CHAPTER - III
CHAPTER III
METHODOLOGY

3.1 INTRODUCTION
Methodology is the procedure used by the investigator for the research purpose. Educational research is the application of the main principles of scientific research to the solution of educational problems. The success of any research depends largely on the suitability of the method, the tools and techniques the investigator uses together with data.

Research studies are distinguished on the basis of their different purposes and approaches. In every research different methods are used in different stages of its development. The generally accepted methods are historical, documentary, normative survey, descriptive and experimental etc.

The efficiency and generalization of any study depends on the following factors.

1. The selection of an adequate representative sample
2. Selection of valid and reliable tools
3. Use of appropriate statistical techniques for the analysis and interpretation of data.

Though there are different methods and procedures, the method adopted for a particular study should always be suited to the purpose of the study. Considering the need, importance and purpose in the present study an attempt is made for investigation of self-confidence, attitude towards teaching profession, creativity and emotional intelligence in relation to Academic achievement.
3.2 THE STUDY

The objective of the study is to find out the correlates of academic achievement of B.Ed. students. By applying random sampling technique, 627 students were selected from six different B.Ed. colleges in Chennai city. To find out the correlates of academic achievement of B.Ed. students, self-confidence, attitude towards teaching profession, creativity and emotional intelligence were applied to B.Ed. students. The collected data was scrutinized and appropriate statistical techniques were applied in order to realize the objectives of the study.

3.3 OBJECTIVES OF THE STUDY

**Primary Objective:**

The foremost objective of the study is to explore the correlates of academic achievement of the B.Ed. students.

**Secondary Objectives:**

The secondary objectives are the following:

1. To find out the self-confidence, attitude towards teaching profession, creativity and emotional intelligence in relation to academic achievement of male and female B.Ed. students.
2. To explore Self-confidence, attitude towards teaching profession, Creativity and Emotional intelligence in relation to Academic achievement of Graduate and Post Graduate B.Ed. students.
3. To fathom Self-confidence, attitude towards teaching profession, Creativity and Emotional intelligence in relation to Academic achievement with regards to community and religion of B.Ed. students.
4. To examine Self-confidence, attitude towards teaching profession, Creativity and emotional intelligence in relation to academic achievement with regards to subjects and types of management of colleges.
3.4 STATEMENT OF THE PROBLEM

The main problem of study is to find out “The correlates of the academic achievement of B.Ed. students”

3.5 HYPOTHESES

3.5.1 CORRELATIONAL ANALYSIS

1. Among all B.Ed. students, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession.
   b) Self-confidence and creativity.
   c) Self-confidence and emotional intelligence.
   d) Self-confidence and academic achievement.
   e) Attitude towards teaching profession and creativity.
   f) Attitude towards teaching profession and emotional intelligence.
   g) Attitude towards teaching profession and academic achievement.
   h) Creativity and emotional intelligence.
   i) Creativity and academic achievement.
   j) Emotional intelligence and academic achievement

2. Among the male B.Ed. students, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
3. Among the female B.Ed. students, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
   j) Emotional intelligence and academic achievement

4. Among the Graduate B.Ed. students, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
   j) Emotional intelligence and academic achievement

5. Among Post Graduate students of B.Ed., there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
b) Self-confidence and creativity

c) Self-confidence and emotional intelligence

d) Self-confidence and academic achievement

e) Attitude towards teaching profession and creativity

f) Attitude towards teaching profession and emotional intelligence

g) Attitude towards teaching profession and academic achievement

h) Creativity and emotional intelligence

i) Creativity and academic achievement

j) Emotional intelligence and academic achievement

6. Among the B.Ed. students belonging to SC and ST community, there is no significant positive correlation between:

a) Self-confidence and attitude towards teaching profession

b) Self-confidence and creativity

c) Self-confidence and emotional intelligence

d) Self-confidence and academic achievement

e) Attitude towards teaching profession and creativity

f) Attitude towards teaching profession and emotional intelligence

g) Attitude towards teaching profession and academic achievement

h) Creativity and emotional intelligence

i) Creativity and academic achievement

j) Emotional intelligence and academic achievement

7. Among the B.Ed. students belonging to Non – SC and ST community, there is no significant positive correlation between:

a) Self-confidence and attitude towards teaching profession

b) Self-confidence and creativity

c) Self-confidence and emotional intelligence

d) Self-confidence and academic achievement

e) Attitude towards teaching profession and creativity

f) Attitude towards teaching profession and emotional intelligence
g) Attitude towards teaching profession and academic achievement
h) Creativity and emotional intelligence
i) Creativity and academic achievement
j) Emotional intelligence and academic achievement

