CHAPTER – IV

METHODOLOGY

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CHAPTER – IV

METHODOLOGY

4.0 OVERVIEW

Methodology is the procedure used by the investigator for the research purpose. Educational research is the application of the main principle of scientific research to the solution of educational problems. The success of any research depends on the suitability of the method, tools and the techniques of the researcher. The details regarding the choice of the tools, selection of the sample and analysis of data are outlined in this chapter.

4.1 STATEMENT OF THE PROBLEM

The academic achievement cannot be achieved merely through examinations. It is the outcome of various factors that work within an individual. The student teachers should have different dimensions of cognitive style, behavioral orientation, emotional competency and attitude of student teacher in learning are influence their academic achievements. Teacher educator plays a vital role in shaping the student teachers in the class as well as nation. The students are trained to become a successful teacher in teacher training institutions. It is the duty of the teacher educator to develop the attitude towards learning through different teaching and learning techniques in and outside the class room. It motivates them to engage in learning. It enriched their involvement in teaching and learning process. It provides better perception and it helps them to become good efficient teacher and it also helps to enhance their personality traits through teacher education programmes. So the student teacher will have to integrate the skills of teaching with his life style and also to help the students to develop not only intellectually but also emotionally.

Since the investigator is interested to know the role played by these variables in relation to the academic achievement of the student teachers, the need of the study arose.

4.2 TITLE OF THE PROBLEM
“Cognitive Style, Behaviour Orientation, Emotional Competency and Attitude towards Learning about Teaching in relation to Academic Achievement among B.Ed. Student Teachers”.

4.3 OBJECTIVES OF THE STUDY

MAIN OBJECTIVE

The main objective of the present study is to investigate whether their different dimensions of Cognitive Style, Behaviour Orientation, Emotional Competency and Attitude towards Learning about Teaching in relation to Academic achievement among student teachers.

SPECIFIC OBJECTIVES

- To find out the level of
  - Cognitive Style
  - Behaviour Orientation
  - Emotional Competency
  - Attitude towards learning about teaching and
  - Academic Achievement

- To find out the association between different demographic variables and
  - Category of cognitive style,
  - Dimensions of behaviour orientation,
  - Dimensions of emotional competency and
  - Dimensions of attitude towards learning about teaching.

- To find out the relationship between cognitive style and other variables
  - Level of behaviour orientation,
  - Level of emotional competency and
- Level of attitude towards learning about teaching.
- Level of Academic achievement.

- To find out the difference between demographic variables and other variables like Behaviour orientation, Emotional competency, Attitude towards learning about teaching and Academic achievement.
- To find out the correlation between cognitive style and other variables like Behaviour orientation, emotional competency and attitude towards learning about teaching and Academic achievement.

### 4.4 Research Design

<table>
<thead>
<tr>
<th>Nature of study</th>
<th>Variables</th>
<th>Tools</th>
<th>Sample</th>
<th>Analysis</th>
<th>Statistical Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Behaviour orientation</td>
<td>Behaviour orientation Scale by Christie(1970)</td>
<td></td>
<td>Inferential analysis</td>
<td>t test</td>
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<td></td>
<td>Emotional competency</td>
<td>Emotional competency Inventory by Coleman(1970)</td>
<td></td>
<td>Differential Relational</td>
<td>ANOVA</td>
</tr>
<tr>
<td></td>
<td>Attitude towards learning about teaching</td>
<td>Validated tool by Devi.S and Rajeswari.V.</td>
<td>2009/2010</td>
<td>Multiple regression</td>
<td></td>
</tr>
<tr>
<td>Achievement in Graduation and Post Graduation</td>
<td>Standard score in Graduation and Post Graduation (major subjects).</td>
<td></td>
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<td>-----------------------------------------------</td>
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<td></td>
</tr>
</tbody>
</table>

4.5 HYPOTHESES

Gender and variables:

1.1 There is no association between Category of Cognitive styles and Gender.
1.2 There is no association between Gender and level of Behaviour orientation.
1.3 There is no association between Gender and level of Emotional competency of student teachers.
1.4 There is no association between Gender and level of Attitude towards learning about teaching.

