RESEARCH DESIGN
CHAPTER - III
RESEARCH DESIGN

3.0 INTRODUCTION

The research design is the skeleton that gives the necessary strength and shape to any research study. To substantiate the need for investigating the problem at hand, the objective and scope are clearly defined and those decide the nature and source of data collection. Going through similar studies taken up by early researchers in the present area helps the investigator to finalize the procedure of investigation. It also helps her to decide up on the kind of analysis to follow.

In this chapter a detailed account of the methodology and procedure of conducting the present study has been given. It is essential to focus the attention of the investigator regarding the objectives, hypotheses, the sampling design, the tools to collect data and the suitable statistical techniques to analyze the data.

3.1 STATEMENT OF THE PROBLEM

The extent of transacting the recommended curriculum frame by NCTE for a quality oriented elementary teacher education programme into practice is significant. It has to be studied in terms of aims and objectives, curriculum content, transaction mode and evaluation with a purpose to identify the gaps.
and problems confronted. Hence the problem of the research investigation is stated as follows

"A comparative study of Elementary Teacher Education Curriculum in TamilNadu and Kerala".

3.2 OBJECTIVES OF THE STUDY

The objectives of the present study are stated as follows

Major Objective

To compare the Elementary Teacher Education Curriculum in Tamil Nadu and Kerala, to highlight the merits and identify the limitations so as to suggest modifications.

Minor Objectives

- To carry out the documentary analysis of curricula of Diploma in Teacher Education in TamilNadu and Teacher Training Certificate Course in Kerala.
- To develop a questionnaire regarding theory, practicum and evaluation components of DTE curriculum, TamilNadu to be responded by teacher educators, teacher trainees and elementary school teachers.
- To develop a questionnaire regarding theory, practicum and evaluation components of TTC curriculum. Kerala to be responded by teacher educators, teacher trainees and elementary school teachers.
3.3 LIMITATIONS OF THE STUDY

Keeping in mind the time and the resource at disposal the investigator limited her study to

1. Primary school teachers in Salem district.

2. Teacher Educators of DIETs of Tamil Nadu and Teacher Educators of Aided Teacher Training Institutes and Self-Financing Teacher Training Institutes of Salem, Namakkal and Tirunelveli Districts.

3. Second year DTE Trainees of DIETs and TTIs in Tamil Nadu.

4. Primary School teachers of Palakkad in Kerala.

5. Teacher Educators of DIETs, Teacher Educators of Aided Teacher Training Institutes and Self-Financing Teacher Training Institutes of Kerala.

6. Second Year students of Teacher Training Course in Kerala.

3.4 HYPOTHESES - CURRICULUM FOLLOWED IN TAMIL NADU

For the study of the sample in Tamil Nadu, the hypotheses framed were:
Primary Teachers and Teacher Educators of DIETs, Aided Teacher Training Institutes and Self Finance Teacher Training Institutes and DTE Trainees differ significantly in their responses regarding,

1. Objectives of Teacher Education Curriculum at elementary level in Tamil Nadu.

2. Realization of objectives through the subject taught in two year DTE course in Tamil Nadu.

3. The attainment of the competencies by studying Challenges in Indian Education.

4. The attainment of the competencies by studying Educational Psychology.

5. The attainment of the competencies by studying Educational Management.

6. The attainment of the competencies by studying First Language Tamil.

7. The attainment of the competencies by studying second language English.

8. The attainment of the competencies by studying Mathematics Education.

9. The attainment of the competencies by studying Science Education.

10. The attainment of the competencies by studying Social Science Education.

11. The attainment of the competencies by studying Educational Technology.
12. The attainment of the competencies by studying Physical Education and Yoga.