8. Among the B.Ed. students belonging Hindu religion, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
   j) Emotional intelligence and academic achievement

9. Among the B.Ed. students belonging to Non-Hindu religion, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
   j) Emotional intelligence and academic achievement
10. Among the B.Ed. students belonging to Science group, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
   j) Emotional intelligence and academic achievement

11. Among the B.Ed. students belonging to Mathematics subject, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
   j) Emotional intelligence and academic achievement

12. Among the B.Ed. students belonging to Social Sciences subject, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
d) Self-confidence and academic achievement
e) Attitude towards teaching profession and creativity
f) Attitude towards teaching profession and emotional intelligence
g) Attitude towards teaching profession and academic achievement
h) Creativity and emotional intelligence
i) Creativity and academic achievement
j) Emotional intelligence and academic achievement

13. Among the B.Ed. students belonging to language subjects, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
   j) Emotional intelligence and academic achievement

14. Among the B.Ed. students belonging to Government Colleges of Education, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
i) Creativity and academic achievement
j) Emotional intelligence and academic achievement

15. Among the B.Ed. students belonging to Government Aided colleges of Education, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
   j) Emotional intelligence and academic achievement

16. Among the B.Ed. students belonging to Self–Financing colleges of Education, there is no significant positive correlation between:
   a) Self-confidence and attitude towards teaching profession
   b) Self-confidence and creativity
   c) Self-confidence and emotional intelligence
   d) Self-confidence and academic achievement
   e) Attitude towards teaching profession and creativity
   f) Attitude towards teaching profession and emotional intelligence
   g) Attitude towards teaching profession and academic achievement
   h) Creativity and emotional intelligence
   i) Creativity and academic achievement
   j) Emotional intelligence and academic achievement
3.5.2 DIFFERENTIAL ANALYSIS

