CHAPTER III
METHODOLOGY OF THE STUDY

3.0 OVERVIEW

The Methodology followed in the present study is described in this chapter. The Design of the Study, Objectives and Hypotheses of the Study, Size of the Sample, Development of the Tool, Administering the Tool, Statistical Techniques followed and the Limitations of the Study have been reported in the present chapter.

3.1 PURPOSE OF RESEARCH DESIGN

The purpose of a research design is to provide, within an appropriate mode of inquiry, the most valid and accurate answers possible to the research question (Denzin & Lincoln, 2000; Mcmillan & Schumacher, 2001). An effective research design outlines the defined purpose in which there is coherence between research question and the methods or approaches proposed that generates data that is credible and verifiable (Mcmillan & Schumacher, 2001). Formation of suitable and systematic research design requires a deep knowledge in research methods. Before planning and selecting the research design, it is essential to go through the related literature and also to get the guidance from experts in the field.
3.2 DESIGN OF THE STUDY

The research design is the researcher’s plan of enquiry (Bogdan & Knopp Biklen, 2006; Mcmillan & Schumacher, 2001) that puts paradigms of interpretation into motion (Denzin & Lincoln, 2000) on how to proceed in gaining an understanding of a phenomenon in its natural setting (Ary, et. al., 2002). This research design encourages the process of strategic thinking and reflection (Mason, 2002) from the start and continues throughout the whole research process which calls for constant review of decision and approaches (Ritchie & Lewis, 2003).

The design of the study is presented in the Schematic Representation of the Survey Research Design in the following table 3.1.
TABLE 3.1
SCHEMATIC REPRESENTATION OF SURVEY DESIGN

<table>
<thead>
<tr>
<th>S.No</th>
<th>Type</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Nature of Research</td>
<td>Survey Research Design</td>
</tr>
</tbody>
</table>
| 2.   | Variables                   | i. Utilisation of ICT, Teaching Attitude and Anxiety are variables in the study  
|      |                              | ii. Gender, Type of Institution, Major Subject and Years of Experience in working with Computers are the demographic variables. |
| 3.   | Tools used                  | i. Utilization of ICT (UICT) tool developed by Investigator having the components of ICT such as CCTV, ETV, VAI, CAI and Net Based Instruction.  
|      |                              | ii. Teaching Attitude Scale (TAS) standardized by S. Sathiyagarirajan (2008)  
|      |                              | iii. Anxiety Rating Scale (AnRS) standardized by S. Sathiyagarirajan (2008) |
| 4.   | Sampling Technique          | Stratified Random Sampling Technique                                   |
| 5.   | Size of the Samples         | **Total Teacher-educators** - 521                                       
|      |                              | Male Teacher-educators - 272                                            
|      |                              | Female Teacher-educators - 249                                          
|      |                              | Teacher-educators working at Colleges of Education in Southern Tamil Nadu. |
| 6.   | Statistical Technique used  | Mean, Standard Deviation, ‘t’- test, F value and Correlation Coefficient. |
The present study belongs to Survey Research Design, as it is intended to measure the Influence of the Teaching Attitude and Anxiety towards the level of Utilization of ICT by Teacher-Educators working in the Colleges of Education. Level of Utilisation of the ICT among the Teacher-Educators, Teaching Attitude and Anxiety were represented as the major variables in this study. Gender, Type of Institution, Major Subject and Years of Experience in working with Computers were taken as Demographical variables in the study.

The investigator used two types of tools in the study. The first type of Tool was developed by the investigator namely Utilization of ICT (UICT) tool. The other type of tool was Standardized Tool namely Teaching Attitude Scale (TAS) and Anxiety Rating Scale (AnRS) which were constructed by S. Sathiyagirirajan (2008). Stratified Random Sampling technique was used to select the sample for this study. The Colleges of Education exist under the Southern Tamil Nadu refers to the catchment areas of Bharthidasan University, Bharathiar University, Madurai Kamaraj University and Manomaniyam Sundaranar University which comprises the Nineteen districts were treated as Population Area of the study. The size of the sample was 521 Teacher-educators which includes 272 Male and 249 Female Teacher-educators from 61 different Colleges of Education such as Government, Aided and Self-Financing Colleges in Southern Tamil Nadu. The Statistical Techniques used in this Study were Mean, Standard Deviation, ‘t’ test, F value and Correlation Coefficient (r).
3.3 OBJECTIVES OF THE STUDY

The Major objective of the study is to find out the level of utilization of ICTs in the Classroom Instruction by the Teacher-Educators in the Colleges of Education.

