CHAPTER ~ FOUR
METHODOLOGY
CHAPTER ~ FOUR

4. METHODOLOGY

4.1 Statement of the problem:

The study under the title, *A STUDY ON THE NATURE OF INFORMATION SEEKING BEHAVIOUR AMONG THE UNIVERSITY STUDENTS* was proposed to designate the dimension of content concept related to the construct composed of selected domains of information seeking behaviour. Accordingly, the study had attempted to identify and specify the relevant component variables all pertaining to the composite or multivariate construct related to information seeking behaviour of the students of the state aided universities of West Bengal. Hence, this was a comparative analysis on domains of information seeking behaviour among the students of different disciplines of the National Assessment and Accreditation Council (NAAC) accredited Universities of West Bengal.

In the first phase of the study, as the hypothetical components of information seeking behaviour were not possible to control they were approached only by the method of inferences from functionally related variables specificity of information seeking behaviour either qualitatively or quantitatively, in relation to the varied groups of the students of the state-aided universities of West Bengal.
Secondly, in order to assess the nature of information seeking behaviour, the study had concentrated on analysis of nature of relationship or association between students perceived level of information seeking behaviour and the pattern of selected independent variables-person related variables and situational variable of the university students. For analysis of person related variable the study had concentrated on identification of NEO-five personality factor, achievement need and learning behaviour of the students. Similarly, for analysis of situational variable for information seeking the study had focused on the nature of information seeking behaviour of the students with respect to the discipline of studies of the students.

Here, the researcher observed and assessed the variables in the natural course of events and then applied appropriate statistical method to ascertain a relationship.

Thirdly, as the study was intended to unearth the facilitating and inhibitory personality factors related to information seeking behaviour of the university students, an attempt had been made to compare the nature and characteristic disposition of the selected 'person related variables among the groups of students with respect to the level of information seeking behaviour (high, moderate and low).

Here, the inferences on the selected facilitating and inhibitory factors (person related variables and situational) of information seeking behaviour were approached only by the ex-post facto method of observation.
To generalize the ideas, the study had considered all categories of accredited universities of West Bengal, as well as both male and female students of these universities as sample of the study.

On the basis of above design, following steps had been considered for the progress of the study:

**Step 1:** To identify the attributes of information seeking behaviour of the university students and to develop an Information Seeking Behaviour Inventory for university students.

**Step 2:** To identify the attributes of learning behaviour (co-operative, competition and individualistic) among the university students and to develop a Learning Behaviour Inventory for university students.

**Step 3:** To ascertain the nature of Information Seeking Behaviour with respect to selected situational variable (discipline of study) of students.

**Step 4:** To ascertain the nature of Information Seeking Behaviour with respect to selected person related variables (NEO-Five personality factors, learning behaviour and achievement need) of the university students.

**Step 5:** To ascertain the outcome of information searching (level of satisfaction for searching) among the university students.
Step 6: To identify the pattern of relationship among sets of variables—person related variables (NEO-Five personality factors, learning behaviour and achievement need), outcome of information searching (level of satisfaction) and level of Information Seeking Behaviour of the university students.

4.2 DESCRIPTION OF CONCEPTS USED AS VARIABLES

4.2.1 Dependent Variables

This variable related components /items were traceable and identifiable components in the tests and inventories considered with information seeking behaviour, and satisfaction for information searching used in the present investigation and which could yield measures or scores against the responses given by the sample (s) concerned. A brief description of the dependent variable was given below.

4.2.1.1 Information seeking behaviour (ISB)

Information seeking behaviour has been considered as a part of human communication behaviour either psychological or social that refers to the way people search for and utilize information (Wilson, 2000) to satisfy his/her information needs for purposive goal. It is generally considered as process of problem solving activities for identification or recognition of needs of information, exploration of sources of
information, acquisition and utilization of information for attainment of a purposive goal (Kuhlthau et al 1993a).