17. There is no significant difference between male and female B.Ed. students in self-confidence.
18. There is no significant difference between the male and female B.Ed. students in attitude towards teaching profession.
19. There is no significant difference between male and female B.Ed. students in creativity.
20. There is no significant difference between male and female B.Ed. students in emotional intelligence.
21. There is no significant difference between male and female B.Ed. students in academic achievement.
22. There is no significant difference between Graduate and Post Graduate B.Ed. students in self-confidence.
23. There is no significant difference between Graduate and Post Graduate B.Ed. students in attitude towards teaching profession.
24. There is no significant difference between Graduate and Post Graduate B.Ed. students in creativity.
25. There is no significant difference between Graduate and Post Graduate B.Ed. students in emotional intelligence.
26. There is no significant difference between Graduate and Post Graduate B.Ed. students in academic achievement.
27. There is no significant difference between SC and ST students and Non-SC and ST students of B.Ed. in self-confidence.
28. There is no significant difference between SC and ST and Non-SC and ST B.Ed. students in attitude towards teaching profession.
29. There is no significant difference between SC and ST and Non-SC and ST B.Ed. students in creativity.
30. There is no significant difference between SC and ST students and Non-SC and ST B.Ed. students in emotional intelligence.
31. There is no significant difference between SC and ST students and Non-SC and ST B.Ed. students in academic achievement.
32. There is no significant difference between Hindu and Non-Hindu B.Ed. students in self-confidence.
33. There is no significant difference between Hindu and Non-Hindu B.Ed. students in attitude towards teaching profession.
34. There is no significant difference between Hindu and Non-Hindu B.Ed. students in creativity.
35. There is no significant difference between Hindu and Non-Hindu B.Ed. students in emotional intelligence.
36. There is no significant difference between Hindu and Non-Hindu B.Ed. students in academic achievement.
37. There is no significant difference between B.Ed. students of Science and Mathematics subjects in self-confidence.
38. There is no significant difference between B.Ed. students of Science and Mathematics subjects in attitude towards teaching profession.
39. There is no significant difference between B.Ed. students of Science and Mathematics subjects in creativity.
40. There is no significant difference between B.Ed. students of Science and Mathematics subjects in emotional intelligence.
41. There is no significant difference between B.Ed. students of Science and Mathematics subjects in academic achievement.
42. There is no significant difference between B.Ed. students of Science and Social Science subjects in self-confidence.
43. There is no significant difference between B.Ed. students of Science and Social Science subjects in attitude towards teaching profession.
44. There is no significant difference between B.Ed. students of Science and Social Science subjects in creativity.
45. There is no significant difference between B.Ed. students of Science and Social Science subjects in emotional intelligence.
46. There is no significant difference between B.Ed. students of Science and Social Science subjects in academic achievement.
47. There is no significant difference between B.Ed. students of Science and Language subjects in self-confidence.
48. There is no significant difference between B.Ed. students of Science and Language subjects in attitude towards teaching profession.
49. There is no significant difference between B.Ed. students of Science and Language subjects in creativity.
50. There is no significant difference between B.Ed. students of Science and Language subjects in emotional intelligence.
51. There is no significant difference between B.Ed. students of Science and Language subjects in academic achievement.
52. There is no significant difference between B.Ed. students of Mathematics and Social Science subjects in self-confidence.
53. There is no significant difference between B.Ed. students of Mathematics and Social Science subjects in attitude towards teaching profession.
54. There is no significant difference between B.Ed. students of Mathematics and Social Science subjects in creativity.
55. There is no significant difference between B.Ed. students of Mathematics and Social Science subjects in emotional intelligence.
56. There is no significant difference between B.Ed. students of Mathematics and Social Science subjects in academic achievement.
57. There is no significant difference between B.Ed. students of Mathematics and Language subjects in self-confidence.
58. There is no significant difference between B.Ed. students of Mathematics and Language subjects in attitude towards teaching profession.
59. There is no significant difference between B.Ed. students of Mathematics and Language subjects in creativity.
60. There is no significant difference between B.Ed. students of Mathematics and Language subjects in emotional intelligence.
61. There is no significant difference between B.Ed. students of Mathematics and Language subjects in academic achievement.
62. There is no significant difference between B.Ed. students of Social Science and Language subjects in self-confidence.
63. There is no significant difference between B.Ed. students of Social Science and Language subjects in attitude towards teaching profession.
64. There is no significant difference between B.Ed. students of Social Science and Language subjects in creativity.
65. There is no significant difference between B.Ed. students of Social Science and Language subjects in emotional intelligence.
66. There is no significant difference between B.Ed. students of Social Science and Language subjects of in academic achievement.
67. There is no significant difference between students of Government Colleges of education and Government Aided colleges of Education in self-confidence.
68. There is no significant difference between B.Ed. students of Govt. Colleges of Education and Government Aided colleges of Education in attitude towards teaching profession.
69. There is no significant difference between B.Ed. students of Govt. Colleges of Education and Government Aided Colleges of Education in creativity.
70. There is no significant difference between B.Ed. students of Govt. Colleges of Education and Government Aided Colleges of Education in emotional intelligence.
71. There is no significant difference between B.Ed. students of Government colleges of Education and Government Aided college of Education in academic achievement.
72. There is no significant difference between B.Ed. students of Government colleges of Education and Self-Financing colleges of Education in self-confidence.
73. There is no significant difference between B.Ed. students of Government colleges of Education and Self-Financing colleges of Education in attitude towards teaching profession.
74. There is no significant difference between B.Ed. students of Government colleges of Education and Self-Financing colleges of Education in creativity.
75. There is no significant difference between B.Ed. students of Government and Self-Financing colleges of Education in emotional intelligence.
76. There is no significant difference between B.Ed. students of Government college of Education and Self-Financing college of Education in academic achievement.
77. There is no significant difference between B.Ed. students of Government Aided colleges of Education and Self-Financing college of Education in self-confidence.
78. There is no significant difference between B.Ed. students of Government Aided colleges of Education and Self-financing colleges of Education in attitude towards teaching profession.
79. There is no significant difference between B.Ed. students of Government Aided colleges of Education and Self-Financing colleges of Education in creativity.
80. There is no significant difference between B.Ed. students of Government Aided colleges of Education and Self-Financing colleges of Education in emotional intelligence.
There is no significant difference between B.Ed. students of Government Aided colleges of Education and Self-Financing colleges of Education in academic achievement.