13. The attainment of the competencies by studying Art Education.

14. The attainment of the competencies through the activities of Work Experience.

15. The attainment of the competencies by transactional strategies used by Teacher Educators.

16. The improvement in teaching ability by following the suggested activities.

17. The competencies attained by the student teacher by doing teaching practice.

18. The activities suggested in preparing an efficient teacher.

19. The difficulty level of the subject taught in DTE course.

20. The limitation in Elementary Teacher Education Curriculum.


### 3.5 HYPOTHESES - CURRICULUM FOLLOWED IN KERALA

For the study of the sample in Kerala the hypotheses framed were:

Primary Teachers and Teacher Educators of DIETs, Aided T.T.Is, Self-Finance T.T.Is and T.T.C. Trainees differ significantly in their responses regarding,

1. The Development of competencies of the teachers by studying TTC course in Kerala.
2. The attainment of the attitudinal changes in a Teacher Trainees after studying T.T.C. course in Kerala.

3. The attainment of the competencies by studying Theoretical Bases of Modern Education.

4. The attainment of the competencies by studying Psychology in Modern Educational Practice.

5. The attainment of the competencies by studying Theoretical Bases of English Education.

6. The attainment of the competencies by studying the subject Theoretical Bases of Mathematics Education.

7. The attainment of the competencies by studying the subject Theoretical Bases of Science Education.

8. The attainment of the competencies by studying the subject Theoretical Bases of Social Science Education.

9. The difference in teaching aptitudes and in teaching ability by following new approaches adapted.

10. The improvement in the Teaching ability of the Teacher trainees by following the suggested activities.

11. The attainment of the competencies by studying Work Experience.


13. The attainment of the competencies by studying Art Education.

14. The attainment of the competencies by studying Physical Education.
15. The Transactional Strategies used by the Teacher Educators which help to develop expected competencies in Student Trainees.

16. The difficulty level of the subject to teach/ learn.

17. The limitations of the elementary teacher education curriculum.

18. The merits of the elementary teacher education curriculum.

3.6 METHOD

Normative survey method is used for the present study.

3.7 SAMPLE

The respondents of the present study comprised Elementary school teachers and teacher trainees, teaching faculties of DIETs and Teacher Training Institutes in Tamil Nadu and Kerala respectively.

Among 29 districts of Tamil Nadu - Salem, Tiruchirappalli, Thiruvallur and Tirunellveli were selected based on purposive sampling method. From Kerala state Ernakulam and Palakkad districts were selected based on purposive sampling method.
TOOLS AND TECHNIQUES

From the review it was concluded that Teacher Education curriculum comes under context variables. Curriculum is a medium that translates socio-educational philosophies into teaching procedures and teaching outcomes. In the fourth Survey of Research in Education: 1983-1988 (Volume II), out of the 38 studies that had evaluated fundamental courses 23 were about B.Ed level. The courses have been mostly evaluated by seeking the opinion of teachers, Teacher educators, Heads of Schools and other personnel connected with Teacher education programmes. Pradhananga (1986) examined the syllabi of Elementary Teacher Education Institutions in Nepal about Instructional programmes and coordination between different components of theory and practice teaching. He elicited the views of administrators, experts, headmasters, teachers and student teachers.
TABLE - 13

DISTRIBUTION OF THE SAMPLE

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Tamil Nadu</th>
<th>Kerala</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>49</td>
<td>24</td>
<td>73</td>
</tr>
<tr>
<td>2</td>
<td>106</td>
<td>99</td>
<td>205</td>
</tr>
<tr>
<td>3</td>
<td>57</td>
<td>31</td>
<td>88</td>
</tr>
<tr>
<td>4</td>
<td>45</td>
<td>24</td>
<td>69</td>
</tr>
<tr>
<td>5</td>
<td>48</td>
<td>31</td>
<td>79</td>
</tr>
<tr>
<td>TOTAL</td>
<td>305</td>
<td>209</td>
<td>514</td>
</tr>
</tbody>
</table>

3.8 TOOLS AND TECHNIQUES

The present investigation follows Normative survey method. The views of primary teachers and teacher educators were to be collected regarding various components of the elementary teacher education curriculum. The nature of questions or items and the nature of response to be elicited were considered and the investigator decided to construct a questionnaire for the purpose. To shape the details and format of the questionnaire, the review of the earlier studies of the similar nature was very useful. She had a detailed discussion with her guide and an informal interaction with her co-teacher educators. For the different parts of the questionnaire suitable instructions of responding were formed. The educators said that the instructions and wording of the items were easy to follow and to answer.
FIGURE - 1
PIE DIAGRAM SHOWING THE DISTRIBUTION OF THE SAMPLE - TAMIL NADU

FIGURE - 1A
PIE DIAGRAM SHOWING THE DISTRIBUTION OF THE SAMPLE - KERALA
(a) Document source for content analysis were:

3. Manual of Instruction to Teacher Educators on Practical Work for Teacher Training Certificate course in Kerala was also used as resource book for the study.