Age groups and variables:

2.1 There is no association between different age groups and their Cognitive style.
2.2 There is no association between different age groups and level of Behavior orientation.
2.3 There is no association between different age groups and level of Emotional competency of student teachers.
2.4 There is no association between different age groups and level of attitude towards learning about teaching.

Educational qualification and variables:

3.1 There is no association between variable Cognitive styles with student teachers educational qualification.
3.2 There is no association between educational qualification of student teachers and level of behavior orientation.

3.3 There is no association between educational qualification of student teachers and level of Emotional competency of student teachers.

3.4 There is no association between educational qualification of student teachers and level of attitude towards learning about teaching.

**Subject studied and variables:**

4.1 There is no association among student teachers cognitive styles with their subject studied.

4.2 There is no association between subject studied and level of behavior orientation.

4.3 There is no association between subject studied and level of Emotional competency of student teachers.

4.4 There is no association between subject studied and level of attitude towards learning about teaching.

**Level of Academic achievements and variables:**

5.1 There is no association between the category cognitive styles with reference to student teacher Academic achievements.

5.2 There is no association between student’s achievements and level of behavior orientation.

5.3 There is no association between level of student’s achievements and level of Emotional competency of student teachers.

5.4 There is no association between student’s achievements and level of attitude towards learning about teaching.
Father’s qualification and variables:

6.1 There is no association among student teachers cognitive styles with father’s qualification.
6.2 There is no association between father’s qualification and level of behaviour orientation.
6.3 There is no association between father’s qualification and level of Emotional competency of student teachers.
6.4 There is no association between father’s qualification and level of attitude towards learning about teaching.

Mother’s qualification and variables:

7.1 There is no association among student teachers cognitive styles with Mother’s qualification.
7.2 There is no association between Mother’s qualification and level of behaviour orientation.
7.3 There is no association between Mother’s qualification and level of Emotional competency of student teachers.
7.4 There is no association between Mother’s qualification and level of attitude towards learning about teaching.

Father’s occupation and variables:

8.1 There is no association among student teachers cognitive styles with father’s occupations.
8.2 There is no association between father’s occupation and level of behaviour orientation.
8.3 There is no association between father’s occupation and level of Emotional competency of student teachers.
8.4 There is no association between father’s occupation and level of attitude towards learning about teaching.

**Mother’s occupation and variables:**

9.1 There is no association among student teachers cognitive styles with mother’s occupations.
9.2 There is no association between mother’s occupation and level of behavior orientation.
9.3 There is no association between mother’s occupation and level of Emotional competency of student teachers.
9.4 There is no association between mother’s occupation and level of attitude towards learning about teaching.

**Type of Schools and variables:**

10.1 There is no association between Type of Schools and their Cognitive style.
10.2 There is no association between Type of Schools and level of behaviour orientation.
10.3 There is no association between Type of Schools and level of Emotional competency of student teachers.
10.4 There is no association between Type of Schools and level of attitude towards learning about teaching.
Locality and variables

11.1 There is no association between Locality and Cognitive styles.

11.2 There is no association between Locality and level of behaviour orientation.

11.3 There is no association between Locality and level of Emotional competency of student teachers.

11.4 There is no association between Place of study and level of attitude towards learning about teaching.

Association among variables

12.1 There is no association between level of behavior orientation and level of emotional competency of student teacher.

12.2 There is no association between level of behaviour orientation and level of attitude towards learning about teaching of student teacher.

12.3 There is no association between level of emotional competency and level of attitude towards learning about teaching of student teacher.

12.4 There is no association between category of style and level of behavior orientation.

12.5 There is no association between level of Emotional Competency and category of cognitive style of student teachers.

12.6 There is no association between attitude towards learning about teaching and category of style of student teachers.

Differentiation among variables
13.1 Men and women do not differ in behaviour orientation.

13.2 Men and women do not differ in emotional competency.

13.3 Men and women do not differ in attitude towards learning about teaching.

14.1 Students belong to different age groups do not differ in behavior orientation.

14.2 Students belong to different age groups do not differ in emotional competency.

14.3 Students belong to different age groups do not differ in attitude towards learning about teaching.

15.1 Students do not differ in behavior orientation in relation to their educational qualification.

15.2 Students do not differ in emotional competency in relation to their educational qualification.

15.3 Students do not differ in attitude towards learning about teaching in relation to their educational qualification.

16.1 Students do not differ in behavior orientation in relation to their level of achievements.

16.2 Students do not differ in emotional competency in relation to their level of achievements.

16.3 Students do not differ in attitude towards learning about teaching in relation to their level of achievements.

17.1 There is no significant difference between student teachers behaviour orientation with respect to fathers qualification.

