

The teachers’ questionnaire was a thought-provoking and time-consuming exercise. A plan was prepared after discussing with experts, senior lecturers and colleagues. After having brainstorming sessions, a decision was taken to gather information about various aspects of teaching composition at degree level.

Format of the questionnaire: The tool used for the study contains questions which are thoroughly pretested Likert type. The teachers’ questionnaire is divided into the following sections. The types of questions employed are: 1) yes / no type, 2) ticking the relevant / appropriate options, 3) marking on the rank scale and 4) open-ended type.

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section A</td>
<td>Personal information</td>
<td>12</td>
</tr>
<tr>
<td>Section B</td>
<td>Objectives and types of composition tasks</td>
<td>3</td>
</tr>
<tr>
<td>Section C</td>
<td>Teacher preparation</td>
<td>2</td>
</tr>
<tr>
<td>Section D</td>
<td>Materials for composition</td>
<td>2</td>
</tr>
<tr>
<td>Section E</td>
<td>Methods for teaching composition</td>
<td>4</td>
</tr>
<tr>
<td>Section F</td>
<td>Examinations</td>
<td>9</td>
</tr>
<tr>
<td>Section G</td>
<td>General</td>
<td>6</td>
</tr>
</tbody>
</table>

Personal information of the respondents: Section ‘A’ contains 12 items, from 1-12 in the questionnaire to elicit information about name, designation, name of the college, qualification (general and professional), teaching experience in college at degree level, special training courses, their choice of component in teaching English, time to read professional books or journals on teaching English language / literature, orientation and refresher courses, usefulness of these courses, abilities of students after completion of degree, etc. 5 items fall under yes / no type, 6 items fall under providing the relevant / appropriate information type and 1 item is to tick the relevant information.

Objectives and types of composition tasks: Section ‘B’ contains 3 items from 13-15 in the questionnaire and deals with the objectives of teaching composition course in English at
degree level, purpose of composition writing, and types of composition tasks. 2 items deal with questions to mark on the ranking scale and 1 item to tick appropriate / relevant information type.

Teacher preparation: Section ‘C’ contains 2 items, 16 and 17. 1 item is of yes / no type and 1 item is to provide information type. These items deal with the amount of prior preparation on the part of the teacher and whether all the components in English need the same amount of preparation.

Materials for composition: Section ‘D’ contains 2 items, 18 and 19. 1 item is of yes / no type and the other is of ticking relevant information type. These deal with the sort of materials the teachers use for teaching composition and whether the prescribed books at degree level are adequate. A sub-question which is open-ended invites them to suggest some books for composition.

Methods for teaching composition: Section ‘E’ contains 4 items, from 20-23. 3 items are of yes / no type of questions, 1 item is of marking on the ranking scale type and 1 item is to tick the relevant information. These deal with the activities during three different phases – pre-writing, during-writing and after-writing. 1 item deals with important areas of composition.

Examinations: Section ‘F’ contains 9 items, from 24-32 dealing with weightage of composition in examination, guidelines and instructions to the examiners, analysis of the composition, inclusion of dialogue-writing or letter-writing, additional composition items, comprehension and note-making, weightage for different areas of composition, and seriousness attached to the defects in the examinations. 2 items are of marking on the ranking scale, 3 items are of yes / no type, 3 items are of ticking the relevant information type and 1 item is an open-ended type of question.
General: Section ‘G’ consists of 6 items, from 33 to 38. These items deal with allotment of time for composition teaching, right time for introduction of composition, use of composition tasks in other component classes, usefulness of composition teaching in helping to communicate, reasons for not being able to teach composition effectively, etc. 1 item among them is of marking on the ranking scale, 3 items are of yes / no type, 1 item is of marking the relevant answer type, and 1 item is an open-ended type of question.

Informal interview with the learners: The preliminary interview is conducted with the learners to prepare them to give responses to the questionnaires. This is also to know about their personal details, their future plans, ambitions, their familial, socio-economic background, etc. The post-test interview is to get the responses in the questionnaire clarified and confirmed. There was also an exchange of ideas and their doubts about the questionnaire were also cleared.

