CHAPTER - IV

DESIGN OF THE STUDY
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4.1 Research Design

Research design is concerned with the planning of a study. The design specifies question or questions to be investigated, the process of sample selection, methods of procedure to be followed, measurement to be obtained and comparison and other analyses to be made (Johnson, 1977). The research design of the study is shown in Table No.4.1.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Variates</th>
<th>Nature of study</th>
<th>Sample</th>
<th>Tools</th>
<th>Analysis of data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selection of students</td>
<td>Survey (Descriptive and analytical)</td>
<td>1. Principals of Colleges of Education - 39</td>
<td>1. Questionnaire - Principals of Colleges</td>
<td>1. Descriptive Statistics - percentage analyses</td>
</tr>
<tr>
<td>2</td>
<td>Curriculum and methods of teaching</td>
<td></td>
<td>2. Teacher Educators of Colleges of Education - 215</td>
<td>2. Questionnaire - Teacher Educators of Colleges of Education</td>
<td>2. 't' test and coefficient of correlation techniques.</td>
</tr>
<tr>
<td>3</td>
<td>Student teaching or practice teaching</td>
<td></td>
<td>3. Headmasters of the secondary schools - 215, who have rated 639 assistant teachers who have varying experience, such as 0-5, 5-10, 10-15, and 15-20 years</td>
<td>3. Rating scale-3, Descriptive analysis of B.Ed.syllabus since 1968-88</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Evaluation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>Resources of the college</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>Performance of secondary school teachers related to -</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>a. Appropriate use of audio-visual aids</td>
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<td></td>
<td>b. Effectiveness of demonstration</td>
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<td></td>
<td>c. Developing creative thinking among the students</td>
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</tbody>
</table>
d. Use of modern methods of teaching such as programmed instruction, gaming and simulation, brain storming etc.
e. Effective use of chalk-board
f. Art of questioning
g. Teacher-pupil rapport
h. Communicative skills
i. Assignment/home work
j. Evaluation (of students learning by the teacher)
k. Participation in the preparation of socially useful productive work and ability to involve students in the preparation of S.U.P.W.
l. Willingness to work with community
m. Involving himself in the creativity work and enabling the students to involve in creative work.
n. Overall teaching performance and other work.
4.2 Sample

Investigator intended to administer questionnaire to all the principals of colleges of education and teacher educators except physical education teachers, art/music teachers in colleges of Education, Karnataka. Hence investigator wrote letters to all the 64 principals of the colleges of education for sending the name/list of teacher educators. But only 46 principals of colleges of education sent the namelist of the teacher educators. Inspite of repeated requests the principals of other colleges of education did not oblige. Therefore investigator administered questionnaire to only the 46 principals of the colleges of education and 300 teacher educators who are working in 46 colleges of education in Karnataka. The names of colleges of education which are chosen for the study are given in the Appendix-A. The number of colleges of education under various managements selected for the study are given in the Table No.4.2.
Table No. 4.2: The number of colleges of Education selected for the study during 1987-88.

<table>
<thead>
<tr>
<th>Type of Management of the College</th>
<th>Karnataka University</th>
<th>Mysore University</th>
<th>Bangalore University</th>
<th>Gulbarga University</th>
<th>Mangalore University</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Popn</td>
<td>Sample</td>
<td>Popn</td>
<td>Sample</td>
<td>Popn</td>
</tr>
<tr>
<td>1. University College</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Government College</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>3. Aided College</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>4. Unaided College</td>
<td>11</td>
<td>11</td>
<td>9</td>
<td>8</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>15</td>
<td>17</td>
<td>14</td>
<td>18</td>
</tr>
</tbody>
</table>
Investigator used random sampling for selecting 400 high school Headmasters (i.e., 100 high school Headmasters in each of the four divisions, such as Gulbarga, Belgaum, Bangalore and Mysore divisions) throughout Karnataka State. These high schools are under the control of different managements, such as government, private-aided, and private-unaided. The Headmasters of the high schools have to rate the teaching and other school related behaviour of their assistants who had varying periods of experiences i.e., 0-5 years, 5-10 years, 10-15 years and 15-20 years and trained with different B.Ed. syllabi. The names of high schools used for the study is given in the Appendix-B.