The Specific objectives of the study were

i. To measure the level of utilization of different component of ICTs such as CCTV, ETV, VAI, CAI and Net Based Instruction among the Teacher-Educators in Classroom Instruction in the Colleges of Education.

ii. To measure the level of Teaching Attitude and Anxiety of the Teacher-Educators in the Colleges of Education.

iii. To measure the priority pattern of ICTs utilized for the Classroom Instruction in the Colleges of Education.

iv. To measure the influence of Demographic variables such as Gender, Type of Institution, Major Subject and Years of Experience in working with Computers with respect to the Utilisation of ICTs and High, Moderate and Low levels of Teaching Attitude and Anxiety.

v. To measure the relationship between levels of Teaching Attitude and Anxiety with respect to the Utilisation of ICTs.

vi. To measure the relationship between High, Moderate and Low levels of Teaching Attitude and Anxiety with regard to the Utilisation of ICTs.
3.4 HYPOTHESES OF THE STUDY

The framed Hypotheses based on the Objectives of the Study were given below.

(i) There is No Significant Difference in Mean Scores of Level of UICT, Teaching Attitude and Anxiety among the Teacher Educators in Total with respect to their Demographic Variables.

(ii) There is No Significant Difference in Mean Scores of Level of UICT, Teaching Attitude and Anxiety among the Teacher Educators at High level of Teaching Attitude with respect to their Demographic Variables.

(iii) There is No Significant Difference in Mean Scores of Level of UICT, Teaching Attitude and Anxiety among the Teacher Educators at Moderate level of Teaching Attitude with respect to their Demographic Variables.

(iv) There is No Significant Difference in Mean Scores of Level of UICT, Teaching Attitude and Anxiety among the Teacher Educators at Low level of Teaching Attitude with respect to their Demographic Variables.

(v) There is No Significant Difference in Mean Scores of Level of UICT, Teaching Attitude and Anxiety among the Teacher Educators at High level of Anxiety with respect to their Demographic Variables.
(vi) There is No Significant Difference in Mean Scores of Level of UICT, Teaching Attitude and Anxiety among the Teacher Educators at Moderate level of Anxiety with respect to their Demographic Variables.

(vii) There is No Significant Difference in Mean Scores of Level of UICT, Teaching Attitude and Anxiety among the Teacher Educators at Low level of Anxiety with respect to their Demographic Variables.

(viii) There is No Significant Relationship between Teaching Attitude and Anxiety with regard to UICT among Teacher-Educators.

(ix) There is No Significant Relationship between the Level of UICT with Teaching Attitude, UICT with Anxiety among the Teacher Educators at High, Moderate and Low Level of Teaching Attitude.

(x) There is No Significant Relationship between the Level of UICT with Teaching Attitude, UICT with Anxiety among the Teacher Educators at High, Moderate and Low Level of Anxiety.

3.5 STATEMENT OF THE PROBLEM

Teacher-Educators in the Colleges of Education mostly utilize the ICT tools such as CD-ROM, Power-Point Presentation, Closed Circuit Television (CCTV), Educational Television (ETV), Video Assisted Instruction (VAI), Computer Assisted Instruction (CAI) and Net Based Instruction (NBI) to provide rich
experience not only on the content but also in the nature of utilizing modern technologies in Classroom Instruction. If this kind of experience are not been provided to the Student-Teachers they will not get experience about modern technologies anywhere else. This experience will help them to integrate ICTs in Classroom Instruction when they are becoming Teachers in the schools.