3.6 DESIGN OF THE STUDY

3.6.1 TYPE OF STUDY
The present study is based on Ex-post facto research design. KERLINGER (1973) defined it as a systematic empirical enquiry in which the investigator does not have direct control over the independent variables because their manifestations have already occurred and they are inherently not influenceable. Inferences about relation among variables are made without direct intervention on independent variables.

3.6.2 SAMPLE DESIGN
In the present study ex-post facto research design has been used as most suitable for analysis. On the basis of dependent and independent variables the analysis is carried out. The sample of 627 students was drawn from six B.Ed. colleges. A cross sectional sample has been used. Treatment was the same for all the students even though at different places at different times. Sample of the students had been divided into six comparison groups by in all, sex, community, religion, optional subjects in B.Ed. and types of management. Details of sample are given below as a table.

3.6.3 SAMPLE SIZE DISTRIBUTION

Definition of type of management of B.Ed. colleges:

<table>
<thead>
<tr>
<th>Type of Management</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government college</td>
<td>It is managed by the Government</td>
</tr>
<tr>
<td>Government Aided college</td>
<td>Government provide some aid to the college managed by private institution</td>
</tr>
<tr>
<td>Self-financing college</td>
<td>It is completely managed by the private concern with their finances</td>
</tr>
</tbody>
</table>
Keeping in view the aim of the study about 627 students from B.Ed. Colleges namely;

- N.K.T College of Education for Women
- Lady Willington College of Education for Women
- Stella Matutina College of Education for Women
- Institute of Advanced Study in Education for Boys, Saidapet.
- Jaya College of Education
- ACT College of Education
- While selecting the colleges extreme care was taken to select male and female students from the colleges.

**TABLE A**

**COLLEGE WISE DISTRIBUTION OF STUDENTS**

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name of the college</th>
<th>Management of college</th>
<th>Nature of college</th>
<th>No. of male students</th>
<th>No. of female students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lady Willington College of Education</td>
<td>Govt. college</td>
<td>Women’s</td>
<td>0</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>2</td>
<td>Institute of Advanced Study in Education, Saidapet</td>
<td>Govt. college</td>
<td>Boys</td>
<td>158</td>
<td>0</td>
<td>158</td>
</tr>
<tr>
<td>3</td>
<td>NKT College of education</td>
<td>Govt. Aided college</td>
<td>Women’s</td>
<td>0</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>4</td>
<td>Stella Matutina College of education</td>
<td>Govt Aided college</td>
<td>Women’s</td>
<td>0</td>
<td>154</td>
<td>154</td>
</tr>
<tr>
<td>5</td>
<td>Jaya College of education</td>
<td>Self-financed</td>
<td>Co-ed</td>
<td>16</td>
<td>74</td>
<td>90</td>
</tr>
<tr>
<td>6</td>
<td>ACT College of education</td>
<td>Self-financed</td>
<td>Co-ed</td>
<td>11</td>
<td>55</td>
<td>66</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>185</td>
<td>442</td>
</tr>
</tbody>
</table>
3.6.4 DESCRIPTION OF THE TOOLS USED

The investigator used the following tools for the study:

1. Self-confidence inventory developed by Basavanna
2. Attitude towards teaching profession tool was constructed by V.V.Katti and C.S.Bannur
3. Creativity based on the standardized tool of Wallach and Kogan test,1972
4. Scale of Emotional intelligence test by Dr. K. Mohana Sundaram & Dr. S. Balasubramaniam.
5. Investigator collected annual marks for achievement test of theory s from six different colleges.
3.6.5 SELF CONFIDENCE INVENTORY

3.6.5.1 DESCRIPTION:

The Self-confidence inventory is a tool that attempts to determine the degree of self-confidence in a person. The inventory consists of 100 statements that require the respondent to write true or false with which he more strongly agrees.

**Example 1:** The statement No 2 is “I can be natural while at a party”. If the pupil writes ‘true’ for the above statement one point is given. If the pupil writes ‘false’ for the above statement no point is given.