(b) The investigator developed the following tools:

Two questionnaires meant for teacher educators, teacher trainees and school teachers of Tamil Nadu and Kerala respectively.

3.9 CONSTRUCTION OF THE QUESTIONNAIRE — TAMIL NADU

1. Regarding the objectives for Teacher Education Curriculum at Elementary level 9 items were included. The respondents were asked to give their responses on a three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

2. To find out the attainability of the subjects taught in two year D.T.E. course, 11 subjects were listed. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’ according to importance perceived by them.
3. Regarding the subject Challenges in Indian Education 10 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

4. Regarding the subject Educational Psychology 23 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

5. Regarding the subject Educational Management 10 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

6. Regarding the subject First Language Tamil 9 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

7. Regarding the subject Second Language English 6 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

8. Regarding the subject Mathematics Education 11 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

9. Regarding the subject Science Education 7 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.
10. Regarding the subject Social Science Education 17 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

11. Regarding the subject Educational Technology 12 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

12. Regarding the subject Physical Education and Yoga 4 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

13. Regarding the subject Art Education 6 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

14. Regarding the subject Work Experience 9 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.

15. Regarding the Transactional Strategies used by the Teacher Educator 19 items were included. The respondents were asked to give their responses on three point scale namely ‘to a large extent’, ‘to some extent’, ‘to the least extent’.
16. Regarding the activities which will increase the teaching ability of the student trainees 3 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

17. To know the objectives attained by the student teacher, by doing teaching practice 11 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

18. Regarding the activities that are adequate to prepare an efficient teacher 4 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

19. Regarding difficulty level of the subjects, the name of the 8 subject were given in which the respondents has to indicate which of the concepts are hard to teach (Teacher Educators) / learn (For the trainee).

20. To find out the limitations in Elementary Teacher Education Curriculum 8 items were selected. The respondents were asked to mark 'yes' or 'no' according to their experience.

21. To find out the merits in Elementary Teacher Educational Curriculum 7 items were selected. The respondents were asked to mark 'yes' or 'no' according to their experience.
1. Regarding the competencies for Teacher Training Curriculum at Kerala 5 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

2. Regarding the Teacher Training in Kerala to find out the attitudinal changes in the Curriculum 5 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

3. Regarding the subject Theoretical Bases of Modern Education 11 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

4. Regarding the subject Psychology in Modern Education Practice 12 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

5. Regarding the subject Theoretical Bases of English Education 10 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'. 
6. Regarding the subject Theoretical Bases of Mathematics Education 7 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

7. Regarding the subject Theoretical Bases of General Science Education 10 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

8. Regarding the subject Theoretical Bases of Social Science 10 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

9. To find out the difference between teaching aptitudes and teaching ability 7 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

10. Regarding the observation class and practice teaching 11 activities were included to find out the teaching ability of the trainees. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

11. Regarding the subject work experience 7 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

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12. Regarding the work experience activities 11 items were included for first year and 12 items were included for second year. The respondents were asked to tick yes/ no for any 5 items that their institution has taken.

13. Regarding the subject Art Education 7 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

14. Regarding the subject Physical Education 9 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

15. Regarding the Transactional Strategies used by the Teacher Educator 19 items were included. The respondents were asked to give their responses on three point scale namely 'to a large extent', 'to some extent', 'to the least extent'.

16. Regarding the subjects, the name of the 7 subject were given in which the respondents had to indicate which of the concepts are hard to teach (Teacher Educators) / learn (For the trainee).