It is the fact that level of utilization of ICTs differs from Institution to Institution based on their type i.e. either Self-financing or Aided or Government Colleges. Moreover, it depends on the interest and attitude of the Teacher-Educators working in different types of colleges of education. Hence the Investigator is interested to know the level of utilization of ICTs in the colleges of education in their Classroom Instruction. Besides, Teaching Attitude and Anxiety plays an important role in determining the level of utilization of ICT. Hence, the Investigator has taken up the study as, “Influence of Teaching Attitude and Anxiety towards Utilization of Information and Communication Technologies in Classroom Instruction among Teacher-Educators at Colleges of Education”.

3.6 OPERATIONAL DEFINITION OF THE KEY TERMS

The key terms used in the present topic of the study and their operational definitions are given below briefly.

i) Influence

According to Oxford dictionary, Influence is the power or ability to affect
someone’s belief or action. In this study, Influence refers to the factors that are Teaching Attitude and Anxiety, which plays an important role in determining the level of utilization of ICT among Teacher-educators in this study.

ii) Teaching Attitude

Attitude can be defined as an organization of beliefs, habits and motives associated with particular object. A teacher who has positive attitude towards his profession can only bring desirable changes in the students. The present study refers to the Teaching Attitude to measure the general attitude or behavior in teaching in context with utilistion of ICT components among the Teacher-educators who are working at Colleges of Education.

iii) Anxiety

Anxiety is a vague feeling that something bad is likely to happen if the assigned task is not performed. A little amount of anxiety may make individual prepare for the task set in fairly well and achieve the desired results. However, when anxiety exceeds the limit (there are individual differences in this ‘limit’) it makes the individual ineffective and prevents him from rising to his potential. As emergence of Technology, the Teacher-educators have to use ICT components for their teaching to be effective. Therefore present study aimed to measure level of general anxiety while the Teacher-educators are utilizing it.

iv) Information Communication Technologies (ICT)

ICT is acronyms of Information Communication Technologies are
technological tools and resources used to communicate, create, disseminate, to store and manage the Information. In the present study ICT components such CCTV, ETV, VAI, CAI and NBI which are utilized by the Teacher-educators are measured.

v) Teacher-Educators

For the present study the Teachers who are working in the Colleges of Education are termed as Teacher-Educators.

vi) Colleges of Education.

The Colleges which run the Teacher Education Programme are called Colleges of Education. In the present study, Investigator refers to B.Ed. and M.Ed. colleges in the region comprising Southern Tamilnadu are taken as consideration for the present study.
Map No: 1

Map Showing Tamil Nadu
3.7 SELECTION AND SIZE OF THE SAMPLE

The Stratified Random Sampling Technique was followed in this Study.
The Teacher-educators working at Colleges of Education in Southern Tamilnadu
exist under catchment areas of Bharthidasan University, Bharathiar University, Madurai Kamaraj University and Manomaniyam Sundaranar University which comprises nineteen districts were the taken as Population of this Study. There were 04 Government, 06 Aided and 352 Self – Finance College of Education in this selected area. The Population of Teacher-educators working in Government, Aided and Self – Finance Colleges of Education were approximately 3635. By using the Stratified Random Sampling Technique Investigator selected 521 Teacher-educators as a sample which includes 272 Male and 249 Female Teacher-educators working from 03 Government, 05 Aided and 55 Self – Finance of which 33 from Government, 46 from Aided and 442 from Self-financing Colleges of Education in Southern Tamilnadu. The Type of the Colleges of Education and the number of Student- Teachers are presented in the following table 3.2.

**TABLE 3.2**

**DISTRIBUTION SIZE OF THE SELECTED SAMPLES**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Type of Institution</th>
<th>No. of Teacher Educators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>1.</td>
<td>Government</td>
<td>20</td>
</tr>
<tr>
<td>2.</td>
<td>Aided</td>
<td>14</td>
</tr>
<tr>
<td>3.</td>
<td>Self-financing</td>
<td>238</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>272</td>
</tr>
</tbody>
</table>

From the Table 3.2, it is understood that 521 Teacher-educators were selected as sample out of which 272 were Male and 249 were Female. Among the total sample 33 Teacher-educators were from Government, 46 from Aided and 442 were from Self-Financing Colleges of Education in Southern Tamilnadu.
FIGURE - 3.1
DISTRIBUTION SIZE OF THE SELECTED SAMPLES