17.2 There is no significant difference between student teachers emotional competency with respect to fathers qualification.

17.3 There is no significant difference between student teachers attitude towards learning about teaching with respect to fathers qualification.

18.1 There is no significant difference between student teachers behavior orientation
with respect to mothers qualification.

18.2 There is no significant difference between student teachers emotional competency with respect to mothers qualification

18.3 There is no significant difference between student teachers attitude towards learning about teaching with respect to mothers qualification

19.1 There is no significant difference between student teachers behavior orientation with respect to father’s occupations.

19.2 There is no significant difference between student teachers emotional competency with respect to father’s occupations

19.3 There is no significant difference between student teachers attitude towards learning about teaching with respect to father’s occupations

20.1 There is no significant difference between student teachers behavior orientation with respect to mother’s occupations.

20.2 There is no significant difference between student teachers emotional competency with respect to mother’s occupations.

20.3 There is no significant difference between student teachers attitude towards learning about teaching with respect to mother’s occupations.

21.1 There is no significant difference between student teachers behavior orientation with respect to Type of School.

21.2 There is no significant difference between student teachers emotional competency with respect to Type of School.

21.3 There is no significant difference between student teachers attitude towards learning about teaching with respect to type of Type of School.

22.1 There is no significant difference between student teachers behaviour orientation with respect to Locality.

22.2 There is no significant difference between student teachers emotional competency with respect to Locality.

22.3 There is no significant difference between student teachers attitude towards
learning about teaching with respect to Locality.

**Correlation among variables:**

23.1 Correlation exits among dimensions of behaviour orientation.

23.2 Correlation exits among dimensions of emotional competency.

23.3 Correlation exits among dimensions of attitude towards learning about teaching.

**4.6 METHOD OF STUDY**

The method of study adopted by the investigator for the present study is normative survey. This method is used to reach the representative sample for the data and information about the value orientation. Descriptive research provides opportunities in describing, studying, and interpreting what exists at presents and is concerned with conditions, relationships, practices, beliefs, behaviors that prevail, the process and trends that are developing. It is primarily considered with the present although it often considers past event and influences as they relate to current conditions.

**POPULATION AND SAMPLE**

Student teachers of B.Ed College belonging to constituent college of Mother Teresa Women’s University and affiliated colleges to Tamil Nadu Teacher Education University in Dindugal, Tirupur and Theni Districts constitute the population.

The sample are taken from 10 colleges which includes Women’s University College of Education, Amman College of Education, Jayaraj Annapackiam College of Education, Maharani college of education, Vishnu laksmi College of Education, Nalini College of Education, pannaikadu Veerammal College of Education, Sakthi College of Education, and Vel’s College of Education in Tirupur, Theni and Dindugal Districts. Out of these 10 colleges, 4 women colleges and 6 co-education colleges are considered for the study. From all these college, data is collected from 940 students by random sampling method. This is presented in the table below.
<table>
<thead>
<tr>
<th>Type of College</th>
<th>Gender</th>
<th>No of colleges</th>
<th>No of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women’s University College of Education</td>
<td>Women’s college</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Amman College of Education</td>
<td>Co-education</td>
<td>1</td>
<td>95</td>
</tr>
<tr>
<td>Sakthi College of Education</td>
<td>Co-education</td>
<td>1</td>
<td>93</td>
</tr>
<tr>
<td>Sakthi College of Education</td>
<td>Women’s college</td>
<td>1</td>
<td>94</td>
</tr>
<tr>
<td>Jeyaraj Annapackiam College of Education</td>
<td>Women’s college</td>
<td>1</td>
<td>96</td>
</tr>
<tr>
<td>Maharani College of Education</td>
<td>Co-education</td>
<td>1</td>
<td>91</td>
</tr>
<tr>
<td>Vishnu Lakshmi College of Education</td>
<td>Women’s college</td>
<td>1</td>
<td>94</td>
</tr>
<tr>
<td>Nalini College of Education</td>
<td>Women’s college</td>
<td>1</td>
<td>92</td>
</tr>
<tr>
<td>Pannaikadu veerammal College of Education</td>
<td>Co-education</td>
<td>1</td>
<td>93</td>
</tr>
<tr>
<td>Vel’s College of Education</td>
<td>Co-education</td>
<td>1</td>
<td>92</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>10</strong></td>
<td><strong>940</strong></td>
</tr>
</tbody>
</table>
The sample students are divided into many sub samples like gender, age wise, religion, community, educational qualification, father’s qualification, mother qualifications, father’s profession, mother’s profession, nature of school, place of study and their Academic achievement score at UG / PG level.