**Structured questionnaire for the students:** The learner occupies a pivotal position in the teaching and learning process. All the objectives, materials, methods, and examinations should be aimed at the needs of the learner as the main target is the learner. The ESL writer’s personal knowledge, language proficiency, attitudes, learning styles, cultural orientation, in addition to his or her composing strategies are to be taken care of. The variety of backgrounds, goals and expectations on the part of the ESL writers accentuates the complexity of an already challenging educational endeavour. The views of learners about objectives, materials methods and examinations, problems, needs, abilities, aims, and expectations should be identified. With this aim the learners were involved in the study.

Format of the students’ questionnaire: The tool used for the study contains questions which are thoroughly pre-tested Likert type. The questions are of 1. yes / no type, 2.
Ticking the relevant / appropriate ones 3. Marking on the rank scale and 4. Open-ended type. The questionnaire is divided into the following sections.

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Personal information (About yourself)</td>
<td>14</td>
</tr>
<tr>
<td>B</td>
<td>Aims of learning English</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>Aims of writing composition</td>
<td>3</td>
</tr>
<tr>
<td>D</td>
<td>Materials for composition</td>
<td>3</td>
</tr>
<tr>
<td>E</td>
<td>Methods for composition</td>
<td>4</td>
</tr>
<tr>
<td>F</td>
<td>Examinations</td>
<td>5</td>
</tr>
<tr>
<td>G</td>
<td>General</td>
<td>9</td>
</tr>
</tbody>
</table>

Personal information of the respondents: Section ‘A’ contains 14 items, from 1-14 items. 7 items fall under providing information type of questions. These deal with: name, group, name of the college, mother tongue, names of the schools attended, medium of instruction, occupations of their fathers, etc. 5 items from 8-13 fall under yes/no type questions category dealing with: whether the respondents get English newspapers or English magazines, whether they read any other English books other than the prescribed textbooks, whether they listen to the radio / television news bulletins in English, whether they write letters in English to their friends, relatives or parents, whether they write applications / requests in English to any offices or companies, etc. 2 items fall under the category of marking on the ranking scale. These deal with whether the respondents speak in English at home to the members of their families, their friends, their English teachers, other teachers, other people, etc.

Aims of learning English: Section ‘B’ consists of 2 items, 15 and 16. 1 item falls under the category of marking on the ranking scale, dealing with the aims of learning English at degree level. 1 item is an open-ended question about expected abilities of the respondents.

Aims of writing composition: Section ‘C’ contains 3 items 17-19. 2 items fall under the category of marking on the ranking scale. These include questions about the aims of writing composition and the importance attached to composition activities in the learner’s
life. 1 item is to provide information type dealing with the main purpose of doing composition exercises.

Materials for composition: Section ‘D’ contains 3 items, 20-22. 1 item is of yes / no type, dealing with adequacy of prescribed books in teaching composition. 2 items are to tick relevant information covering the materials in the composition classes and to suggest books used for practising composition.

Methods for composition: Section ‘E’ contains 4 items, from 23-26. 3 items deal with yes / no questions and marking on the ranking scale. These questions deal with activities on the part of the teacher / learner in three stages of writing composition – pre-writing, during-writing and post-writing. 1 item is of marking the relevant information type of question dealing with sub-skills of composition.

Examinations: Section ‘F’ contains 5 items, from 27-31. 1 item is of marking on the ranking scale type, dealing with weightage of marks for composition work. 3 items are yes / no type of questions. These deal with analysis of composition activities in question papers, whether there is any difficulty in understanding questions or the instructions and whether the respondent is able to communicate effectively through written English in future after getting through the exam at degree level.

General: Section ‘G’ consists of 9 items, from 32-40. 4 items come under yes / no question category. They deal with: whether the respondents wish English to be an optional subject, whether the composition is to be taught from the beginning of 1st year degree, whether they use summarizing and note-making in other English classes or group classes, and whether the respondents would be able to communicate effectively in future, with the practice they get from composition classes. 4 items fall under the category of ticking the relevant information type. They deal with: the language the respondents would prefer to
answer in the examination in their main subjects of study, the language they would like to be the medium of learning, whether their teachers make use of Telugu in their composition classes and the reasons for not being able to learn composition effectively. 1 item falls under the category of marking on the rank scale dealing with the allotment of instructional hours for composition work. 1 item falls under open-ended type of question dealing with opinions, suggestions and comments to report about teaching and learning of composition writing.