In the present study information seeking behaviour of student has been conceptualized as those active or purposeful activities of the students which they encounter during their relation to their academic pursuit in the process of learning in order to complete their course assignment or examination, prepare class discussion, seminars, workshops, conferences and as well as career or vocation, etc. Regarding assessment of the information seeking behaviour of the university students the relevant components namely information need, drive for search, information use, diversity in information, level of cognitive domains of search, preferred nature of accessibility of resource, involvement in resource utilization etc have been considered as major variables of the study (Anderson, 2000; Dervin 1983; Ellis, 1989; Kuhlthau, 1993a; Wilson, 1980, 1994, 2000, 2002). Details of components have been presented in Appendix B1)

4.2.1.1 Satisfaction for information searching

In this study the satisfaction of the information users was considered with respect to the two components namely user’s emotional satisfaction for searching and the feeling of material satisfaction for searching (Applegate, 1993). (Appendix B2)
Independent Variables

Information seeking behaviour is generally mediated or moderated by psychological predispositions, demographic background (age or education etc) and situational variables (resource availability, characteristic of sources, academic objective, evaluation structure etc). Accordingly selected person related variables (NEO-five factors, achievement need and learning behaviour) and situational variable (discipline of studies) were considered as measured independent variables of the study (Tidwell and Sias, 2005).

4.2.2.1 Person related variable

(i) NEO–five personality factors

Personality traits and personality dimensions are believed to predict the nature and pattern of cognitive, affective and social aspects of information seeking behaviour (Revelle and Loftus, 1992). The possible explanation of such relationship between personality and information seeking behaviour may be that the inner traits and personality dimensions of the information users interacts with the contextual factors to formulate the impact in the form of motivation for information, information habits, patterns of information seeking (fast surfers, broad scanners and deep divers) and the nature of cognitive, affective and social utilization of information.
In this study, only the life long stable five personality dimensions known as NEO-five personality factors namely Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness (Costae and McCrae, 1992) were considered as personality dimensions for studying the facilitating and inhibiting effects on information seeking behaviour of the students (Holland, 1959; Kassebaum and Szenas, 1993; Palmer, 1991a, 1991b; Kirton, 1989; Kernan and Mojena, 1973). Details of the above mentioned five factors were indicated in Appendix B3.

(ii) Learning Behaviour (LB)

Information seeking is essentially a learner-centered activity and depends on the nature of the learning pattern of the individual (Brown, 1989; Collins et al 1989; Ford, Miller, 2003; Large et al 1994; Prawat, 1992). During the course of study there are three basic ways students can interact with each other as they learn; individualistic, competitive and as well as cooperative (Johnson and Johnson, 1991; Deutsch, 1962). In cooperative learning situations, students perceive that they can reach their learning goals only if the other students in the learning group also do so. In competitive situation, individuals work against each other to achieve a goal and each individual perceives that when one person achieves his or her goal, all others with whom he or she is competitively linked fail to achieve their goals. When a situation is structured individually, there is no correlation among participants' goal attainments. Each individual perceives that he or she can reach his or her goal regardless of whether other individuals attain or do not attain their goals (Johnson and Johnson, 1989). Details of the components were indicated in Appendix B4.
In this study the above mentioned attributes of three learning behaviour pattern were considered for assessment of the effect of learning behaviour pattern on information seeking behaviour of the students.

(iii) Achievement Need

Achievement need may be considered as the extent to which a student wants to perform difficult and challenging tasks on a high level of excellence in a competition and to accomplish the unique objectives of personal development. This is a self imposed requirement for good performance or accomplishment of some unique work to accomplish something worthwhile, unique or excellent or need for mastery (McClelland et al 1953).

