CHAPTER - II

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The research alone in any field is the foundation on which further work will be carried out. The Encyclopedia of Educational Research (1960) rightly pointed out that the literature is the embodiment of complete information about the knowledge that an investigator wanted to know. This helps the researcher to proceed with his work on proper lines to get the required data.

According to John W. Best (12:46), familiarity with the literature in any problem area helps the researcher to discover what is already known, what others have attempted to find out, what methods of attacks have been prominent and what problems to be solved.

All human knowledge and attempts made can be found in books, journals and articles. So the research work needs exhaustive use of such libraries where the related literature is available.

2.1. Need for Review of Related Literature

Gay L.R. (44:38) feels that the literature in any field forms the foundation upon which all further work will be built. If one fails to build the foundation of knowledge provided by the review of the literature, ones’ work is likely to be a shadow and will often result as duplication.
Carter V. Good (25:469) says that the keys to the vast store house of published literature may open doors to sources of significant problems and explanatory hypothesis and provide helpful orientation for definition of the problem, background for selection of procedure and comparative data for interpretation of results. In order to be creative and original, one must read extensively and critically as a stimulus to thinking.

The review of literature, however, is as important as any other component of the research process. Hence, it is very essential for every researcher to be accurate in his information about the literature related to his own problem already done by others. It is considered as the most important prerequisite to actual planning and conducting the study.

In the present study, an attempt is made to review the related research done in the area of in-service training programmes of teachers in relation to administration, organisation, type of training programmes, needs of teachers and attitude of teachers. The related literature is reviewed under the following heads:

a) Research studies related to in-service programmes.

b) Research studies related to administration and organisation of in-service training programmes of teachers.

c) Research studies related to the needs of in-service teachers.
d) Research studies related to the attitude of teachers towards in-service programmes.

e) Research studies related to attitudinal change of teachers towards in-service programmes.

2.2. Review of Related Studies Conducted in India

The State Institute of Education-Maharashtra (SIE) (140:466-467) conducted a study in the year 1971 with the following objectives:

1. To find out the In-Service training needs of Head masters in their academic and administrative work.

2. To collect data for preparing a programme of in-service training for Head masters.

The sample of the study constituted Headmasters of 103 primary schools controlled by Zilla Parishad, Poona which was selected on a stratified random basis from 953 full-fledged primary schools controlled by the Zilla parishad. Out of 103 schools only 87 schools responded within the scheduled time.

The tool used was a questionnaire with two main divisions viz., the needs of Headmasters as teachers and the needs of Headmasters as administrators.

The analysed data revealed the following.
1. The Head masters need training in the areas in the order of preference are:
   a) Improvement of present examination system.
   b) Problems of school discipline.
   c) Methods of teaching different subjects.
   d) Presentation of teaching aids.

2. The Head masters as administrators thought that the knowledge of maintenance of the following records was essential.
   a) General register
   b) Examination register
   c) School repair records
   d) Log book
   e) Annual report ending on the 31\textsuperscript{st} March.

3. The Head masters felt that the following subjects should be included-
   a) Head masters powers and duties.
   b) The relation between Head masters and his assistants.
   c) School inspection and its method
   d) Relation between school, community and workers in educational field.
   e) School organisation.
4. To an open-ended question regarding their difficulties, more than 10 per cent of Headmasters reported the following difficulties.

a) Inadequate school equipment
b) Inadequate building
c) Non-cooperation of local leaders.
d) Inadequate start
e) Non-co-operation of parents
f) Non-co-operation of assistants
g) Non-availability of subject teachers

Mama K. (62:818-819) conducted a study in the year 1980 with the following objectives:

1. To find out the number, media and kind of in-service programmes in Maharashtra.
2. To examine the concept of in-service education.
3. To find out the academic and recreational reading habits of teachers.
4. To find out the opinion of teachers on in-service programmes.
5. To find out the nature of attendance in in-service programmes.

The study was limited to the in-service education of secondary school teachers in Maharashtra. The survey method was used for the study. The sample consisted of 51 principals of colleges of education, 5 per cent
of the principals of secondary schools and 50 per cent of the teachers in each of the selected schools. The tools used to collect the data were questionnaires.

The analysed data revealed the following –

1. Out of 51 teacher education colleges in the state, 26 colleges organise extension centres.
2. Little importance was attached to in-service education.
3. The colleges of education conducted programmes only on subject matter, planning of tests, evaluation and audio-visual aids.
4. No effort was made to involve teachers in the planning, evaluation and follow-up of in-service programmes.
5. The school teachers had no access to college laboratories.
6. In-service programmes were run as week-end courses.
7. Adequate communication did not exist between colleges of education and secondary schools.
8. The teachers were sometimes prevented from attending in-service programmes by the principals.
9. The concept of in-service education was not clear to the teachers.

The above findings show negative result. Hence, there is necessity to overcome the drawbacks with regard to the findings of the study. Therefore, further action should be taken by the concerned authorities to get improvement in the above mentioned findings.
Sharma J.P. (97:839) conducted a study in the year 1982 with the following objectives

1. To trace the growth and development of in-service education in Bihar since 1955.

2. To bring out clearly the philosophy, nature and general implications for the organisation of in-service education programmes for continuing education of secondary school teachers.

The National Council of Educational Research and Training was the pioneer of in-service education programmes in the country, which gave birth to extension service in the states. The techniques of in-service education programme had borne fruits, but still the way was long and the educationists had to discover better techniques to obtain the goods.

There had been a sharp decline in the organisation of activities with regard to in-service education programme after the administration of extension centres, formerly administered by the NCERT had been taken over by the Government of Bihar. The Department of Education and Education Ministry should look into the problems and see that the in-service education programmes did not remain on paper only. They had to organise the extension centres on sound footings and create conditions for their effective functioning.
Srivastava S. (108:468-469) conducted the study in the year 1996 keeping following objectives in view:

1. To study the historical development of the programme of in-service education in India up-to-date with special reference to the agencies involved and the organisational pattern worked out.

2. To review the variety of activities undertaken by different agencies to provide in-service education to secondary school teachers.

3. To assess the achievement of this programme with special reference to observable and other types of changes brought about in schools.