4.3 Tools

To collect data from the various sources for the present study, three tools were prepared and used by the investigator.

4.3.1 Questionnaires

4.3.1.1 Questionnaire for the Principals of the Colleges of Education

Questionnaire was prepared by the investigator after going through the related literature, B.Ed. syllabus of the five universities in Karnataka State (i.e., Karnataka, Mysore, Bangalore, Gulbarga and Mangalore Universities) and in consultation with experts. The questionnaire
consists of five aspects, such as (a) Selection of students, (b) Curriculum and methods of teaching, (c) Student teaching or practice teaching, (d) Evaluation and (e) Resources of the college.

4.3.1.2 Questionnaire for the Teacher Educators of the Colleges of Education

This questionnaire was also developed in the same way as that for the principals of the colleges of education by the investigator. The questionnaire consists of four aspects, such as (a) Selection of students, (b) Curriculum and methods of teaching, (c) Student teaching or practice teaching and (d) Evaluation.

In both the questionnaires the first four aspects are similar for both the principals and teacher educators and the fifth aspect, i.e., resources of the college is only meant for the principals and it is not included in the teacher educators questionnaire. Both questionnaires consist of some questions as closed and some are open questions.

Rationale for the Selection of Aspects of Teacher Education: The questionnaire consists of important aspects of teacher education, i.e., selection of students, curriculum and methods of teaching, practice teaching, evaluation and
resources of the college which are essential for the qualitative improvement of teacher education programme. Further the investigator has gone through the opinion of different commissions and N.P.E. (1986), regarding the importance of these aspects for the qualitative improvement of teacher education.

(a) Selection of students: As per Indian Education Commission (1964-66) attempts should be made to attract the first and good second class students to the teacher education courses. This statement indicates that selection of good students to the teacher education courses will definitely lead to the qualitative improvement of teacher education. Further, I.E.C. suggested that universities should adopt a rule that no student should be allowed to specialise in the teaching of a subject unless he has studied it for his/her first degree or obtained an equivalent qualification prior to training. This issue is so important that it has attracted the attention of the national policy framers. The programme of Action (POA 1986), has stated that the procedure of selection of teachers should be such that 'persons who have given evidence of interest in teaching, love for children, of a spirit of adventure and creativity and commitment for social uplift (p.186) are preferred. It further states that 'every
effort will be made to make teaching an attractive profession to which young persons of talent and commitment may feel motivated to join' (p.186). It is therefore necessary that candidates having aptitude for teaching are selected for training. The National Council of Teacher Education (N.C.T.E.) realizing the need and importance of the issue, it had set up a committee of experts which had developed the selection criteria a tool (1989). It has included -
(a) achievement in teaching subjects,(at least one),
(b) language comprehension, (c) understanding of contemporary Indian situation, (d) teaching potentiality (cognitive),
(e) teaching potentiality (affective) and (f) interview.
Hence, thorough screening should be there while selecting students to the teaching profession which will lead to the qualitative improvement of B.Ed. course.

(b) Curriculum and Methods of Teaching: As per I.E.C. (1964-66); there is a need here to eliminate irrelevant matter and to relate the curriculum closely to the teacher's responsibilities and to Indian conditions, problems and studies. The curriculum and programme of activities to be followed in training institutions must be such that should meet the requirements of the national system of education. Hence, the teacher education curricula and courses at all levels should be revised from this point of view. National
Policy on Education (1986), suggests a complete overhaul of the existing system of teacher education in the light of changing needs, challenges and aspirations of our country. To improve the quality of school education it is imperative to bring a needed change in the quality of teacher education. To achieve this objective N.C.T.E. (1978) developed 'Teacher Education Curriculum - A Framework', the department of teacher education, N.C.E.R.T. (1982) prepared a draft document relating to different components of teacher education curriculum. This document deals with five broad areas of teacher education curriculum - (a) Foundation courses, (b) Stage relevant specialization, (c) Teaching methodology, (d) Additional specialization and (e) School experience.