17. To find out the limitations in Elementary Teacher Educational Curriculum in Kerala 8 items were selected. The respondents were asked to mark 'yes' or 'no' according to their experience.

18. To find out the merits in Elementary Teacher Educational Curriculum in Kerala 7 items were selected. The respondents were asked to mark 'yes' or 'no' according to their experience.
3.11 PILOT STUDY

To test the effectiveness of the tools and to determine the deficiency a pilot study was conducted for Tamil Nadu and Kerala respondents. The pilot study respondents includes 50 individuals of primary school teacher trainers and teacher educators of DIET and TTI. They took 30 minutes to fill the tool. This was helpful in revealing the discrepancies of the tool. Necessary modification was carefully done before compiling the final tool.

The preliminary part of the questionnaire included personal data sheet.

3.12 RELIABILITY

The reliability of the tool is established by test retest method. The questionnaire was administered to 30 members of the pilot study sample which included primary teachers and teacher educators of T.T.I. s and DIETs for the second time after a gap of three months .The reliability co-efficient for the 21 major areas are found separately and the ‘r’ values are presented below.
TABLE - 14
TEST- RETEST RELIABILITY COEFFICIENT OF CORRELATION OF SCORES IN THE QUESTIONNAIRE REGARDING ELEMENTARY TEACHER EDUCATION CURRICULUM – TAMIL NADU

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>ITEMS</th>
<th>‘r’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Teacher Education Curriculum at Elementary Level</td>
<td>0.75</td>
</tr>
<tr>
<td>2.</td>
<td>Subjects taught in two years DTE course</td>
<td>0.91</td>
</tr>
<tr>
<td>3.</td>
<td>Subject Challenges in Indian Education</td>
<td>0.80</td>
</tr>
<tr>
<td>4.</td>
<td>Subject Educational Psychology</td>
<td>0.89</td>
</tr>
<tr>
<td>5.</td>
<td>Subject Educational Management</td>
<td>0.71</td>
</tr>
<tr>
<td>6.</td>
<td>Subject Tamil Education</td>
<td>0.75</td>
</tr>
<tr>
<td>7.</td>
<td>Subject English Education</td>
<td>0.87</td>
</tr>
<tr>
<td>8.</td>
<td>Subject Mathematic Education</td>
<td>0.86</td>
</tr>
<tr>
<td>9.</td>
<td>Subject Science Education</td>
<td>0.82</td>
</tr>
<tr>
<td>10.</td>
<td>Subject Social Science Education</td>
<td>0.72</td>
</tr>
<tr>
<td>11.</td>
<td>Subject Educational Technology</td>
<td>0.89</td>
</tr>
<tr>
<td>12.</td>
<td>Subject Physical Education and Yoga</td>
<td>0.61</td>
</tr>
<tr>
<td>13.</td>
<td>Subject Art Education</td>
<td>0.76</td>
</tr>
<tr>
<td>14.</td>
<td>The Activities of Work Experience</td>
<td>0.67</td>
</tr>
<tr>
<td>15.</td>
<td>Transactional Strategies used by the Teacher Educators</td>
<td>0.97</td>
</tr>
<tr>
<td>16.</td>
<td>Teaching Ability</td>
<td>0.74</td>
</tr>
<tr>
<td>17.</td>
<td>Teaching Practice</td>
<td>0.91</td>
</tr>
<tr>
<td>18.</td>
<td>To prepare an efficient Teacher</td>
<td>0.73</td>
</tr>
<tr>
<td>19.</td>
<td>The subject in which the concepts are hard to teach</td>
<td>0.86</td>
</tr>
<tr>
<td>20.</td>
<td>Limitations in Elementary Teacher Education Curriculum</td>
<td>0.93</td>
</tr>
<tr>
<td>21.</td>
<td>Merits in Elementary Teacher Education Curriculum</td>
<td>0.92</td>
</tr>
</tbody>
</table>

‘r’ is found to be highly significant at 0.01 level. It is concluded that the tool is reliable for the sample.
### TABLE - 15