4. To study the factors contributing to the strength and weakness of different extension services departments.

5. To find out the impact of this programme on teachers’ attitude towards teaching profession.

6. To study some major issues in the field of in-service education in India.

The sample consisted of the following categories of educational personnel and agencies:

   a) Extension service centres all over India

   b) Boards of Secondary Education of various states

   c) Heads of the secondary schools selected on random basis.

   1. Teachers of the secondary schools selected on random basis.
a) Groups of experts engaged in planning, organising and evaluating in-service education programme.

The tools used were questionnaires, opinionnaires, attitude scale and interviews. The study was carried out in two parts. In the first part of the study, historical development of growth and organisation of in-service education was traced in two parts:

i) from 1854 to 1954  
ii) from 1955 to 1965.

In the second part, the impact of in-service education was studied in different sequences.

The study has shown that there is significant improvement in attitude with increasing number of activities attended. It has also revealed that the attitude of the teachers towards the profession as well as towards the extension programmes stabilises after attending four extension programmes.

The study also revealed the generalisations that certain factors contribute to a great extent in strengthening the in-service Programmes:

a) Standing of the college

b) Quality of the training college staff.

c) Quality of the extension staff.
d) Practical utility of the programmes

e) Co-operation of the State department of education and the inspectorate staff.

Elahi Nizam (36) conducted a study in the year 1996 with the following objectives:

1. To trace the factors which led to the establishment of SCERTs.
2. To look into the working of the SCERT, Delhi.
3. To study the effectiveness of in-service education programmes undertaken by the SCERT, Delhi.
4. To suggest measures for improving the working of SCERT, Delhi.

The sample comprised 350 educational functionaries like principals, vice-principals PGTs and TGTs who were selected randomly from the five districts of Directorate of Education, NCERT, Delhi. The questionnaires and information blank proforma was used to collect the data. The collected data were treated with percentage and frequencies.

The analysis of data revealed the following –

1. It was found that 44% each PGTs and TGTs, 40% principals and 72% vice-principals were not satisfied with the weightage given to the general awareness aspects.
2. 41.33% PGTs and 37.33% TGTs considered that the pedagogical aspects was one of the weaker areas in the programmes.

3. Seventy four per cent PGTs and 62.67% TGTs observed that the resource persons were dominating the proceedings but satisfied with approaches adopted.

4. 59.33% PGTs and 33.33% TGTs considered that the material distributed was irrelevant and 64% principals and 72% vice-principals observed that some of the materials distributed were useful.

5. Forty two per cent PGTs and 46.67% TGTs 52% principals and 64% vice principals considered the duration of the programme was too short.

6. 76.67% PGTs, 76% TQTs, 52% principals and 72% vice principals were happy with four sessions held in a day.

7. Regarding the duration of lecture, majority are of the opinion that each session should be one hour twenty minutes.

8. Majority are of the opinion that there should be group discussion and panel discussions.

9. Only 50% of total participants have expressed positive opinion about overall quality of the programmes.

10. All are of the positive opinion regarding the professional improvement and usability of ideas/ techniques learnt in the programmes.
Gafoor Abdul, P.K. (42 : 53) conducted a study in the year 1996 with the following objectives in view-

1. To study the attempts to assess the material human resources and the efficacy of various training programmes of DIETs.
2. To analyse the institutional climates of DIETs.
3. To study the quality of pre-service and in-service training programmes of DIETs for primary school teachers and
4. To analyse different action research and experimental works carried out by DIETs.

The sample comprised of 75 DIET teachers, 50 teachers from each branch of DIETs who attended the in-service training course, 500 school students and 10 heads of the schools of Kerala state.

The tools used were questionnaires on DIETs general data sheet for DIET teachers, school organisational climate. Description questionnaire, rating scale on teaching competence for head of the institutions opinionnaire on teachers behavior for pupils, programme evaluation questionnaire for pre-service and in-service. The collected data were analysed using percentage correlation, significance of difference between means and qualitative analysis too.
Analysed data revealed the following –

1. The availability and utility of material facilities and DIETs resources were not satisfactory.

2. A participatory democratic atmosphere was non-existent in a majority of DIETs.

3. The quality of pre-service and in-service programmes of DIETs were also not totally satisfactory.

4. DIETs were basically not competent to carry out action research and experimental works.

Sharma Subash Chandra (92 : 1484) conducted a study in the year 1996 with the following objectives –

1. To investigate the impact of in-service education of teachers in the PGT scale on their professional efficacy.

   The survey method was adopted in the study. A sample of 60 science post graduate teachers and a few teachers of the humanities were taken. The tools used were information schedule. Information and interview schedule prepared by the investigator. Percentages were calculated and, graphical and pictorial presentation was done while treating the data.
The analysis of the collected data revealed the following:

1. Teachers in the age range of 45 to 60 years or with experience of more than 15 years were having less and unproductive impact of in-service education.

2. Teachers having non-instructional job were not able to justify themselves fully as teachers so far as their teaching responsibilities were concerned.

3. Eighty five per cent teachers could get their concepts (in their subject) clear through in-service education.

4. Seventy five per cent teachers got useful reference material during the in-service education course.

5. Eighty nine per cent teachers could get the opportunity to discuss the syllabus they taught.

6. Seventy five per cent could find a measurable change in the performance of their students.

7. Eighty per cent teachers felt more confident and competent due to the in-service education courses.

8. 76.5 per cent could find a change in their attitude due to the in-service education programmes.

9. Seventy per cent teachers could find a measurable change in their behaviour due to the in-service education courses.
10. Only 45 per cent teachers could observe a change in their values as science teachers.

11. Only 35 per cent teachers adopted some new methods of teaching after in-service education.

12. Seventy five per cent teachers were trained to prepare a question bank for class XII during the in-service education courses.

13. Regarding the defects in the organisation of in-service education courses, maximum number of teachers listed common defects such as unsuitability of time, lack of incentives, lack of reference materials, lack of expertise, lack of follow-up action etc.

14. Only 48.33 per cent teachers agreed with what the NPE-1986 say about the in-service education of teachers.

In the year 1996 Agarwal V.P. (3:55), Regional Institute of Education, Ajmer conducted the study with the following objectives–

1. To study the quality of INSET in relation to
   a. Coverage of content
   b. Transactional strategies
   c. Achievement on language teaching modules.