4.8. Administration of Questionnaires:

The researcher met the teachers personally and distributed the questionnaires. First of all the value of their opinion was explained. Instructions and clarifications were given about the questionnaires. They were given a week or ten days and most of the questionnaires were collected back. Some of them were sent by post along with a stamped, self-addressed envelope and they were received after ten days. Inspite of fixing time and date of appointment beforehand, it took a lot of time to administer and get back the questionnaires.

Most of the students were approached personally by the researcher and the questionnaires were distributed. In a few cases, the assistance of the other teachers was taken by the researcher in getting the questionnaires filled in by the respondents. The filled in questionnaires were collected after completion.

Practical observations: Some practical composition classes were observed by the researcher and certain conclusions were drawn about the activities in the class. This was mainly to see if the learners are interacting and participating in the classroom activities. They remained passive most of the time. Some of the answer scripts of the university were also examined during the spot valuation camps. The scripts showed problems such
as: inadequacy of ideas, facts and figures, poor organization, furnishing of irrelevant information, confusion about lay-out, uncertainty about the format to be chosen, use of inappropriate style, improper captions, grammatical mistakes, obscurity in expression, lack of precision, repetition of ideas, spelling errors, etc.

4.9. Examination of Objectives, Materials, Methods and Examination Papers:

The objectives of teaching composition, the materials prescribed by the university at degree level, the methodology adopted by the teachers, the examination question papers set by the university were also examined as part of the study. The copies of curriculum materials, prescribed for both first and second years of undergraduate courses of the university for the year 2002-2003 and 2003-2004 are included in the Appendices E and F. The syllabus is changed in 2005-2006 for first year and 2006-2007 for second year and their details are enclosed in Appendix I and Appendix J. The copies of curriculum materials prescribed for both first year and second years of undergraduate courses of the university from the year 2008-2009 and 2009-2010 respectively are included in Appendix M and Appendix N. The sample question papers are furnished in Appendix O and Appendix P. The sample question papers according to the changed pattern of examinations are included in Appendix K and Appendix L. Sample question papers set for the university examinations for different examinations are included in the Appendices G, H, K, L, O and P. This helped the researcher to suggest some modifications.

4.10. Statistical Treatment:

Analysis of the data: After receiving the filled in questionnaires the data was organized according to the requirement of the analysis. The data was encoded, and quantified for statistical purposes. The data was tabulated and cross-tabulated according to the variables. For all the variables the Mean and Standard Deviations were computed. Depending upon
the number of alternative answers to choose for a given question as two-pointed, three-pointed and four-pointed, a measuring scale was used by assigning values ranging from 0 to 4. The average of the values given in the scale was taken for the purpose of comparison with the following computed values.

\[
\text{Mean } \bar{X} : \quad \frac{\sum fX}{N}
\]

where  
- \( f \) = frequency  
- \( X \) = variable  
- \( N \) = Total number of respondents

\[
\text{Standard Deviation: } \sqrt{\frac{1}{N-1} \left\{ \sum f d^2 - \left( \frac{\sum f d^2}{N} \right)^2 \right\}}
\]

where  
- \( d \) = deviations from assumed mean  
- \( f \) = frequency  
- \( N \) = Total number of respondents

For the purpose of the pilot study, thirty questionnaires were given to respondents and the data was analysed to measure its validity and reliability. In this regard Guttman’s Split-half method of reliability analysis (Bachman 1990:175) has been used and the data was found reliable in almost all cases. After the validity and reliability analysis, the study proceeded to conduct in detail a survey for the data collection from all the respondents.

Data collected through the tools was organized according to the requirement of the analysis. Item wise analysis of the questionnaires is presented in the subsequent chapter.

* * *