**Example 2:** In the case of Eleventh statement “I feel insecure within myself”, If the pupil writes ‘true’ for the statement no point is awarded. If the pupil writes ‘false’ for the statement one point is awarded.

In the same manner the inventory is evaluated. The score may be between ‘0’ to ‘100’.

3.6.5.2 RELIABILITY:

The English version of self-confidence inventory has been used as an instrument in measuring student’s level of self-confidence. Basavanna has developed this scale.

Basavanna found that reliability was 0.91.
Arockia Mary in her studies found that reliability is 0.97.
Investigator in her study has found that reliability is 0.48.

3.6.5.3 VALIDITY:

Basavanna found that validity was 0.90.
Arockia Mary in her studies found that the validity was established by subject experts.
Investigator found in her studies that validity is established by subject experts.
3.6.5.4 SCORING PROCEDURE FOR SELF CONFIDENCE INVENTORY:

The self-confidence inventory items 2, 3, 4, 6, 13, 14, 21, 24, 27, 29, 30, 31, 32, 39, 40, 41, 42, 46, 47, 55, 56, 64, 65, 67, 68, 70, 76, 79, 80, 81, 86, 87, 88, 91, 92, 93, 96 and 100 are true.

The self-confidence inventory items 1, 5, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 22, 23, 25, 26, 28, 33, 34, 35, 36, 37, 38, 43, 44, 45, 48, 49, 50, 51, 52, 53, 54, 57, 58, 59, 60, 61, 62, 63, 66, 69, 71, 72, 73, 74, 75, 77, 78, 82, 83, 84, 85, 89, 90, 94, 95, 97, 98 and 99 are false.

3.6.6 ATTITUDE TOWARDS TEACHING PROFESSION

3.6.6.1 DESCRIPTION:

The tool was constructed by V.V.Katti and C.S. Bannur. It is a five point scale of Likert type summated rating.

It consists of a mixture of positive and negative statements. There are totally 40 statements. The positive statements are in item No 1, 2, 4, 6, 9, 12, 14, 15, 20, 21, 22, 23, 26, 27, 28, 30, 33, 36, 37, 39 and 40. The negative statements are in item no 3, 5, 7, 8, 10, 11, 13, 16, 17, 18, 19, 24, 25, 29, 31, 32, 34, 35 and 38.

3.6.6.2 RELIABILITY:

The authors (V.V.Katti and C.S. Bannur) found that the reliability through split half coefficient of correlation to be 0.76.

Mrs. Kirubacharles found that reliability was 0.8743 in her M. Phil thesis.

The Investigator found that the reliability was 0.7180.

3.6.6.3 VALIDITY:

Mrs. Kirubacharles found that validity was 0.8306 in her M. Phil thesis.

Investigator found that the validity is established by the subject experts.
3.6.6.4 SCORING PROCEDURE FOR ATTITUDE TOWARDS TEACHING PROFESSION:

The order of scoring for positive statements is 4 for ‘strongly’, 3 for ‘agree’, 2 for ‘undecided’, 1 for ‘disagree’ and 0 for ‘strongly disagree’ for positive statements.

The order of scoring for negative statements is exactly the reverse. The score ranges from 0 to 160 in the direction of least unfavourable attitude to most favourable attitude.

One who gets a score of ‘80’ and above is said to have favourable attitude and a score of less than ‘80’ is said to have unfavourable attitude towards teaching profession.

3.6.7 CREATIVITY TEST

3.6.7.1 DESCRIPTION:

Wallach and Kogan defined Creativity as the production applicable to all age levels. These instruments have been adapted for the Indian setting by Paramesh (1972) which comprises of 34 test items. The Wallach and Kogan test of Creativity consists of two subset namely verbal task and non-verbal task.

3.6.7.2 VERBAL TEST:

In verbal task there are three subsets namely Instances, Alternate uses and similarities. In Instances there are four test items, in Alternate uses seven items and six items in Similarities. In total there are seventeen test items included in verbal task. Before commencement of the verbal test necessary instructions such as response to each sub-test is a must, spontaneous answers to each question as they are too general and maximum possible responses on each test item were given to the students. Further the students were motivated to perform the task as quickly as possible. The students were seated comfortably and personal data such as name, sex, community, religion and name of the college etc. were collected.
**TASK I - INSTANCES:** The task is to think intensively about each item as widely as possible and write as many responses related to the item. For example “things that are cold” probably the answer would instantly come as “water, ice, dews” so on. Generate as many responses as possible. There is no time limit for the test.