2. To ascertain the extent of transmission loss from Resource Persons (Rps.) level of training to the subsequent level of teachers training.
The sample of the study comprised 283 subjects covering two groups of Rps. training (N-112) and four groups of teachers training programme (N-171) under special orientation programme for primary school teachers (SOPT) and District Primary Education Programme, (DPEP) in the states of Uttar Pradesh and Haryana. They were randomly selected.

The tools used were observation schedule and Achievement test in language teaching.

Analysis of the collected data revealed the following –

1. Considerable amount of content was not transacted in the training programmes for Rps under School Oriented Programmes for Teachers (SOPT) and District Primary Educational Programme (DPEP).

2. Further loss was observed at teachers level as more contents were left out in SOPT and DPEP programmes.

3. Transactions during training were mainly through lecturing and discussions. Group work activities were rarely done at both levels of training.

4. Training made significant progress in the achievement of teachers on language teaching modules.
5. Totally the loss under DPEP programmes was less than the loss under SOPT programmes. Transmission loss was seen from the RPs level of training to the subsequent level of teachers training.

6. DPEP training programmes, compared to the SOPT programme provided better quality of training in terms of –
   a. More coverage of content of the instructional package.
   b. Adoption of child-centered activities.
   c. More gain in achievement in teaching of language.
   d. Less loss of information.

In the year 1996 Grewal A. and others (50: 55-56) conducted a study with the following objectives:

1. To identify various types of expressed training needs of primary school teachers in four areas such as Teaching of languages, Mathematics, Environmental studies and Pedagogical areas.

2. To identify the assessed training needs in mathematics and environmental studies.

3. To validate the needs, assessment survey for the identification of training needs for future use by comparing expressed training needs and assessed training needs.
The sample of the study comprised 116 primary school teachers (70 male and 46 female) drawn from the primary schools of three districts of Madhya Pradesh. The tools used to collect the data included teachers responses obtained on check lists. The data were analysed using the weighted score technique and percentages.

The analysed data revealed the following –
1. In language, the topics getting higher priority were reading pronunciation, information and punctuation marks.
2. The higher range of weighted score technique on the mathematics inventory reflected that the teachers were not adequately prepared to teach the subject.
3. Highest expressed needs by the teachers were in geography related components of the environmental studies (EVS).
4. Teachers had no understanding of the concept of EVS.
5. Teachers found it most difficult to make seating arrangement in multigrade situation and then teaching different classes simultaneously.
6. All the weighted percentage scores for the pedagogical needs of the sampled primary school teachers were higher as compared to the needs in language, mathematics and environmental studies.
7. Eighty per cent of the teachers’ preference was for the content enrichment followed by the methods of teaching. (application level)

8. Primary school teachers required special content enrichment training courses so that they could come up to the level at which they were expected to operate.

9. Comparison of the expressed and assessed needs in arithmetic and environmental studies showed congruence.

In the year 1996 Srivastava G.N.P (107 : 58-59) conducted a study with the following objectives –

1. To identify variations in the training programmes of the states covered under DPEP teachers training programme.

2. To study the improvement in teaching skills as a result of training programmes.

3. To study the problems in implementation.

4. To identify innovative practices if any.

The sample of the study comprised 111 respondents including persons from state resource group (SRG) District resource group (DRG) and Block resource group (BRG) trainees, teachers, parents and village education committee (VEC) members. They were drawn from 7 districts of Madhya Pradesh and 3 districts of Maharashtra. In addition, 60 schools and
220 students were also observed in classroom settings through a structured observation schedule.

The data were collected using questionnaires and personal interviews.

The analysis of the collected data revealed the following -

1. The SCERT training programme emphasised child-centred and learning-centred.

2. Story telling, poetry, songs, plays, group games, toy making, creative activities, body control exercise, manipulation of objects and pictures were used for teaching in lower classes.

3. Dakshashikshan package stressed on MLL competencies and their evaluation.


5. Training programmes in Maharastra concentrated
   a) Competency based teaching
   b) Joyful learning
   c) Material development
   d) Planning
   e) Girls education
   f) Puppetry and action research.

6. Training components in Madhya Pradesh programmes included
a) Competency based teaching
b) School readings programme
c) Personality development through individual and group activities.

Agarwal V.P. and Kamalesh Rao G. (2:39) conducted an appraisal study in the year 1997 with the following objectives:

1. To study the quality of In-service teacher training programmes in relation to coverage of content and transactional strategies.
2. To ascertain the extent of transmission loss in teacher training programmes.

The sample consists of two groups of trained resource persons and four groups of teachers trained under special orientation programme for primary teachers (SOPT) and District Primary Education Programme (DPEP) projects in the state of Uttar Pradesh and Haryana were randomly selected. The data collected regarding coverage of content and the mode of transactional strategies using observation schedule.

The analysis of data collected revealed the following –

1. Considerable amount of content was not transacted in the training programmes for resource persons under DPEP and SOPT programmes.
2. The loss was observed at teachers level as more content was left out.
3. Emphasis was on transmission of information and knowledge rather than on instructional strategies and activities.
4. Transmission during training were mainly through lectures and discussions, group work/activities were too less.
5. The loss of information was more in SOPT than in DPEP training programme.
6. DPEP training programme provided better quality of training in terms of more coverage adoption of child-centred activities and loss of information.

Lakshmi Narayana U. (57 : 42-43) conducted a study in the year 1997 keeping the following objectives in view –
1. To identify the essential professional skills for teacher empowerment.
2. To develop professional skill scale.
3. To develop observation checklist for measuring professional skills of primary teachers.
4. To identify professional skills of resource persons and teachers.
5. To identify the discrepancy of professional skills between resource persons and teachers.
6. To find out the differences of professional skills between Andhra Pradesh Primary Education Project (APPEP) trained and untrained teachers.

The sample of the study consisted of 200 teachers drawn randomly from five coastal districts of Andhra Pradesh. Forty six resource persons, 115 APPEP trained teachers and 39 teachers not trained under APPEP were also included in the sample. Tools used to collect the data included professional skills scale and observation checklist. The hypotheses were tested using ‘t’ test.