Different academic subjects of the sample are classified as Tamil, English, Mathematics, Physical Science, Biological Science, Social Science and Commerce / Economics. The four category of academic achievements rationalized are highly incompetent, incompetent, average, competent, highly competent according to their performance in their UG/PG examinations. Those who scored below 60 are classified as highly incompetent, 60-70 are incompetent, 70-80 are average and 80-100 are highly competent.

Father’s qualifications of the samples are classified as Illiterate, Primary, High School, Higher Secondary, Graduation and others. Mother’s qualifications of the samples are classified as illiterate, primary school, High School, Higher Secondary and above. Father’s occupations of the sample are classified as unemployed, Business, Government, employee, private employee and self employed. Mother’s occupations of the sample are classified into Housewives, self employed and employed.

Place of study of students are classified as rural, semi urban and urban.

The collected data is subjected to suitable and appropriate statistical analysis such as descriptive analysis and inferential analysis.

4.8 DESCRIPTION OF TOOLS

The selection of tools depends mainly on various considerations such as objective of the study, the amount of time at the disposal of the researcher, the availability and suitability of the test, personal competency of the researcher to administrate the tools and their scoring and interpretations and the like. More over for data to have interpretability, the tools thus selected should possess up to a satisfying mark. The characteristic of reliability, validity, appropriateness objectivity, and feasibility and ethical standards considering these factors, the tool was selected.
Cognitive Style Inventory (1983)

Cognitive style inventory by Martin was adopted. This test assesses one’s cognitive style. The different cognitive styles are systematic, intuitive, integrated, undifferentiated and split style. The test is suitable for student teachers population. The test is modified by the investigator to suit the student of Tamil Nadu and its validity and reliability were checked by the experts. The inventory is in 5 point scale. They are totally disagree, disagree, undecided, agree and totally agree. The score is assigned as

<table>
<thead>
<tr>
<th>Response</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally disagree</td>
<td>-1</td>
</tr>
<tr>
<td>Disagree</td>
<td>-2</td>
</tr>
<tr>
<td>Undecided</td>
<td>-3</td>
</tr>
<tr>
<td>Agree</td>
<td>-4</td>
</tr>
<tr>
<td>Totally Agree</td>
<td>-5</td>
</tr>
</tbody>
</table>

This tool on cognitive style inventory consist of 40 items are classified into 2 categories called ‘S’ category and ‘I’ category. Therefore a multi dimensional model intended to reflect into 5 dimensions for assessing cognitive behavioral styles. The maximum and minimum score for ‘S’ category is 100 and 20. Whereas the maximum and minimum score for ‘I’ category is 100 and 20. Among this, the respondent scores high above 81 in systematically scale and low
below 61 intuitive scale is consider as systematic styles where as the respondent scores low on systematically scale and high on intuitive scale is consider as intuitive style. The respondent scores high in both scale is consider as integrated style. The respondent scores low in both scale is consider as undifferentiated style. The respondent scores middle range on both scale is consider as split style respectively. Test-retest of this inventory is found to the split half reliability is 0.653. These values reveal that the test is highly reliable. This tool possesses both judges and concurrent validity. Thus the tool has significant validity.