**TASK II - ALTERNATE USES:** In this task the students are presented with test items such as ‘bulb’ ‘flour’ or ‘string’ and are asked to write all the different ways in which the object can be used. For example, a string can be used to “tie, pack things, hang cloths” and so on. Generate as many responses as possible. There is no time limit for the test.

**TASK III - SIMILARITIES:** This test is concerned with the task of identifying, the similarity of a pair of objects or in what way a pair of objects is alike. For example, think of always in which an apple and orange are alike. The probable answers may be “both are fruits, have seeds, have skin “and so on. Generate as many similarities as possible. There is no time limit for the test.

**3.6.7.3 NON-VERBAL TEST:**

This is a test, which assesses the divergent thinking of a person regarding geometrical patterns and line designs. The test consists of two sub tests namely pattern meaning and line meaning task. In pattern meaning task there are eight patterns and nine designs in line meaning task. In total there are 17 tests items. The task of the subject is to perceive the patterns or design clearly and to respond to designs look like or what he/she perceive. There are no right or wrong answers. There is no time limit. The subject was instructed to perform as quickly as possible.

**TASK I - PATTERN MEANING TASK:** In this test, the students were given a sheet consisting of some geometrical patterns and were asked to perceive each design at a time and imagine that what the pattern is like or how the patterns look like. In the example pattern, it was perceived to be as rising Sun, eye
lashes, brush etc. The number of responses was not restricted and everyone was motivated to give as many responses as possible without any restriction in time.

**TASK II - LINE MEANING TASK:** In this test, the students were given a sheet consisting of some line designs and were asked to write down all the things that make them think of. They were asked to perceive the line as a whole and not a part of it and respond what the entire line looks like or means to them. They were allowed to turn sheet in any way to view them in any angle. They were informed that there are no correct or wrong answers and no time restriction for answering the sheet.

### 3.6.7.4 RELIABILITY:

Creativity test is based on standardized tool which is constructed by Wallach and Kogan test 1972.

Split of reliability of Wallach and Kogan test varied between 0.51 and 0.93 for the different components and different sub-sets.

S. Gowri found that reliability of Creativity is 0.74 in her M. Phil thesis.

Investigator found that the reliability of Creativity is 0.8657.

### 3.6.7.5 VALIDITY:

S Gowri found that validity has been established by experts in educational field. The investigator found that validity was established by experts in education.

### 3.6.7.6 SCORING PROCEDURE FOR CREATIVITY TEST:

A score of one is given to each response for all the tasks in the battery. The higher the score, higher the fluency for each task. Two types of scores viz. number (fluency) and uniqueness can be obtained for each individual on each of the five instruments. An individual’s score for number of particular instrument consists of the sum of his responses for all items. For obtaining uniqueness score any response that is offered by only subject out of the whole sample is made note of. An individual’s total score for uniqueness for a particular
instrument consists of sum of his unique responses to all the items comprising that instrument.

3.6.8 EMOTIONAL INTELLIGENCE TEST
3.6.8.1 DESCRIPTION:
The tool used for measuring the Emotional intelligence, is a structured questionnaire called scale of Emotional intelligence test. The scale of Emotional intelligence constructed and validated in 2003 by Dr. K. Mohana Sundaram & Dr. S. Balasubramaniam is used for the present study. The scale consists of fifty items and the items are in the form of multiple choices (objective type) and carry a mark each. The correct or selected items are to be ticked or circled.

In each item a problem is described and then four alternative responses A, B, C and D are given. The students are requested to go through the questions and select appropriate answer and put a check mark/circle in the respective answer.

3.6.8.2 RELIABILITY:
The reliability of the scale was established by test \ re-test method by Dr. K. Mohana Sundaram and Dr. S. Balasubramaniam. The scale was constructed and administered for forty teacher trainees with an interval of three week duration. A reliability calculation is found to be 0.75, and hence the scale possesses high reliability.