In this study only the two factors of achievement motivation namely need for academic success and need for vocational success which were directly or indirectly influencing the information seeking behaviour of the university students were considered as the measured variable (Oliver and Oliver, 1997; Bandura, 1977, Wine, 1980). (Appendix B5)

4.2.2.1 Situational Variable

(i) Discipline of studies
Researchers suggested that a discipline is a collection of like-minded people, each with their own codes of conduct, sets of values and distinctive intellectual tasks which provides the structure of knowledge that trains and socialize members of a faculty (Becher, 1981), "Academic discipline is an area of study, a branch of learning or scholarly instruction or knowledge which is taught or researched at the college or university level with its own theories, methods and content and distinctiveness being recognized institutionally but the existence of distinct departments, chairs, courses and so on" (Squires, 1992). Previous research indicated very significant and marked variation in the way people belonging to different disciplines engage in information seeking activities (Danny, 2008; Urquhart, et al. 2003; White and Liccardi, 2006; Yousefi and Yousefi, 2007). The view of the disciplines as horizontally structured along a continuum, with 'hard' or empirical sciences at one extreme, the soft sciences in the middle and the humanities at the other extreme (Biglan, 1973 a, 1973b).

The present researcher has considered the three broad categorization of disciplines (arts, science and commerce) on the basis of the standard hard-soft continuum as been supported and validated by empirical studies (Biglan, 1973, 1977; Creswell and Bean, 1981; Smart and Elton, 1978) which has also been recognized by the UGC and also by the various state aided universities. Naturally subject like economics, geography, history, political science, psychology, social studies, and sociology, literature etc have be taken as soft subjects or as arts/humanities/social sciences. Subjects like accountancy, audit etc have been considered as commerce subjects and finally subjects like physics, chemistry, botany, zoology, mathematics etc have been considered as hard or science subjects. For the present research of the above
mentioned discipline wise classification had been followed. Under the traditional
notion of academic disciplines as discrete and autonomous entities, there is a standard
educational pathway for students to begin their studies in one of the broad faculty
divisions (the science, arts, commerce etc).

Considering all these aspects present study has considered only the three broad
disciplines of studies as acclaimed by the UGC and also by the state aided universities
of West Bengal.

4.3 TOOLS FOR HYPOTHESES TESTING:

4.3.1 Tools developed:

4.3.1.1 General Information Schedule (GIS)

Altogether the general information schedule (GIS) consisted of 2 parts. The 1st part
involved questions furnishing information about personal, educational, demographic
(age, sex, academic achievement) and parental. The 2nd part dealt with outcome of
information searching (level of material satisfaction and level of emotional
satisfaction). The details have need presented in Appendix-B4.
4.3.1.2 Information seeking Behaviour inventory (ISBI)

By reviewing relevant scientific literature (chapter-two and three) for information seeking behaviour a pool of 104 items relevant to 7 enquiry areas (information need, drive for search, mode of Information use, diversity in search, level of cognitive nature of search, preferred mode of accessibility of resource and involvement in resource utilization) were identified. Out of the said pool of enquiry items only 96 items were initially retained in consultation with a Board of 5 experts (teachers of applied psychology, education, library science, officers of documentation centers etc) for framing a draft questionnaire.

The said questionnaire with notionally valid 96 enquiry items were then placed before teachers, academician, students representatives, career counselor, librarians and others who were directly connected with information dissemination and reception in the universities. They were requested to indicate the items which had very high relevancy in appraising information seeking behaviour of the university students. Thus on the basis of their suggestion, necessary modification and updating were made and finally a questionnaire containing a pool of 75 items were found befitting to structure the proposed inventory. At this stage, the following aspects were seriously checked:
a. Unprejudiced nature of the items.

b. Clarity of expression and simple nature of construction in English language.

c. Free of over-lapping of enquiry items, as far as practicable.

d. No difficulty to link up the item with the operational definition of any particular area of enquiry.

Each item was then fitted with an equidistant ‘Likert-Type’ 5 point scale bearing logical weightage 5-1. This weightage of a particular scaled response would be expected to reveal the degree of information seeking behaviour among the university students.

The information seeking behaviour inventory thus developed in English language after the areas and items suggested by previous pioneer researchers (Maletzke, 1963; Shannon and Weaver, 1949; Wilson, 1995) were administered to 150 students (including male and female) selected from three different universities (50 from 5 star university + 50 from 4 star university + 50 from 3 star university). The data thus collected from students were computed to identify statistically valid items.