Regarding methods of teaching I.E.C. (1964-66) has suggested an individual library work, preparation of reviews and reports, case studies, project work, discussion and seminars should form an integral part of the work of training institutions. It has also stated that student teacher should make use of new techniques and methods in their own learning programmes and later on in their teaching practice.
(c) Student Teaching or Practice Teaching: Student teaching is the culmination of the teacher education programme. As per I.E.C. (1964-66) the objective of the first stage of student teaching should be to orient the student teachers to the entire school situation. He/she should have opportunities to observe good teaching and to become familiar with the school programmes as a whole. He/she begins teaching practice with teaching individual children, then proceed to small group and learn to manage full classes having normal strength. The objective of second stage should be to him/her to do continuous teaching for a specified period of at least eight weeks under actual school conditions by working as a teacher in a selected school. Under the direction of the method master or cooperating teacher the student teacher makes long-range and daily plans, teaches and evaluates pupils. There should be internship in which trainees are able to observe the entire work of the school and to participate effectively in all the important professional activities of the teacher. Such a fruitful internship will be possible only when there is a systematic collaboration and cooperation between the schools and the colleges of education.

Teaching practice is viewed as providing the opportunities to display, recognise and refine the abilities that
are latent in the students, and thus embrace all the learning experiences of the student teacher in schools.

(d) Evaluation: According to I.E.C. (1964-66) the examination system also needs considerable reform. At present the system of external examinations adopted for training institutions is very similar to that used in the schools and suffers from all the well known defects. Unless this examination is reformed and the teachers are initiated into the new techniques of evaluation as part of their training programme, the reform of examinations in schools will not be successful. A systematic effort has to be made therefore on a high priority basis to improve the nature of the examinations in training institutions. Hence there should be change in the evaluation system.

(e) Resources of the College: The qualitative improvement of teacher education requires the improvement of training institutions. The teacher education colleges should have well qualified staff, enough equipments, good building, playground, hostel facilities for both men and women student teachers, enough library, laboratory, audio-visual facilities, enough non-teaching staff and having their own practising schools, etc.
4.3.1.3 Validity

For finding validity the investigator gave questionnaire to the five experts for offering their remarks. After going through the questionnaire experts suggested their remarks. As per the remarks of experts the investigator finally prepared the questionnaire. The experts certified as to the content validity of the tool.

4.3.1.4 Reliability

For finding the reliability, the investigator followed the test and retest method. Investigator administered questionnaire to the ten principals of the colleges of education and obtained the filled-in questionnaire from them. After one month gap the investigator readministered questionnaire to the same ten principals of the colleges of education and obtained filled-in questionnaire from them. The 'test' and 'retest' responses were correlated. The obtained 'r' is 0.89. The tool possesses high reliability as evidenced by the high correlation (0.89).

4.3.2 Rating scale

Rating scale was prepared by the investigator after going through the related literature and in consultation with experts. It consists of fifteen items indicating teaching and other school related behaviour of the teachers.
They are – (1) Appropriate use of audio-visual aids, (s) Effectiveness of demonstration, (3) Developing creative thinking among the students, (4) Use of modern methods of teaching such as programmed instruction, gaming and simulation, brain storming, etc., (5) Effective use of chalkboard, (6) Variety in techniques of teaching, (7) Art of questioning, (8) Teacher-pupil rapport, (9) Communicative skills, (10) Assignment/homework, (11) Evaluation (of students learning by the teacher), (12) Participation in the preparation of socially useful productive work and ability to involve students in the preparation of S.U.P.W., (13) Willingness to work with community, (14) Involving himself in the creativity work and enabling the students to involve in creative work and (15) On the whole the teaching learning performance of the teacher in the classroom and other work.