Investigator found that the reliability was 0.7011
3.6.8.3 STRUCTURE OF EMOTIONAL INTELLIGENCE TEST:
The structure of the Emotional intelligence test is explained in the table given below.

**TABLE B**

**TABLE SHOWING NUMBER OF ITEMS FOR MEASURING EMOTIONAL INTELLIGENCE TEST ACCORDING TO DIMENSIONS**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Dimension</th>
<th>Question No</th>
<th>Total No of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Self-awareness</td>
<td>1,21,29,32,40,45</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Self-regulation</td>
<td>2,13,19,20,23,25,31,35,36,46,48</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Motivation</td>
<td>3,7,26,30,38</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Empathy</td>
<td>4,6,8,9,12,15,18,24,27,28,34,39,42,43,44,47,50</td>
<td>17</td>
</tr>
<tr>
<td>5</td>
<td>Social skill</td>
<td>5,10,11,14,16,17,22,33,37,41,49</td>
<td>11</td>
</tr>
</tbody>
</table>

**Total** | 50

3.6.8.4 VALIDITY:
The test items were constructed based on Daniel Goleman’s concepts and components of ‘Emotional intelligence” identified by him, by assigning due weightage to each component. Hence, the scale possesses content and constructs validity. This establishes the validity of the test.
The investigator found that the Validity is established by the experts in education and Psychologists.
3.6.8.5 SCORING PROCEDURE FOR EMOTIONAL INTELLIGENCE:

The responses of student teachers were collected and scored as per the scoring key. A score of a point is given for each correct answer, (Max: 50 & Min: 0).

|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|

3.6.9 ACADEMIC ACHIEVEMENT

3.6.9.1 DESCRIPTION:

It is a dependent variable. In this study it aims to find out whether there is any effect of Self-confidence, Attitude towards teaching profession, Creativity and Emotional intelligence in relation to Academic achievement.

Good (1959) and Carter (1959) state that “the Academic achievement is the knowledge attained or skills developed in the school subjects usually determined by that scope or by marks or both assigned by the teachers”.

In the Dictionary of psychology, Chaplin (1965) and Robert et al, (1979) define “Academic achievement is the specified level of attainment or proficiency in academic marks evaluated by the teachers by standardized tests or by a combination of both.”

Gupta and Kapoor (1969) have stated that “Academic achievement in other fields is not a uni-dimensional, but a multi-dimensional activity, involving a number of phases.”

Kevin Manjory Banks (1987) relieves that “Academic achievement is based on a number of factors such as student’s attitude, interest, personal characteristics, and social class and so on.”
Having the definitions of Academic achievement, the present investigator collected marks of three common papers secured by each student. The present investigator decided to consider the marks secured by each student in three common papers in the final examination held in the month of May, 2009 as an Academic achievement.

### 3.7 ADMINISTRATION

The main study is for Self-confidence inventory, attitude towards teaching profession tool, Creativity test, Emotional intelligence test and academic achievement. This consisted of collecting the data from selected 627 students in six colleges of education. The investigator after obtaining prior permission from the Heads of the institution, personally administered the inventory on self-confidence, attitude towards teaching - scale, Creativity test, Emotional intelligence test to the students in their convenient time and the instructions were read out to them. Each student was given a separate booklet and as well as answer sheet for creativity test. The students were kept at ease during the test which was conducted for all total three hours duration. The questionnaire along with answer sheets were personally collected by the investigator and evaluated. During the process there was good response and support between the students and the investigator.

### 3.8 PROCEDURE FOR THE STUDY

The accurate result of the study mainly depends upon correct procedure adopted for this study. Under this procedure first step is to carry out a pilot study and find the reliability of the tools and the errors committed by the students in filling up these inventories and tests are noted and those can be rectified in the final study.
3.9 PILOT STUDY

The main objective of having a pilot study is to find out the reliability of every tool.

Self-confidence inventory, attitude towards teaching profession tool, Creativity test and Emotional intelligence test are administered to the 25 students twice with a gap of 20 days.

A pilot study was conducted to ascertain the reliability of the tools used. A random of 25 students was picked up from ACT college of Education, Mogappair for the pilot study. The test was administered and the data was collected for statistical analysis. The hypotheses are tested according to the objectives and conclusion arrived.