For testing the consistency of items of the scale the ‘item total correlations’ were computed (indicated in Result and Interpretation chapter Five part I) for the responses of individuals for 75 items. Considering the item total correlation only 59 statistically valid items were finally retained to use the scale for further probing. The ‘item – total correlation’ of the inventory ranged from 0.41 to 0.79.
At this stage, on the basis of valid items, the reliability of the inventory was estimated by the techniques—Split half Reliability, Spearman Brown, and Cronbach’s Alpha (indicated in Result and Interpretation, Chapter Five). The reliability coefficient of the overall scale was high (Spearman Brown, \( r = 0.92 \); Split Half, \( r = 0.84 \)). The coefficient of the correlation among selected variables (7) ranged from 0.50 to 0.85 indicated the nature of validity and unidimensionality of the selected items. The inventory had 59 items (Appendix- A\(_2\)) and the maximum possible score was 295 and the minimum was 59. The higher the score the more was the information seeking behaviour of the students.

### 4.3.1.3 Learning behaviour inventory (LBI)

In order to develop learning behaviour inventory for university students a pool of 60 items covering relevant to 3 component areas (cooperation, competitive and individualistic) were selected on the basis of previous researches (Burdick, 1996; Deutsch, 1962; Ford et al 2003; Johnson and Johnson, 1991; Logen and Woelfi, 1986;).

Out of the said pool of enquiry items only 48 items on the three domains cooperation, competitive and individualistic types were retained in consultation with a board of experts (7 psychologists, 4 educationists, 5 students’ representatives) for framing a questionnaire on learning behaviour.
In the *second phase* the said draft questionnaire with notionally valid 48 items were then placed before the group of experts comprising university teachers, researchers, and students, who were directly or indirectly related with the learning behaviour in the university system. They were requested to indicate which items were very high relevancies in measuring the learning behaviour pattern of the university students. Thus, on the basis of their suggestion, necessary modifications were made on draft. Finally a questionnaire containing a pool of 32 items were found befitting to structure the proposed questionnaire. To frame the item structure of the scale few precautions (as a, b, c, and d. of page no.100 as mentioned before) were seriously considered.

Each item was then fitted with an equidistant ‘Likert-Type’ 5 point scale along with the dimension of ‘strongly agree’ to ‘strongly disagree’ bearing logical weightage 5-1 as illustrated below.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>agree</th>
<th>neither agree nor disagree</th>
<th>disagree</th>
<th>strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
</tbody>
</table>

The above weightage of a particular scaled response would be expected to reveal the nature of learning behaviour pattern of the university students.
The Learning behaviour inventory thus developed in English language after the areas and items suggested by previous pioneer investigators were administered to 150 students (including male and female) selected from three different universities (50 from 5 star university + 50 from 4 star university + 50 from 3 star university). The data thus collected were computed to identify statistically valid items.

For testing the consistency of items of the scale the item-total correlation were computed (indicated in Result and Interpretation, Chapter Five) on the basis of the responses of university students for 32 items. Considering the 'item-total correlation' only 24 statistically valid items were finally retained to use the scale for further probing. The 'item total correlation' of the inventory ranged from 0.42 to 0.71 for cooperative, 0.48 to 0.82 for competitive and 0.45 to 0.74 for individualistic sub test of the inventory.

At this stage, on the basis of valid items, the reliability of the inventory was estimated by the techniques-Split Half Reliability by Spearman Brown, and Cronbach's Alpha (indicated in Chapter Five in Result and Interpretation). The reliability coefficient range for the three subscales Spearman Brown, r = 0.74 to 0.82, Cronbach's Alpha r = 0.72 to 0.78 and Split Half (r = 0.72 and 0.75) were found to be high. The inter enquiry area (cooperative, competitive and individualistic) correlation has indicated very high construct validity for the said inventory. The item total correlation of the inventory ranged from 0.42 to 0.83.
The inventory had 24 items (Appendix- A3) and the maximum possible score was 40 and the minimum was 8 for each of the three enquiry areas of the inventory. The higher the score the more was the degree of proneness towards the particular learning behaviour of the students.