The analysed data revealed the following:

1. It was found that resource persons and trained teachers did not differ in the professional skills such as, questioning, story telling, using different cards, investigating and experimenting using real objects, working with different cards, making models, recording individual’s work, group work, whole class work, identifying student potential, assigning tasks based on student potential, involving all students in heterogeneous groups, using local environment and display of teaching-learning material.

2. It was found that there was a significant difference between resource persons and trained teachers in respect of skill of comparison, observation and generalisation ideas through questioning.
3. Classroom observation results showed that there was significant difference between trained and untrained teachers in the skills such as questioning, story telling, using different cards, investigating and experimenting, using real objects, working with different cards, making models, recording individual work, group work and whole class work, identifying student potential, involving all students in teaching-learning activity, formation of heterogeneous groups, using local environment and displaying of teaching-learning material.

4. It was found that trained and untrained teachers did not differ in the skills of comparison, observation and generalisation of ideas through questioning. The trained teachers due to lack of proper inputs during in-service training did not differ in these skills from their counterparts without training.

5. It was revealed that in-service teacher training helped many teachers in acquiring 17 professional skills out of 20 skills. But in-service training did not empower primary teachers in these professional skills, viz., comparison, observation and generalisation of ideas through questioning.
Paranjape Sandhya (74:45) conducted a study in the year 1997 in respect of the following objectives.

1. To examine the present status and use of partnerships in INSET programmes.
2. To assess teachers perceptions on the need for partnership development in INSET.
3. To identify partnership pattern for improving INSET and its application in primary schools.

The study was conducted in four randomly selected rural blocks from four educationally backward districts of Maharashtra. Within each of the blocks, a list of primary schools was drawn up. From each of the four list, 20 schools were randomly selected. The total sample comprised 80 schools and 200 teachers. Tool used to collect the data included interview. The collected data were analysed qualitatively.

The analysed data revealed the following –

1. Most of the INSET programmes did not use partnerships as a strategy for promoting education and training of primary school teachers either as a part of the overall training strategy or specific INSET programmes.
2. Teachers strongly expressed the need to establish and promote different kinds of partnerships particularly tripartite between the community (Panchayat, VECs) parents, business/factory owners and other organisations at different levels in the district. For the realisation of INSET inputs, a support system of teacher peer groups along with an expert facilitation/guide, was categorically emphasized as necessary basic prerequisites, both crucial mechanisms for achieving continuity and applicability of new INSET practices. INSET needed to be viewed as a continuous ongoing activity and not one time input.

Pushpanandan K. (78: 45-46) conducted a study in the year 1997 with the following objectives:

1. To identify teachers' potential in organising the educational activities in primary schools.
2. To foster teacher potential skills through teacher initiated programme.
3. To find out the difficulties faced by the primary school teachers in teaching different school subjects.
4. To study the effectiveness of the programme.
5. To train the teachers on pedagogic skills through the teacher initiative programme.
The sample consisted of 60 primary school teachers (36 female and 24 male teachers) having five years teaching experience were selected from the rural areas of Baroda district. The data were collected with the help of participating observation and questionnaire. The collected data were analysed qualitatively.

The analysed data revealed the following:

1. It was found that the primary school teachers having various skills and talents which were useful for educational activities made learning more joyful. The specific talents of the primary school teachers were storytelling, singing, preparing low cost and creative teaching aids, writing humorous poems, basic content mastery in primary school subjects and public speaking / communication.

2. Sensitizing teachers in social issues was found to be effective to boost teacher’s professional commitments.

3. Teachers’ participation in the capacity of building programme was maximum. Teacher initiated programmes were found interesting and appropriate for primary school teachers.

4. Teachers showed interest in participatory programmes.

5. Teachers found difficulty in teaching mathematics and science.

6. Recognition and appreciation were found to be the most effective motivational factors for the teachers.
7. Teachers opined that the teacher-initiated in-service programmes were interesting and useful to the teachers as they were need based.

Khader M.A. (54:41-42) conducted a study in the year 1997 in relation to the objectives:

To outline a model for using strategic planning approach in choosing training inputs in the in-service training programmes for teachers.

The model is formulated based on the evidence emerging from the analysis of field reality and available research studies. By critically examining the field reality in terms of the prevailing patterns of training, entry level qualification, duration, size of the teachers, pupil-teacher ratio, multi grade and non multi grade system of schools. The paper points out the need for adopting planning approach in designing training inputs.

The analysed data revealed the following:

1. There are evidences to the effect that systematic planning of training inputs – pedagogy and management strategies – facilitate teachers to perform their professional roles effectively. It means planning of training inputs did make a difference.
2. Indicators provided the framework for planning training inputs by facilitating the selection of training inputs, developing materials, executing training and verifying whether they make any difference. Obviously, indicators provided a framework for formulating a data based model in training by integrating development, training and research.

Vincent De Paul S. (117 : 17-20) conducted a study in the year 2002 with the following objectives:

1. To study the attitude of elementary school teachers towards in-service education.

2. To study the difference in attitude towards in-service education (ISE) between,
   a) Male and female elementary school teachers.
   b) Non-graduate, graduate and post-graduate elementary teachers.
   c) Married and unmarried elementary school teachers.
   d) Elementary school teachers having experience above 7 years and below.
   e) Elementary school teachers having age above 33 years and below.
   f) Teachers whose parents occupation is teaching and others.
g) Government and aided elementary school teachers.

h) Urban and rural elementary school teachers.

i) Elementary school teachers of District Primary Education Programme (DPEP), Pudukkottai and Non-DPEP, Dindigul.

j) Teachers received in-service education more than 3 times and below.

The following hypotheses were formulated.

1. There is no significant difference in the mean scores of attitude towards in-service education between male and female elementary school teachers.

2. There is no significant difference between the mean scores of attitude towards in-service education of non-graduate and graduate elementary school teachers.

3. There is no significant difference between the mean scores of attitude towards in-service education of non-graduate and post-graduate elementary school teachers.