<table>
<thead>
<tr>
<th>Type of Institution</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>Aided</td>
<td>14</td>
<td>32</td>
</tr>
<tr>
<td>Self-financing</td>
<td>238</td>
<td>204</td>
</tr>
</tbody>
</table>
3.8 VARIABLES

The present study aimed at determining the Influence of Teaching Attitude and Anxiety towards Utilization of Information and Communication Technologies in Classroom Instruction among Teacher-Educators at Colleges of Education. The variables involved in this study were Teaching Attitude, Anxiety and Utilisation of ICT.

The Demographic variables used in this study were Gender, Type of Institution, Major Subject and Years of Experience in working with Computers.

3.9 TOOLS USED IN THE STUDY

In this present Study, Investigator used two types of Tools. The first type of Tool was developed by the investigator namely Utilization of ICT (UICT) tool. The second type of tool, which is Standardized Tools namely, Teaching Attitude Scale (TAS) and Anxiety Rating Scale (AnRS).

3.9.1 Teacher developed Tool

A brief description of the Teacher developed Tool used was given in the following paragraphs.

a. Utilization of ICT (UICT)

Utilization of ICT (UICT) tool was developed by the Investigator to find out the level of Utilisation of Information Communication Technologies (ICT) among the Teacher-Educators. It consists of 48 items with five components such
as CCTV, ETV, VAI, CAI and Net Based Instruction (NBI) in Five-point Rating Scale.

b. Development of UICT

As a Validated Utilisation of Information and Communication Technologies (UICT) questionnaire was not readily available, the Investigator developed a Tool to measure the level of Utilisation of Information Communication Technologies (UICT) in Classroom Instruction among the Teacher-Educators at Colleges of Education in the present Study. The Investigator identified the various components of ICTs such as Closed Circuit Television (CCTV), Educational Television (ETV), Video Assisted Instruction (VAI), Computer Assisted Instruction (CAI) and Net Based Instruction (NBI) that are mostly utilized for classroom instruction among the Teacher-educators were included in the UICT questionnaire. The development of the UICT is described below.

c. Preparation of Preliminary draft of UICT

The Investigator prepared the statements in five point Rating Scale with options “Exactly, Nearly, Somewhat, Rarely and Never” from the selected components of ICTs such as Closed Circuit Television (CCTV), Educational Television (ETV), Video Assisted Instruction (VAI), Computer Assisted Instruction (CAI) and Net Based Instruction (NBI). Sufficient care was taken to
prepare the statements considering all the aspects of Teaching and Teaching Methodology such as Micro teaching and Macro teaching etc.

The Investigator himself was satisfied after the deletion, addition and modification of the statements prepared by him. Then it was shown to five Teacher-Educators for verifying the suitability of the statements in UICT to who are working in various Colleges of Education. They critically analyzed the statements in the Questionnaire and gave their suggestions. Afterwards, the investigator modified some of the statements.

Table 3.3 represents the Preliminary draft of the Utilization of ICT (UICT) Questionnaire and the number of items selected from the various components.

**TABLE 3.3**

**PRELIMINARY DRAFT OF THE UTILISATION OF ICT (UICT)**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Components</th>
<th>No. of Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CCTV</td>
<td>13</td>
</tr>
<tr>
<td>2.</td>
<td>ETV</td>
<td>07</td>
</tr>
<tr>
<td>3.</td>
<td>VAI</td>
<td>09</td>
</tr>
<tr>
<td>4.</td>
<td>CAI</td>
<td>11</td>
</tr>
<tr>
<td>5.</td>
<td>NBI</td>
<td>27</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>67</strong></td>
</tr>
</tbody>
</table>

The Preliminary Draft of the UICT consists of 67 statements with the objective to measure the Utilization of ICT in classroom instruction among the Teacher-educators.
3.9.2 Pilot Study

The preliminary draft was neatly typed and administered on the selected Teacher-educators. The Teacher-educators working in the Colleges of Education were selected as sample for the pilot study and the study was conducted. They took around 60 minutes to complete the Questionnaire.