4.3.2 Tools adopted:

4.3.2.1 Achievement Motivation Scale

The Achievement motivation scale was originally developed by Dr Shah Beena (1986). Considering the objectives of the present research in this study only two subscales (Need for academic success and Need for vocational achievement) were adapted for measurement of achievement motivation of the university students. These two subscales consisted of 20 items and the description of the items has been presented in Appendix A4.

These subscales have also been found to be useful in measurement of achievement of students by different researchers (Bhargava, 1984; Entwistle and Tait, 1996; Mehta, 1969; Mukheerjee, 1965; Russell, 1969; Schlesser and Finger, 1972). This was a self-administering inventory and the test has three types of response alternatives for each item. The test-retest coefficient correlation reliability of the original scale need for academic success ($r = 0.86$ to $0.91$) and need for vocational achievement ($r = 0.84$ to $0.91$) were very high.
In this investigation reliability test was applied and the result of such reliability on the basis of the responses of 100 students was assessed. The result of reliability value by Kuder Richerdson on the basis of forcibly dichotomizing the responses for Need for academic success \( (r = 0.86) \) and Need for vocational achievement \( (r = 0.81) \) were found to be very high. For testing the validity of the items, ‘item total correlation’ were computed and the ‘item total correlation’ values of the locally adapted scale ranged from 0.48 to 0.86. The minimum possible score of the scale locally adapted scale was 20 and maximum possible score was 60.

4.3.3 Tools used as original:

4.3.3.1 NEO –FFI (Costa and McCrae, 1992)

The present study has considered short revised version of Costa and McCrae (1992) NEO-FFI 60 items scale to measure the five traits of personality namely Neuroticism (N), Extroversion (E), and Openness to Experience (O), Agreeableness (A), and Conscientiousness(C). The NEO-FFI is a short 60 - items version of the NEO PI-R, the standard questionnaire measure of the Five Factor Model (FFM), which provide assessment of emotional, interpersonal, experiential, attitudinal, and motivational styles and is a description that can be a valuable resource for variety of professionals. The NEO-FFI is a test measuring the five major domains of personality, as well as the sub facets that define each domain together the five domain scales and 30 facet scales.
of the NEO-FFI facilitate a comprehensive and detailed assessment of personality. It has been developed for the age group 17 years and above. It has useful applications in counseling, clinical psychology, psychiatry, behavioral and health psychology, vocational counseling and industrial/organizational psychology, and Educational and personality research (Costae and McCrae, 1992; Holland, 1959; Palmer, 1991a, 1991b; Kewman and Mojena, 1973). Domain level reliabilities of the scale range from 0.86 to 0.95 and Facet level reliabilities are ranged from 0.56 to 0.90 for NEO-FFI. To verify the reliability of test in local situation the NEO-FFI was administered on 150 university students and reliabilities of the scale ranged from 0.86 to 0.90 and domain wise validity of the component items ranged from 0.51 to 0.88. The description of the scale has been presented in Appendix A5.

4.4 Sample Selection

The sample selection was organized in two stages in following ways (a and b):

(a) Selection of Universities

To verify the research assumptions data were collected from a group of properly chosen cross section of university students as representative of state-aided universities of West Bengal, with different accreditation status. From the pool of accredited universities of West Bengal, only one university was selected from each Grade. Considering the NAAC accredited report and rank of achievement status, three universities with respective ranks namely Calcutta University (5 star) Rabindra
Bharati University (4 star) and Kalyani university (3 star), choosing only one from serial order of accreditation, were selected for the present study. A brief profile of the selected universities had been presented in table (4.1).

**Table 4.1: General profile of the three NAAC Accredited universities of West Bengal.**

<table>
<thead>
<tr>
<th>Type of Information</th>
<th>Calcutta University</th>
<th>Rabiadra Bharati University</th>
<th>Kalyani University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Establishment</td>
<td>24th January 1857</td>
<td>8th May 1962</td>
<td>1 November 1960</td>
</tr>
<tr>
<td>Address</td>
<td>College Street, Senate House, Kolkata – 73, other campus at A.P.C Road, Ballygunge Circular Road, Hazra Road, Alipore Campus, College of Medicine Campus, and Judge Court Road Campus.</td>
<td>56 A B.T Road E.B Campus Kolkata-700050, Jorasanko Campus 6/4 Dwarkanath Tagore Lane Kolkata-700007</td>
<td>Kalyani, District : Nadia Pin : 741235</td>
</tr>
<tr>
<td>No. of Department</td>
<td>69</td>
<td>23</td>
<td>28</td>
</tr>
<tr>
<td>Total no. of students</td>
<td>15,000 (approx)</td>
<td>2,500 (approx)</td>
<td>3,500 (approx)</td>
</tr>
</tbody>
</table>