Tool-2

**Behaviour Orientation Scale (1970)**

Behaviour orientation scale was developed by Christie. This scale measures one’s interpersonal behavioural style. The three different sub scales are tactics, views and mortality. This scale on behaviour orientation consist of 41 items are classified into 2Pro-machiavellian-direction (itemnos.1,3,6,9,11,12,13,14,15,16,17, 18,19,20, 21,22, 23,24,25,26,27,28,29,30,31,32,33,34,36,37,38,39,40 and 41) and the remaining 8 items (items nos. 2,4,5,7,8,10,29 and 35)were in anti Machiavellian direction. Among this 41 items, 15 items measure the sub scale tactics (item nos. 2, 3, 13, 14, 15, 17, 25, 27, 29, 29,30, 31, 33, 37, 38, 39) 21 items measure general views (items nos. 1, 4, 6, 7, 8, 9, 10, 11, 12, 16, 18, 20, 21, 22, 24, 28, 32, 34, 35, 36, 41) and the rest 5 items (items nos. 5, 19, 23, 26, 40) measure mortality. The test is suitable for student teachers population. The test is modified by the investigator to suit the student of Tamil Nadu and its validity and reliability were checked by the experts. The score is in 5 point scale. They are totally disagree, disagree can’t say, agree and totally agree. The anti -Machiavellian score is assigned as Totally disagree -1, Disagree - 2, Undecided -3, Agree- 4, Totally Agree - 5 where as for the pro machiavellian, the score is assigned as totally disagree - 5, disagree - 4, can’t say - 3, agree - 4, totally agree - 1. The coefficient of reliability of the behaviour orientation scale has been determined by split half method. The reliability scores were 0.623 and the validity of the test is examined through judges, concurrent and internal validity. It indicates the questionnaire has high level of significance.

Tool-3

**Emotional Competence Scale (1970)**
Emotional competence scale- revised by Coleman. This scale measures one’s emotional competency. It consists of 30 items with five different dimensions of competencies. The test is suitable for student teachers population. The test is modified by the investigator to suit the student teachers of Tamil Nadu and its validity and reliability were checked by the experts. There are six items classified under the dimension of Adequate Depth of Feeling (ADF), six items classified under the dimension of Adequate Expression and Control of Emotions (AEC), six items classified under the dimension of Ability of Function with Emotions (AFE), six items classified under the dimension of Ability to Cope with Problem Emotions (ACPE), six items classified under the dimension of Encouragement of Positive Emotions (EPE). The tool is a five point scale having five alternatives to each item. The score is assigned as 1, 2, 3, 4 and 5, for given alternatives from upper to lower one. Test-retest of this scale is 0.74. The split half reliability is 0.76.these values reveal that the test is highly reliable. The validity of the tool is 0.64.

Tool-4

Attitude Scale towards learning about Teaching (2010)

The tool for measuring attitude towards learning about Teaching was constructed and validated by. Dr. V. Rajeswari and S. Devi (2010). After extension consultation and for convenience of the students the tool was reduced with 28 statements. The tool has got 28 statements with a four point scale namely, strongly agree, agree, disagree, and strongly disagree:

| Strongly Agree | - SA | - 4 |
| Agree          | - S  | - 3 |
| Disagree       | - DA | - 2 |
| Strongly Disagree | - SD | - 1 |

The tool consists of 28 items in which 5 items are under the dimension of interest, 5 items are under self confidence, six items under emotion, 8 items under motivation and 5 items under behaviour.
To measure the reliability level of the questionnaire items a pilot study was conducted. For that purpose 30 students were randomly selected from the target population. The reliability score was 0.677 which indicates high level of significance and to investigate the validity of the questionnaire items, the questionnaire was given to the expert based on her comments given; the items are modified and then advocated to the student teachers.

4.9 PROCEDURE:

The questionnaires were administered with sufficient care and time to the student teachers of constituent college of education, affiliated college of Mother Teresa Women’s University and affiliated colleges of Tamil Nadu Teacher Education University.

The investigator personally visited the colleges and obtained prior permission from the principals of the respective colleges to administer the questionnaires were collected from the student teachers directly by the investigator. A few items of the questionnaire felt vague for the students were explained by the investigator. The teachers were asked to put a tick mark against the answer of their choice in the blank space provided on the left and right of each statement, circle the alphabet against the answer of their choice.

An assurance was also given to the effect that the information which they furnish will be kept confidential and will not be revealed under any circumstances to anybody.

STATISTICAL ANALYSIS:

Descriptive and inferential analysis will be carried out. The statistical techniques like Chi square, t-test, ANOVA, Multiple regressions and ‘r’ will be carried out.

The collected data are analyzed and interpreted in the following chapter.