Ultimately the total number of 67 items was reduced to 48 items for the final study. The 48 items selected for the present study is presented in the following table 3.4.

TABLE 3.4
FINAL DRAFT OF THE UTILISATION OF ICT (UICT)

<table>
<thead>
<tr>
<th>S.No</th>
<th>Components</th>
<th>No. of Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CCTV</td>
<td>10</td>
</tr>
<tr>
<td>2.</td>
<td>ETV</td>
<td>04</td>
</tr>
<tr>
<td>3.</td>
<td>VAI</td>
<td>07</td>
</tr>
<tr>
<td>4.</td>
<td>CAI</td>
<td>09</td>
</tr>
<tr>
<td>5.</td>
<td>NBI</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>

Table 3.4 reveals that out of the 48 items selected for the present study on Utilization of ICT (UICT) categorized under the selected five components of ICT. The Positive and Negative statements used in the Final Draft of the Utilization of ICT (UICT) Questionnaire of the present study is presented in the table 3.5.
TABLE 3.5
POSITIVE AND NEGATIVE ITEMS USED IN THE UICT QUESTIONNAIRE

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Components</th>
<th>Positive</th>
<th>Negative</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>CCTV</td>
<td>1,3,5,7,8, 10</td>
<td>2,4,6,9</td>
<td>10</td>
</tr>
<tr>
<td>2.</td>
<td>ETV</td>
<td>11,12,14</td>
<td>13</td>
<td>04</td>
</tr>
<tr>
<td>3.</td>
<td>VAI</td>
<td>15,16,19,21</td>
<td>17,18,20</td>
<td>07</td>
</tr>
<tr>
<td>4.</td>
<td>CAI</td>
<td>22,24,25,27,28</td>
<td>23,26,29,30</td>
<td>09</td>
</tr>
<tr>
<td>5.</td>
<td>NBI</td>
<td>31,33,34,36,38,40,41,42, 43,44,45,46,47,48</td>
<td>32,35,37,39</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>32</strong></td>
<td><strong>16</strong></td>
<td></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>

From the Table 3.5, it is inferred that in the Final Draft of the Utilization Questionnaire of the present study there were 32 Positive items and 16 Negative items in total.

3.9.3 Establishment of Validity of UICT

Validity (Truthfulness) of a tool of research may be defined as the extent to which the tool measures what it ought to measure (what it is supposed to measure). The tool of research to be employed by the investigator must be reasonably valid and reliable so that it serves the purpose of the investigator. The Final draft of the Utilization of ICT (UICT) Questionnaire was neatly typed and was shown to Two Educational Experts and Five Teacher Educators working in the Colleges of Education, Tiruchirappalli. They carefully scrutinized the Questionnaire and gave their valuable suggestions. The investigator made
modifications in the Questionnaire as per the valid suggestions of the Teacher Educators.

3.9.4 Establishment of Reliability of UICT

Anastasi (1955) mentioned that the reliability of a test refers to the consistency of the scores obtained by the same individual on different occasions or with different sets of equivalent items. Slavin (1987) mentioned that reliability refers to the accuracy with which skills and knowledge are measured. Reliability is the consistency of the measuring instrument is giving Reliability of the final draft of the UICT Questionnaire was administered among the 31 Teacher-educators working in the two colleges namely JJ College of Education and Indra Ganesan college of Education, Tiruchirappalli. The split-half method was adopted to find out the reliability of the test. Split-half method refers to a form of internal Reliability in which the consistency of item responses is determined by comparing scores on half of the items with scores on the other half of the items. From the scoring of the filled up questionnaire two separate scores i.e. odd and even items of the questionnaire were derived. The correlation between these two scores provided a measure of accuracy. The correlation co-efficient was worked out using Karl Pearson Product Moment Correlation formula.

Reliability \( r = \frac{2*Y_{xy}}{1 + Y_{xy}} \). \( r \) = estimated correlation between two halves (Pearson r). It was found that r- value to be 0.86 which revealed that the
tool is reliable to administer among the Teacher-educators working in the Colleges of Education.