(b)Selection of Students

With the help of the University authorities and Heads of the departments names of the departments and total number of students were collected by the investigator. Later considering the list of names of departments of different universities, students from three disciplines were included in the study. In this regard, Heads of the departments of the three universities (C.U, RBU and KU) were approached for necessary approval
and cooperation. On the basis of their willingness and permission initially list of the students (arts, science and commerce) along with their names were collected. Then they were personally contacted by the investigator. In order to conduct investigation with in different department due attention was given to matching and controlling sampling characteristics in terms of age, SES, class etc. Accordingly selection of samples has been considered following the inclusion and exclusion criteria of the students.

Table 4.2: Sampling criteria (inclusion and exclusion) for the selection of the university students

<table>
<thead>
<tr>
<th>Inclusion Criteria:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Age range between 21 to 24 years</td>
</tr>
<tr>
<td>b. Resident of West Bengal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exclusion Criteria:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Shifting of streams</td>
</tr>
<tr>
<td>b. History of any gap or irregularity in attendance</td>
</tr>
</tbody>
</table>

Considering these criteria only 912 willing students were finally identified for the purpose of the study.

By using general Information schedule (GIS) data were collected from this sample. After tabulation and scrutiny of the responses only 810 students who were found well matched in terms of age range, socio economic status (SES) etc and they were screened out. Out of this pool of students (810) only 150 students were used for development, adaptation and pilot survey of the study and rest of the students (660)
were used for collection of data for hypotheses testing. After scrutiny of the final data the responses of 600 students were finally used for statistical verification of the research hypotheses. The matching criteria of sample who’s responses were completed in all respect has been presented in table 4.3. In order to verify the matching criteria $X^2$ test was computed and presented in Table 5.7 (Chapter Five).

Table 4.3: Indicating the frequency distribution of sample groups of arts, science and commerce disciplines of students in terms of general characteristics and matching criteria.

<table>
<thead>
<tr>
<th>Matching variables</th>
<th>Discipline of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Arts</td>
</tr>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>Age range</td>
<td></td>
</tr>
<tr>
<td>21-22</td>
<td>55</td>
</tr>
<tr>
<td>23-24</td>
<td>45</td>
</tr>
<tr>
<td>Class of study</td>
<td></td>
</tr>
<tr>
<td>1st year</td>
<td>55</td>
</tr>
<tr>
<td>2nd year</td>
<td>45</td>
</tr>
<tr>
<td>Socio-economic status (SES)</td>
<td></td>
</tr>
<tr>
<td>High (16-18)</td>
<td>20</td>
</tr>
<tr>
<td>Upper-Middle (13-15)</td>
<td>40</td>
</tr>
<tr>
<td>Middle-Middle (10-12)</td>
<td>40</td>
</tr>
<tr>
<td>Area of Living</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>60</td>
</tr>
<tr>
<td>Urban</td>
<td>40</td>
</tr>
</tbody>
</table>

4.3 Procedure

The study was cross sectional and carried out in two phases:

a. Pilot study

b. Main study for hypotheses testing
(a) Pilot Study

Before the full-scale study, a pilot survey was conducted on a group of 150 university students (50 arts, 50, science and 50 commerce students) with following objectives:

i. To finally formulate the contents of the general Information schedule (GIS) through an in depth interview.

ii. To develop Information Seeking Behaviour Inventory (ISBI) and Learning Behaviour Inventory (LBI) by following the standard procedure of structuring the item analysis.

iii. To check the reliabilities and validity of all other measures for administration on the specific sample group.

iv. To get a prior understanding of the probable problems that may be encountered during full-scale survey.