Reliability is an important aspect which is to be considered prior to conduct the test. According to Fox, reliability refers to “the accuracy of data, in the sense of stability”. In order to find out the reliability of test, test –retest method is adopted in the research, which is considered ideally suited to identify the reliability of self-confidence inventory, attitude towards teaching profession scale, creativity test and emotional intelligence test. This method requires giving the same test to the set of subjects over a period of time and obtaining four sets of scores for the test. The correlation between the two sets of scores is known as test-retest reliability co-efficient.
TABLE – C

TEST – RETEST RELIABILITY COEFFICIENT OF INVENTORY OF SELF CONFIDENCE

<table>
<thead>
<tr>
<th>N</th>
<th>r</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>0.489038</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Since the obtained “r” value 0.489038 is greater than the table value, it is concluded that the test is highly reliable regarding the Self-confidence.

TABLE – D

TEST – RESET RELIABILITY COEFFICIENT OF ATTITUDE TOWARDS TEACHING PROFESSION SCALE

<table>
<thead>
<tr>
<th>N</th>
<th>r</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>0.718077</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Since the obtained “r” value 0.718077 is greater than the table value at 0.01 level, it is concluded that the test is highly reliable regarding the attitude towards teaching profession.
### TABLE – E

**TEST-RETEST RELIABILITY COEFFICIENT OF CREATIVITY**

<table>
<thead>
<tr>
<th>N</th>
<th>r</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>0.625577</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Since the obtained “r” value 0.625577 is greater than the table value at 0.01 level, it is concluded that the test is highly reliable regarding the Creativity.

### TABLE – F

**TEST-RETEST RELIABILITY COEFFICIENT OF EMOTIONAL INTELLIGENCE TEST**

<table>
<thead>
<tr>
<th>N</th>
<th>r</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>0.701154</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Since the obtained “r” value 0.701154 is greater than the table value at 0.01 level, it is concluded that the test is highly reliable regarding the Emotional intelligence.
3.10 **FINAL STUDY**

After having conducted the pilot study, the final study is carried out with 627 students of six colleges of education situated in Chennai city. For this study self-confidence inventory, attitude towards teaching profession-scale, creativity test, and emotional intelligence test for which tools are printed in English version as required for the study. One after another the inventories are administered to the 20 students at a time in a session for the effectiveness of answering the tools. Test was administered in different batches according to their availability, suitability and convenience of the students not affecting their regular classes and study time.

Before administering the tools to the students the following instructions are given to the students. “you are requested to fill up /answer the tools correctly as it comes to your mind” . This collected information is kept confidential. It will not be revealed to any person. This information is used only for the research purpose.

On completion of the booklet on self-confidence, attitude towards teaching profession, creativity and emotional intelligence was collected and evaluated by using the scoring key. Then the scores are analyzed by “t” test and Karl Pearson correlation .The results are presented in the form of tables and interpreted them.

3.11 **LIMITATIONS OF THE STUDY**

1. Students of B.Ed. only are taken as a sample.

2. The study is done only on four independent variables namely Self Confidence, Attitude towards teaching profession, Creativity and Emotional Intelligence and one dependent variable namely Academic achievement.

3. Self-confidence inventory developed by Basavanna, Attitude towards teaching profession tool was constructed by V.V.Katti and C.S.Bannur, Creativity based on the standardized tool of Wallach and Kogan test,
1972 and Scale of Emotional Intelligence test by Dr. K. Mohana Sundaram & Dr. S. Balasubramaniam.

4. For the academic achievement of the students the marks awarded in this final examination are alone taken in to account. The core subjects of three theory papers considered as Academic achievement.

5. A sample of 627 students comprising of 185 males and 442 females studying B.Ed. Degree were only used for the administration of the data collection from six B.Ed. colleges only.

6. These six B.Ed. colleges are located in and around of Chennai city.

7. The statistical calculation analysis is done using Karl Pearson coefficient of Correlation and ‘t’ test are alone used in this study.

8. The Demographic variables such as Sex, community, religion, qualification and methodology of the students, types of management of the study are alone studied in this research.

With all these, data analysis interpretation of results and discussion are given in the chapter IV.