4. There is no significant difference between the mean scores of attitude towards in-service education of graduate and post-graduate elementary school teachers.
5. There exists no significant difference between the mean scores of attitude towards in-service education of elementary school teachers having experience above 7 years and below.

6. There is no significant difference between the mean scores of attitude towards in-service education of elementary school teachers having age above 33 years and below.

7. There exists no significant difference in the mean scores of attitude towards in-service education between married and unmarried elementary school teachers.

8. There exists no significant difference in the mean scores of attitude towards in-service education among elementary school teachers received in-service education above three times and below.

9. There exists no significant difference in the mean scores of attitude towards in-service education between government and aided elementary school teachers.

10. There exists no significant difference in the mean scores of attitude towards in-service education between urban and rural elementary school teachers.

11. There is no significant difference in the mean scores of attitude towards in-service education between DPEP (Pudukkottai dist.) and non-DPEP (Dindigul dist.) elementary school teachers.
There exists no significant difference in the mean scores of attitude towards in-service education between teachers whose parents’ occupation is teacher and others.

The study adopted the random sampling procedure and a total of 185 elementary school teachers with sub-groups as mentioned below formed the sample of the study.

The questionnaire was given to the teachers to respond and 200 teachers were selected randomly from the middle school, high school and higher secondary schools out of which 185 teachers responded.

In-service Education Questionnaire (IEQ) was finalized with the help of experts and teachers, reliability ($r = 0.82$) and validity were established. Statistical techniques used were mean, S.D. and t-test to analyse the data. The analysis of data revealed the following –

1. All the hypotheses chosen for the study are rejected as $t$-value is less than the table value at both 0.05 level and 0.01 level of significance.
2. Hence, it is inferred that there is no significant difference between the mean scores of attitude towards the in-service education of the elementary school teachers with respect to the different variables.
In view of the finding of the study, it was concluded that elementary school teachers have better attitude towards in-service education.

Ramachandra Rao (83) developed an in-service training programme for Navodaya Vidyalaya teachers in meeting students’ emotional needs in the year 2003 in relation to the following objectives:

1. To identify the emotional needs of students,
2. To develop an in-service training programme for teachers of Navodaya Vidyalaya in meeting students’ emotional needs, and
3. To implement and study the effectiveness of developed programme.

For the collection of data, investigator used participant observation, unstructured interview questionnaire and reaction scale for feedback. It shows that teachers have hardly focussed on the emotions of students in our busy ways of completing the ‘abc’s of curriculum. The designed intervention did make a difference in the teachers behaviour as it focussed on the knowledge and skills intended to bring desirable change in attitude. The teachers showed significant learning about the inputs of the intervention programme. Their behaviour changed radically with the
students. So they were consciously utilizing the knowledge and skills provided in the intervention programme.

In the year 2004, Panda and his associates (74:18) studied the perceptions of the primary teachers about science teaching at primary stage and their training needs.

The major objectives of the study were to understand the perception of primary teachers about science teaching and to assess the training needs of primary teachers teaching science.

The normative survey method was used to conduct the study. The investigators developed a questionnaire to assess the perception of primary teachers and their training needs for teaching science. Percentages were calculated to show the view and training needs of the respondents. The result of the study shows that the majority of the respondents feel the inadequacy of basic training imparted to them to teach science topics at primary classes. Sixty five per cent of them described the lack of teaching aids, 82 per cent of teachers wanted specific short term training for making low cost teaching aids in science. Many of them opined that if proper atmosphere is provided to the trained teachers, scientific temper can be developed among the students and science education at primary stage will be meaningful and life oriented.
In the year 2005 Duggal (34:13) conducted a study relating to the arrangement for in-service education of the assistant teachers at DIET’s. The major focus of the study was three week orientation programme aimed to make the assistant teachers aware of the nuisance of school practices and the idiosyncrasies of a subject.

The major findings of the study were –

1) The target group i.e. the number of assistant teachers to be trained in-service was quite large,

2) Most of the assistant teachers stated that the intimation about the schedule of the in-service training programmes was not provided to them well in advance due to poor co-ordination among the co-ordinators of these programmes and the managements of the schools.

3) Majority of teachers and resource persons told that the guidelines for the organization of in-service training programmes and their monitoring were not followed by the co-ordinators of in-service training programmes in terms of assessment and prioritization of the training needs, selection of resource persons etc., which in turn demotivated the teachers to participate in-service training programmes.
Patel Jignesh Bhogilal (76) conducted a study in the year 2007 with the following objectives:

1) To analyze the in-service training programmes in terms of its objective, relevance, content and mode of presentations.
2) To study the infrastructure facilities available for implementation of various in-service training programmes at DIET’s.
3) To study the problems and expectations of primary teachers, resource persons and teacher educators of DIET’s regarding in-service training programmes.
4) To study the process of selection of resource persons and theme of the in-service training programmes.

In the above study, the investigator used multi stage sampling method to select teachers, resource persons and teacher educators from three DIET’s i.e. Narmada, Panchmahal and Vododhara as mentioned below.
In the above study, the investigator prepared three questionnaires, one interview schedule, one observation schedule, one opinionnaire and one check list. Due care was taken for face validity of the tools used. The data was gathered from primary sources. Data collected with the help of different tools were analysed by applying different methods of statistics i.e. percentages and content analysis techniques.

The results of the study are;

1) The lecturers of DIET's made efforts to organize in-service training programmes and majority have used Information Communication Technology (ICT) in training programmes.

2) No definite conclusion could be derived regarding the improvement in the content of in-service training programmes.

3) Regarding the mode of presentation, teachers participated in in-service training programmes, felt that there was scope for discussion.

4) With respect to infrastructural facility, most of the facilities were available in DIET's.

5) With respect to expectations of the teachers, it has been observed that teachers opined that resource persons should be trained and qualified personnel having effective skills of presentation and should be invited from different colleges of education.
6) With respect to problem faced by teachers, resource persons and lecturers, it has been observed that 63 per cent responded that they had not faced any problem in implementation of ideas of in-service training programmes in class room situation. Most of the teachers expressed the place of training is far from the place where they are working.

7) With respect to selection of resource persons, teachers are of the opinion that the lady resource persons should be given scope. It is the problem of the co-ordinators to select resource persons.