3.9.5 Standardized Tools

The Investigator used two Standardized tools for the study. A brief description of the Standardized tools used was given in the following paragraphs.

(i) Teaching Attitude Scale (TAS)

The Investigator employed Teaching Attitude Scale which was standardized by S. Sathiyagirirajan in 2008. It measures the level of Teaching Attitude among the Teacher-educators. The scale comprised of 20 statements in five point rating scale. Item validity is measured by the ‘t’ value which is found to be significant when it correlates between low and high group discrimination and Reliability of the TAS using Test - Retest mode was found to be \( r = 0.77 \) which was highly reliable to administer the tool.

(ii) Anxiety Rating Scale (AnRS)

Anxiety Rating Scale was developed by S. Sathiyagirirajan (2008) in five point rating scale consists of 20 statements. In the present study AnRS was taken for assessing the Anxiety level of the Teacher-educators. Item validity is measured by the ‘t’ value which is found to be significant when it correlates between low and high group discrimination and Reliability of the AnRS using Test – Retest
mode of administration of the scale was found to be reliable as Correlation Coefficient $r = 0.83$.

### 3.10 ADMINISTERING THE TOOL

To administer the tools, the investigator got prior permission from the principals of the colleges of Education. The developed Utilisation of ICT (UICT) questionnaire, Standardized Teaching Attitude (TAS) and Anxiety Rating (AnRS) Scale were administered to the 550 Teacher-educators working in the Government, Aided and Self-financing Colleges of Education based on the stratification of the sampling technique. The investigator instructed the Teacher-educators to read all the statements carefully and to put tick mark near the options as per their choice. The fully completed questionnaires received from the respondents were 521 Teacher-educators. The investigator scored all the Questionnaires following the necessary scoring method. The following scoring method was adapted to the UICT Questionnaire for the Positive and Negative statements used.

For scoring the Questionnaire the scoring method as given in the table 3.6 was adopted.
### TABLE 3.6

**SCORING KEY FOR THE UICT QUESTIONNAIRE**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Exactly / Always / To a great extent</th>
<th>Nearly / Often / To a substantial extent</th>
<th>Somewhat / Sometimes / To a some extent</th>
<th>Uncertain / Rarely / To a marginal extent</th>
<th>Not at all / Never / To a negligible extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Item</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Negative Item</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

From the table 3.6 it is evident that the UICT measuring Positive and Negative statements the scorings such as 5,4,3,2,1 and 1,2,3,4,5 for the options Exactly / Always / To a great extent, Nearly / Often / To a substantial extent, Somewhat / Sometimes / To a some extent, Uncertain / Rarely / To a marginal extent and Not at all / Never / To a negligible extent.

### 3.11 STATISTICAL MEASURES USED IN THE STUDY

After scoring the filled in Utilization of ICT (UICT) Questionnaire, Teaching Attitude and Anxiety Scale, a Master Table was prepared by plotting the scores. Different Statistical Measures were used in the study for finding out solutions to the problems which are briefed as below:

1. **Descriptive Analysis** – Mean, Standard Deviation and Percentage Analysis.
ii. Inferential Analysis - ‘t’ test to analyze the Significant Difference and Correlation co-efficient (r) to find out the Significant Relationship between mean Average scores of Utilization of ICTs in the Classroom Instruction or Teaching Attitude or Anxiety and with different categories such as Gender, Type of Institution, Major Subject and Years of Experience in working with Computers.

iii. ANNOVA ‘F’ value was used to find out significant difference between the three variables such as Teaching Attitude, Anxiety and Utilisation of ICTs in Classroom Instruction.

3.12 DELIMITATIONS OF THE STUDY

The delimitations of the study are summarized below.

i. The Investigator confined his study with only 521 Samples from 61 Colleges of Education in Tamil Nadu with limited time.

ii. Utilization of ICTs Questionnaire was analyzed under five components of the ICT components only.

iii. The investigator conducted the study with only four variables such as Gender, Type of Institution, Major Subject and Years of Experience in working with Computers.

The forth-coming chapter deals with the Data Analysis of the study.