**TEST- RETEST RELIABILITY COEFFICIENT OF CORRELATION OF SCORES IN THE QUESTIONNAIRE REGARDING ELEMENTARY TEACHER EDUCATION CURRICULUM - KERALA**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>ITEMS</th>
<th>'r' value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Competencies should be developed in teachers</td>
<td>0.79</td>
</tr>
<tr>
<td>2.</td>
<td>Attitudinal Change in a Teacher Trainee</td>
<td>0.82</td>
</tr>
<tr>
<td>3.</td>
<td>Theoretical Bases of modern education</td>
<td>0.76</td>
</tr>
<tr>
<td>4.</td>
<td>Psychology in modern Educational practice</td>
<td>0.87</td>
</tr>
<tr>
<td>5.</td>
<td>Theoretical Bases of English Education</td>
<td>0.91</td>
</tr>
<tr>
<td>6.</td>
<td>Theoretical Bases of Mathematics Education</td>
<td>0.89</td>
</tr>
<tr>
<td>7.</td>
<td>Theoretical Bases of Science Education</td>
<td>0.90</td>
</tr>
<tr>
<td>8.</td>
<td>Theoretical Bases of Social Science Education</td>
<td>0.93</td>
</tr>
<tr>
<td>9.</td>
<td>Difference I teaching aptitudes and in teaching ability</td>
<td>0.91</td>
</tr>
<tr>
<td>10.</td>
<td>To improve the teaching ability of the teacher trainees</td>
<td>0.87</td>
</tr>
<tr>
<td>11.</td>
<td>Work Experience</td>
<td>0.85</td>
</tr>
<tr>
<td>12.</td>
<td>Suggested for the work Experience</td>
<td>0.78</td>
</tr>
<tr>
<td>13.</td>
<td>Art Education</td>
<td>0.92</td>
</tr>
<tr>
<td>14.</td>
<td>Physical Education</td>
<td>0.66</td>
</tr>
<tr>
<td>15.</td>
<td>Transactional strategies used by the Teacher Educator</td>
<td>0.73</td>
</tr>
<tr>
<td>16.</td>
<td>Name of the Subjects in which the concepts are hard to teach</td>
<td>0.88</td>
</tr>
<tr>
<td>17.</td>
<td>Limitations in Elementary Teacher Education Curriculum</td>
<td>0.84</td>
</tr>
<tr>
<td>18.</td>
<td>Merits in Elementary Teacher Education Curriculum</td>
<td>0.95</td>
</tr>
</tbody>
</table>
3.13 VALIDITY

The experienced research guides, educational officers and senior teacher educators went through the objectives of the study and each part of the questionnaire and expressed the opinion that the questionnaire measures what it is intended to a very high degree of satisfaction. Thus the validity of the tool is established. The questionnaire covers all the items suggested in the DTE curriculum of Tamil Nadu and TTC curriculum of Kerala. Hence it has the content validity.

3.14 PROCEDURE

The investigator administered the questionnaire to the primary school teachers of Tamil Nadu, teacher educators of the teacher training institutes (aided and self finance), and DIETs, DTE trainees of Tamil Nadu. Similarly, the questionnaire was administered to the primary school teachers of Kerala, teacher educators of the teacher training institutes (aided and self finance), and DIETS. TTC trainees of Kerala. The investigator had to visit the schools, TTIs and DIETs to get the filled up questionnaires. It took three months to collect data from the respondents. Finally the investigator got 305 filled up questionnaires from Tamil Nadu respondents and 209 from Kerala respondents.
3.15 STATISTICAL TECHNIQUES EMPLOYED

The responses were scored and percentages were calculated. Each part of the syllabi of DTE, Tamil Nadu and that of TTC, Kerala was analysed and compared. The hypotheses were tested using ANOVA and Post-Hoc analysis.

3.16 SUMMARY

In this chapter, the research design was given in detail. The procedure of constructions and finalization of the tool was also described.

The collected questionnaires were scored and suitable statistical analysis was carried out. The details of analysis and discussions are given in chapter 4.