It is a five point rating scale. Teachers will be rated on the basis of their performance on five points, excellent, good, average, below average and poor.

This tool is to make comparison of the performance of teachers of varying experience. Considering the past performance of the teachers, the headmasters of the secondary schools have to rate them on the items.
4.3.2.1 Validity
For finding out validity of the tool the investigator gave the tool to the five experts for offering their remarks. After going through the rating scale, experts have offered their remarks. As per the remarks of experts the investigator finally prepared the rating scale.

4.3.2.2 Reliability
For finding out reliability of the rating scale, the investigator administered rating scale to the 21 high school headmasters who have rated 63 teachers (assistants) and obtained filled-in rating scales from them. After one month gap the investigator readministered the rating scale to the same 21 high school Headmasters to rate the same 63 teachers, whom they had rated first. After obtaining filled-in rating scale from them, the 'test' and 'retest' responses were correlated. The obtained 'r' is 0.8573. The rating scale has high reliability.

4.4 Procedure
The investigator wrote letters requesting all the 63 principals of the colleges of education in Karnatak State to send the name list of teacher educators. But only 46 principals of the colleges of education in Karnatak State have sent the name list of teacher educators. Inspite of repeated requests to the principals of the colleges of
education by the investigator they did not send the name list of teacher educators. Therefore the investigator administered questionnaire to the only 46 principals of the colleges of education and 300 teacher educators, who are working in the colleges of education, Karnataka State both by mail and visiting to the colleges of education personally. In the first round, the investigator received 20 filled-in questionnaires from the principals and 150 filled-in questionnaires from the teacher educators. After writing requesting letters to the principals and teacher educators, who have not sent the filled in questionnaires, the investigator received 19 filled-in questionnaires from the principals and 65 filled-in questionnaires from the teacher educators in the second round. The investigator could not receive the filled-in questionnaires from the remaining 7 principals and 85 teacher educators of the colleges of education, inspite of repeated requests to them. The total number of questionnaires administered to both principals and teacher educators and received filled-in questionnaires from them are shown in the Table No.4.3
Table No. 4.3: The number of questionnaires administered to both Principals and Teacher Educators and the returns.

<table>
<thead>
<tr>
<th></th>
<th>Principals of the colleges of education</th>
<th>Teacher educators working in the colleges of education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The number of questionnaires administered to both principals and teacher educators of the colleges of education</td>
<td>46</td>
<td>300</td>
</tr>
<tr>
<td>2. The number of filled in questionnaire received from both principals and teacher educators</td>
<td>20 First round</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>19 Second round</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>39 Total</td>
<td>215</td>
</tr>
</tbody>
</table>

All-together the investigator received 39 filled-in questionnaires from the principals and 215 filled-in questionnaires from the teacher educators.

Regarding Rating Scale, the investigator wrote requesting letters to the 400 high school headmasters (i.e. 100 in each division, such as Gulbarga, Belgaum, Bangalore and Mysore) through out Karnataka for getting
permission. After receiving the permission from them, the investigator administered rating scale to the 400 high school headmasters by mail and visiting to some of the schools personally, throughout Karnataka, keeping in a view that 100 high schools in each division requesting them to assess the performance of their assistants who had varying periods of experience, i.e., 0-5 years, 5-10 years, 10-15 years and 15-20 years.

In the first round, investigator received only 160 filled-in rating scales from them. After requesting them for sending filled in rating scales, the investigator received only 53 filled-in rating scales from them in the second round. Inspite of repeated requests to the remaining headmasters for sending the filled-in rating scales the investigator could not receive them. All-together only 213 heads of the secondary schools who have rated 639 teachers, sent the filled-in rating scales.

The procedure of data collection took nearly an academic year.

4.5 Statistical techniques

For the analysis of collected filled-in questionnaires from both the principals and the teacher educators, the
investigator used percentage analysis and for the analysis of data collected from the headmasters of secondary schools through rating scales, the investigator used correlation technique and 't' test.