2.3 Review of Studies Conducted Abroad

In the year 1993 Blunck (16:978A) evaluated the effectiveness of the Iowa Chautauqua Science in-service programme examined the growth in teachers confidence related to teacher reculturing behaviours over a six year period from 1986 -1992. ‘Reculturing’ behaviour empowers teachers to work with students, other teachers, administrators, parents and community experts in new ways as part of Science, Technology, Society (STS) approach. The Iowa Chautauqua programme has been validated by the National diffusion Network as a model in-service programme. The Teacher Confidence Scale (TCS) was used as pre-test and post-test survey to measure changes in teacher confidence at the end of the Iowa
Chautauqua in-service experience. Analysis of variance and t-test were used to analyse the data and found that teacher’s confidence improves significantly when a teacher is involved in the programmes for longer duration, teachers at all grade levels were affected equally in terms of growth in confidence with any given year. The Iowa Chautauqua programme has been able to stimulate steady growth in teachers’ confidence for a number a ‘Reculturing behaviours across the six year period’.

In the year 1999 Chadwick (27:2450A) conducted a case study of 4 elementary schools involved with a professional development programme in arts. This programme focussed on the integration of art throughout the curriculum with intention of using the arts as a methodology for learning the area of other subjects. The research instruments for this case study used was the interview, questionnaire and the examination of the existing documentation and observation of the programme. The study found that most variables within the programmes origin, operation and evidence results were consistent among all four school sites. A common philosophy of programme was understood by participants and administrators. There was a need for planning time between the arts coaches and the teachers advisory councils. But the parents and the community were not generally
aware of the operation of the programme. Evidence of results indicated the integration of the arts increased positive attitude and efforts of the students. Students achieved through the arts, and made gains in academics following their involvement in the programme. Teacher’s attitude indicated a favourable view towards the programme; most will continue to teach through the arts. Data collected through this study suggested that the integration of the arts can be a powerful teaching tool for teachers and an interesting way for students to learn informing parents and community about the existence of arts and the result of the programme may generate additional support. The development of additional form of the students assessment would be beneficial.

In the year 1999, Fleischman (40:144A) studied the role of state education agencies in in-service teacher professional development in technology. The purpose of this study was to examine the role of state education agencies in promoting and supporting in-service teacher professional development in technology within the context of state systemic reforms. Exploratory and qualitative research was conducted using the biggest finding in Kentucky and Vermont. It was found that the technology is increasingly embedded in overall state making for reform. At the state level, policy rhetoric and actions are largely about constructing
strategies to convey the importance of technology to schools to as a tool to support state reform goals for student learning. Professional development to support teacher and administrator knowledge and skills are bringing to embed technology as a pedagogical tool within standards based curriculum units. While professional development of teachers in basic skills require in many schools and districts, there are growing dialogues and actions at the top of the few state policy systems to fill integrate technology into standards based professional development offerings. Technology is beginning to transform from a separate the overall reform goal in both states of high academic performance for all students. Further research should focus on the appropriate role or teacher performance standards in technology among the array of policy instrumental used by state to promote in-service teacher professional development in technology.

In the year 1999, Long (59:2452A) studied the impact of school-university partnership on the professional development of teachers. It also provided testimony about the professional development habits of teachers working in Professional Development Schools (PDS) within the new year public school system. Ultimately, this research hoped to provide information about the impact of the school university partnership on teachers’ practice.
The methodology employed a case study approach involving teachers in these Professional Development School Partnership (PDSP) sites to explore the particular issues related to these teachers and their professional development. To address the research questions in this study, the researcher used qualitative method of data collection and analysis. The data were collected in three ways: Surveys, interviews and observations.

The findings reflected that the partnership was thought to be philosophically sound; it helped to create better teachers; it provided opportunities for growth. It helped them to combine research and practice; and provided in terms who were energetic and intelligent, when asked about the weaknesses of the PDSP, teachers mentioned low, cliquish participation, lack of communication among the university based and the school based participants, low visibility in terms of accomplishments, and a weak commitment on the part of all involved stakeholders. In accordance with the literature, teachers reported using reflective practice, collaboration pre-service teacher education and action research for improving their practice.

In the year 1999, Richmond (86:2453A) studied an evaluation of how teachers implemented training which they received in an intensive arts
staff development programme. The purpose of this study was to determine the level of implementation of training received by teachers in an intensive art staff development programme. Additionally, it reported to what extent teachers implemented the innovations in their classrooms during the academic year following the training. The study also looked at the impact of teachers, students and artists learning together in a professional development institute. The sample in this study included seven teachers representing urban, rural and suburban school districts who volunteered to participate in the Arts Alive Institute. Each teacher was administered a survey and was interviewed to determine the level of use of the training he or she received during the summer training institute. Additional data were obtained from classroom document such as lesson plans, teacher journals, students journals, students portfolios and direct observation. The data were analyzed using the interview protocol of the level of use interview an instrument from the concerns base adoption model. Results of the study indicated a high level of implementation of training received at the arts training institute. Teacher application of arts skills and arts integration into classroom curriculum was evidenced. Data revealed changes in teachers’ attitude towards students and a new sensitivity to students elevation in self esteem, an enhanced appreciation of the arts and the desire to immerse the arts into their personal times Artist-in-residence programme were shown to
influence to level of implementation of training and served to emphasize the need for direct, intensive follow-up of the training teachers receive.

In the year 1999, Rutter (89:2454A) studied the professional growth of two multidisciplinary teams within a professional development school. Research has shown that professional development to teacher has rarely succeeded within a learning vacuum. Teachers need support and opportunity to use the content information or teaching strategies in which they have just been trained in their own contents. A more effective concept of professional development is needed in order for teachers to truly student learning to improve. Narrative case studies were drawn from interviews, journals and observations by two teams of teachers and their administrators within a (PDS). Overall it was found that school cultures are very particular things made up of the content that drives the culture. A good leader can use the mission and philosophy to focus and channelize these energies and work to create something that benefits the whole as well as the parts. It is the individual involved however, who have to trust one another and agree to work together: find ways to make connections among their individuals interacts and those of the others and share their knowledge and resources to make the whole better as they better themselves. Within this framework these individuals are professionally
committed to their profession of teaching and to their personal professional development. Recognizing this, the schools can work to support these practices and the individual understands their ultimate power within this highly complex relationship. Knowing this, the individuals involved can choose to become life long learners, teaching professionals committed to their learning community.