(b) Data Collection for Final Study

Finally, the data were collected from each sample by the investigator at the respective university. First of all rapports were established with the subjects and proper instructions were given to them to administer the prescribed tools by following a programme schedule in consultation with the Heads of the Departments, faculty members and student representatives of different departments, as and when they were able to spare some time from their busy schedule. The entire set of
questionnaires was administered in one session with two phases giving some recess in between the two to avoid any fatigue that answering the questionnaire could create.

**First Session:**

General Information Schedule (GIS), Information Seeking Behaviour Inventory (ISBI) and Learning Behaviour Inventory (LBI) developed by the present investigator was administrated to assess the nature of information seeking behaviour and learning behaviour (cooperative, competitive and individualistic) of the university students. These data were expected to bear sufficient merit through proper interpretation to understand the information seeking behaviour, learning behaviour and situational variables.

**Second Session:**

In the 2nd session achievement motivation scale (AMS) and NEO-Five Factor Inventory (NEO-FFI) were administered on the students. The Achievement Scale (AMS) was administered on the university students to assess the academic motivation and career motivation of the university student. Similarly the NEO–FFI factor scale was administered to assess the five personality dimension of the university student.
4.5 STATISTICAL TREATMENT WITH THE DATA

The responses as collected were treated for statistical analysis in terms of objectives, as well as verification of proposed hypotheses in the following way:

In the first session, the data were collected from the 660 students taken from arts, science and commerce department equiproporionally drawn from male and female students of the three disciplines (arts, science and commerce) by administering the information seeking behaviour inventory and learning behaviour inventory. In the second session Neo-Five personality inventory and achievement motivation scale were administered on the students. After scrutiny of the responses only the data of 600 students (200 arts, 200 science and 200 commerce students) were processed. The data as collected by the different tools as mentioned earlier were processed for descriptive statistics, ANOVA, ‘t’ and correlational analysis and presented in the following sub sections (5.2.A, 5.2.B,5.2.C and 5.2.D).

The responses as collected were treated for statistical analysis in terms of objectives as well as for verification of proposed hypothesis in the following way:

SECTION A: Comparison on information seeking behaviour of the groups of university students in terms of their discipline of studies (arts , science and commerce ) and gender of students (male and female)
For fulfilling the specific objectives No.2 and for verification of Hypothesis (H₁ and H₂) descriptive statistics (Mean, Median and Mode, skewness and kurtosis) and Two way analysis of variance (ANOVA) for the scores of information seeking behaviour inventory including its seven enquiry areas were done to determine whether information seeking behaviour attributes differ among the students in terms of their discipline of studies (arts, science and commerce), gender and interaction between discipline and gender of the students (as described in the Chapter Five, table 5.11 to 5.12).

SECTION B: Comparison on person related variables (Neo-Five personality factor, learning behaviour and achievement motivation) of the students in terms of their level of information seeking behaviour (high, moderate and low)

For verification of Hypothesis (H₃, H₄ and H₅) the scores of NEO five factor inventory, learning behaviour inventory and achievement motivation scale scores were processed for one way ANOVA and ‘t’ test in terms of the level of information seeking behaviour (high, moderate and low). Results have been presented in Chapter Five, table 5.13 to 5.15).

SECTION C: Comparison of outcome of information seeking behaviour of the students in terms of their level of information seeking behaviour (high, moderate and low)
For fulfilling the specific objective No.5 and for verification of Hypothesis (H₆), the test scores on level of satisfaction (emotional and material) were processed for ANOVA and ‘t’ test in terms of the level of information seeking behaviour of the students (Section 5C, Table 5.16 to 5.18)

SECTION D: Intercorrelation pattern of dependent variables with independent variables

In order to study the facilitatory and inhibitory effects of independent variables on information seeking behaviour, data were processed for correlational analysis and regression which have been presented in chapter Five, Table 5.19 to 5.25).

In accordance with the above methodology the findings were treated for interpretation and included in subsequent chapter five.