Franks (41:4342A) In the year 2000, studied the effectiveness of the 'Trainer of Trainers' model for in-service science professional development programmes for elementary teachers participating in the Mathematics and Science Education Co-operative (MSEC). In this professional development model, a core group of teachers recovered professional development session start by science education professors after the work session for the core group of teachers, training materials and equipments were distributed among the 5 elementary schools within the school district. The target population of this study included approximately 200 teachers in the MSEC programme who taught grades kindergarten through six in five different elementary schools. Both qualitative and quantitative methods were used in data collection. Focus groups, interview, observation and survey instruments were the primary sources of data collection. Triangulation methods were used to establish validity and
verification of data. Analysis was an ongoing process that included several levels of affinity groups inter-relationship diagrams, path diagrams and system influence diagrams. Interview and feedback survey were also used to evaluate the problem under investigation. Teachers consider the state mandated assessments test to have the longest impact on the school curriculum and to be the primary reason that teachers could not find time for science teaching.

In the year 2000, Stewart (110:574A) studied the evaluation of professional development training for elementary teachers in urban and native American schools using design technology and the learning cycles. The concerns included whether the participating teachers accepted Technology and Invention in Elementary Schools (TIES) methodologies as viable methods of instruction and what factors affected implementation over time. Participants included 32 teachers from urban schools in Ohio and from Native American schools in Arizona and New Mexico, who took part in the TIES training in the summer of 1998. The programme was evaluated using ex post facto and quasi experimental research design and included both qualitative and quantitative methods data which were collected using questionnaire, the Shrigley Johnson Science Attitude Scale, the science teaching efficiency belief instrument, the work
environment scale and various surveys. Through this study, a new method for evaluating the stages of concern questionnaire was developed to determine if significant numbers of individuals shifted from preliminary stages of concern to higher order concern over time and predicted in the research. This method proved to simplify analysis and provided a means to determine statistical significance based on Peak stages scores over time.

The TIES professional development model. The urban school teachers differed significantly from the Native American school teachers on many measurements, yet there was no significant difference between the gains made by two different groups of teachers. TIES training also included many factories from organizational change theory which were considered to promote the implementing methods learned during training over time.

In the year 2001, Aeschlimann (1:977A) studied the effect of mentoring on secondary mentor teachers within a professional development centre. This qualitative study examined secondary veteran teachers and their perceptions of professional growth through the mentoring activities assigned within a PDC at a small, Midwestern University. A series of interviews were conducted one year after six veteran teachers from four small rural school districts had been involved in the PDC programme. The data were presented as case studies. Findings
indicated that performing new duties and having the freedom to explore issues of individual concern were important in developing new skills. Although doing new tasks is a part of professional growth as it builds confidence in veteran teachers, but in this study it did not change the thinking of teachers about educational issues.

What emerged as an indicator of professional growth was the degree of collegiality and reflectivity in the teachers' approaches to educational issues. Those teachers who actively participated in opportunities to suspend traditional beliefs to question and share concerns in a thrusting environment and to engage in professional dialogue with others showed evidence of authentic professional growth.

In the year 2001, Ray (85:148A) studied the impact of staff development training on technology integration in secondary school teachers classrooms. The purpose of this qualitative study was to explore the relationship between a particular staff development design and the extent to which the integration of technology in classroom practice occurred after the training. It also noted whether or not teachers who participated in the staff development would become larger in technology integration. Out of the 12 participants, 10 used technology in the
classroom as the part of the classroom activities to support the curriculum and enhance student learning. All the teachers used the skills learnt at 'Teacher Technology Training' to undertake research in preparation for class and to create instructional material. Teachers reported a change in teaching, using technology increased assess training all source, especially current source; shared teaching with experts in the field, reputable internet sites and students who presented information, ability to strengthen interest and understanding by presenting information visually using compact disc (CD), video clips, virtual tours and the internet; greater opportunity to communicate with experts in the field, peers, administrators, parents and students through e-mail and web pages; and the ability to make changes in notes, lectures, presentation, activities and tests.

In the year 2001, Starkweather (109:1333A) studied the training of teachers to give effective command and studied its effects on student compliance, academic engagement and academic responding. The present study using a multiple baseline design across subjects, evaluated whether training teachers to give effective commands alone and in combination with verbal praise for appropriate classroom behaviour and compliance would result in increased compliance, academic engagement and academic responding results indicate that increasing effective teacher commands resulted in increased rates of students compliance of 7% for student one,
15% for student two and 17% for student of 3 during the effective commands alone face of the study. Total compliance was increased over baseline 17% for student one, 28% for student 2 and 23% for student 3 across all phases of the study. Academic engagement and academic response was increased 10% for student one, 5% for student 2 and 16% for student of 3 during the effective commands alone face of the study. Academic engagement and response was increased over baseline levels, 16% for student one, 14% for student 2 and 25% for student 3 across all phases of the study. Results are discussed in terms of identifying strategies that results increased compliance and academic engagement and responding through the use of antecedent condition that are beneficial to an entire class setting.

In the year 2002, Casteneda (26:1789) studied the teachers perceptions and effects of professional development of teaching practice and student learning. The study sought to test whether multidimensional professional development programmes are preferable to a traditional one, which typically consists of taking a graduate courage. It compared teachers perceptions about the effects of three programmes for professional development on their practice on student performance. Descriptive data were collected to provide an accurate description of the 3
programmes participants observations of professional development sessions, informal and formal interviews of teachers, administer and facilitators were among the data collection tools and used during the first 2 years of the study to provide a detailed description of the actual programmes. The survey research indicated that teachers perceived that professional development of the teachers could be most effective in improving their teaching practice and student learning when the professional development programmes are intentional, on going and systematic. The non-traditional, multi-dimensional professional development was found to be more effective than the traditional model.

In the year 2002, Obearlander (71:146A) studied the effects of professional development programme to prepare teachers to use problem based technology enhanced learning strategies (TEL). The purpose of the study was to explore the impact of a systematic effort to support a group of teachers in adopting technology enhanced problem based learning (PBL) strategies in their classroom practice with Grabinger’s Rrch Environment for Active Learning (1996) providing the conceptual framework for the teaching context and the A DISE model of Technology Integration (Lasley, Malezynski & Rowley, 2002) providing a conceptual link for integrating technology into PBL training TEL parlear school programmed trained a class of in-service educators. Both quantitative and qualitative
methods were used in the quasi-experimental post-test only. A demographic survey and the REALs Beliefs Inventory (RBI) were developed and administered to the intervention group of 17 in-service teachers. The REALs Environmental Inventory (REI), the Self Assessment Surveys (SAS) and a post-inventory survey were developed and administered to the intervention group to determine teacher perceptions of the training. The researcher reviewed the PBL units of practice submitted by 15 teachers after the TEL programme for evidence of technology use. The demographic surveys revealed that two groups were similar in technology, goals and objectives and more experience teachers comprised the intervention group. A t-test indicated a statistically significant difference between group scores on RBI t(29) = -2.11, P>0.5. Teachers used the ADISC models from the training in their own unit design and implementation. Interviews with technology co-ordinators and selected teachers detail the progress and challenges of implementing PBL units.

Gerber, Sue (46:1741-A) conducted a study with the following objectives to study the relationship among teachers practices and students achievement.

1. To study the relationship among teachers’ orientation towards mathematics instructional practices.
2. To study the relationship among teachers’ orientations and students achievement.

Data were collected from 7th and 8th grade students who were studying third international mathematics and science study and their mathematics teachers. Teachers orientations and practices were determined from responses to questionnaire items. Students achievement in mathematics was assessed.

In view of the findings of the study,

a) Teachers practices are not related to students achievement.

b) Teachers orientations are not related to teachers practices.

c) Teachers orientations are not related to students achievement.

Poskitt (130) investigated schools views on arrangements for in-service teacher training as an input into the 1997 Green paper on teacher education. Her reports make the following points.

a) Schools value the ability to choose in-service training from a variety of providers. Such choice accommodates individual school needs, supports the concept of self-management and assists “Struggling schools”.
b) Many schools appear to determine training needs by systematic performance management systems and subsequently address them.

c) Nevertheless, most schools want less than 50% of funding for in-service training to be delivered through the operations grant, because of competing demands on their discretionary funds. Most schools want the Advisory Service and Ministry of Education contacts to be maintained.

Fordyce (130) notes that there have been relatively few New Zealand studies evaluating the effectiveness of in-service training in terms of the transfer of skills to teachers. A recent survey of 64 professional development programmes conducted in New Zealand during 1996-97 covering 13 subject areas revealed the following.

a) Ninety one per cent of participants said that they had known all or almost all of the materials covered prior to participating in the programme. The other nine per cent said that they had known most of it. (these findings cast into question the quality of needs analysis for the programme)

b) Participants were asked to identify factors that helped learning.

c) Lack of time was stated as the major barrier to the transfer of training.
d) Of participants who identified themselves as successful implementators, a small proportion (9%) felt that they had been benefited from support received from the in-service trainer.

An earlier survey sampled 48 New Zealand professional development programmes, eighty five per cent respondents considered that their in-service experience has assisted them at least to some extent, although 21 per cent considered more time was needed to practice new skills within the programmes. A small number (7%) expressed concern about lack of follow-up to maintain motivation to transfer training.

2.4 Research Gaps

In the present study, the investigator reviewed 36 studies. The reviews were from the 1971 to 2007, generally greater focus was on in-service teacher education and professional development programmes and its effects on students. Investigator reviewed 20 studies conducted in India and 16 studies conducted abroad.

The researches conducted in India show that in-service training programmes were useful to perform more effectively and make a
difference in teachers behaviour. Most of the teachers desire to have continuing education in school subjects to get mastery over them. Panda et.al. (2004) in his study showed that respondents feel the inadequacy of basic training to teach science topics at primary classes, lack of teaching aids, want of specific short term training for making low cost teaching aids in science. The result showed that training programmes were not going on properly in few institutes and more attention was needed to improve the quality of in-service training programmes. Regarding the infrastructure facilities DIET (1992), NIEPA (1992), Mehata (1999) reported that building hostels, blackboard, toilet, library and other civil works needed immediate attention. The studies also indicated teachers paid less attention during in-service training programmes and developed negative attitude towards training. Yadav (1999) concluded in his study that the more competent resource persons should be employed during in-service training programmes. Teachers expressed that most of the resource persons used lecture method and no technological aids were used. Duggal (2005) indicated in his study that monitoring was not followed by the co-ordinators of in-service training programmes in terms of assessment and prioritization of training needs, selection of resource persons etc.
The studies conducted abroad with different aspects of professional growth (development) programmes. Heaton (1981), Starkweather (2001) and Costenda (2002) studied the teacher training and its effects on students. Heaton reported that no significant difference was found among treatment groups of students; while Starkweather (2001) and Castenda (2002) reported that teachers perceived the professional development programme could be most effective for improving their training practice and student learning Bhuk (1993), Long (1999), Franks (2000), Acsrchlimason (2001), Ray (2001) Oberlander (2002) studied the effectiveness of professional development programmes from the study and it was concluded that teacher confidence improved significantly when a teacher was involved in the programme for longer duration. And training helped them to become better teachers and provided opportunities for growth (Long-1999 and Ray-2001).

From the above discussion it can be concluded that there is need to develop the capacities of the CTE’s by conducting more researches with a view to provide feedback for improving the quality of in-service education. Research component still continues to be the weakest area of operation. Many research and evaluation studies on the functioning and
operationilazation, particularly CTE's supported this view (NCERT-2000, NIEPA-2001 and Yadav-2000).

2.5 Conclusion

After going through the related studies, it is found that more studies relating to elementary teacher training programmes have been conducted. But only few studies are conducted in the area of secondary school teacher training programmes. Hence, the present study is conducted with specific focus on secondary school teachers in-service programmes. The findings of the research reviews, have served as a basis for planning the present research work.