INTRODUCTION

Teacher education has acquired recognition as an integral part of our education system. Need for it at all levels of education is no longer a matter of debate. During the past five decades, the role of teacher has continually evolved, making it necessary for incumbents to be much more than mere pedagogues. With increased specialization within the educational system, the need for differentiation in teacher education has surfaced in order to cater to the variety of professional needs of more specific groups. Thus, newer programmes of teacher education have been continually evolved with substantive and curricular streamlining.

In teacher education, the systems of curriculum transaction have essentially been of two categories, viz., the formal (face to face) system and distance system. The formal system of education refers to the instructional interactions in which teachers and learners transact a curriculum in a face-to-face situation. The distance system of education, as the term indicates, pertains to all kinds of interactions between the teacher and the learners in which they are not in direct contact with one another and require a third channel or medium for contact. These include the print, audio, video or any other mode.

The formal system is the oldest and the most widely accepted mode of teacher preparation in India. The distance mode emerged as an alternative to the formal system mainly because of the demographic problems of a large number of people desiring education and shortage of trained teachers after independence. Thus, it is seen as a socio-historical imperative system. The Kothari Education Commission 1964-66 recommended correspondence courses to help unqualified teachers, in-service, to improve their qualifications. Later,
the National policy of Education 1986 also highlighted the role of distance education in teacher preparation in India. The success of any educational system depends much on the requisite qualities of teachers. In the National Policy on Education 1986 and its Revised Version 1992, it has been repeatedly remarked that ‘No system of education can rise above the level of its teachers’. The National Policy on Education also attached paramount importance to teachers’ status and their training. Quality of teachers depends upon the quality of training received by them.

For the development of teaching effectiveness of the teachers, a professional training in education has always been considered desirable to the level of being obligatory for all. The achievement of pedagogic goals of stimulation, presentation of new knowledge, management and classroom activities, use of audio-visual aids, art of questioning etc. accentuates the need for well trained teachers and, hence the teacher education programmes. The crux of teacher education programme is the manner in which it is implemented. The modes of curriculum transaction represent the channels adopted for providing learning experiences to trainees. These signify the links that represent the role and contribution and hence the expectations placed on the teachers and the teacher education programme on one hand and the process of enabling the trainees to be able to imbibe the requisites and thereby actualise these expectations on the other.

This study has been undertaken to understand whether distance mode has the potential to meet the desired end of producing well trained teachers or face to face mode of teacher preparation which can only serve the need of professional education of teachers. One of the means of arriving at an answer can be to compare the teachers prepared through the formal system of education with those trained through the distance system of education in order to get a clear picture of the two modes of teacher preparation in the Indian context.
In order to understand the scenario of teacher education in India, need was felt to compare the teachers trained through both the systems of teacher preparation while on job. Hence, the investigator attempts to examine and compare the various aspects of teaching effectiveness and their attitudes towards teaching profession trained through formal and distance mode.

In view of above-mentioned need, the present investigation was undertaken in the following problem.

**STATEMENT OF THE PROBLEM**

A STUDY OF TEACHING EFFECTIVENESS OF TEACHERS TRAINED THROUGH FORMAL AND DISTANCE MODE

**DEFINITIONS OF KEY TERMS USED**

**TEACHER:** A person employed in an official capacity for the purpose of guiding and directing the learning experiences of pupils or students in an educational institution whether Government or private (Dictionary of Education, Carter. V. Good, 1973).

**TEACHER EDUCATION**

Teacher Education ha been defined as ‘all formal and informal activities and experiences that help to qualify a person to assume the responsibilities as a member of the educational profession or to discharge his responsibilities more effectively’ (Dictionary of Education, Carter. V. Good, 1973).

**FORMAL EDUCATION:** The traditional system of education in which teaching as an activity finds fulfillment and consummation within a situation in which the teacher and the pupil work contiguously in an institutional setting.
DISTANCE EDUCATION: A system of education in which the teaching behaviour remains separated from the learning behaviour, face to face teaching and learning form a part of the system and uses, media for educational communication.

TEACHING EFFECTIVENESS: A teacher who has clear concept of the subject-matter, ability to organize learning materials, ability to communicate his knowledge to the students successfully and to deal with classroom situations. The present study includes five aspects of teaching effectiveness ie., (i) Review of home assignment (ii) Introduction of the lesson (iii) Development of the lesson (iv) Ending of the lesson (v) Classroom climate. Development of the lesson was further sub-divided into seven skills: Explanation, b) Communication, c) Questioning d) Response Management, e) Reinforcement, f) Use of chalkboard and other, g) Class management.

ATTITUDE: An attitude is a tendency of an individual to favour or not to favour same type of object or situation.

VARIABLES INVOLVED

In the present study, teaching effectiveness of teachers and their attitudes towards teaching profession will constitute dependent variables while teachers’ trained through formal and distance mode, sex, type of school and teaching experience will constitute independent variables.

OBJECTIVES OF THE STUDY

The study purports to meet the following objectives:

1. To identify teachers who have obtained training through formal and distance mode.
2. To study the teaching effectiveness of teachers trained through formal mode.
3. To study the teaching effectiveness of teachers trained through distance mode.
4. To compare the teaching effectiveness of teachers trained through formal and distance mode.

5. **Teaching Effectiveness and Sex**

(i) To compare the teaching effectiveness of male and female teachers trained through formal mode.
(ii) To compare the teaching effectiveness of male and female teachers trained through distance mode.
(iii) To compare the teaching effectiveness of male teachers trained through formal and distance mode.
(iv) To compare the teaching effectiveness of female teachers trained through formal and distance mode.

6. **Teaching Effectiveness and Type of School**

(i) To compare the teaching effectiveness of government and private school teachers trained through formal mode.
(ii) To compare the teaching effectiveness of government and private school teachers trained through distance mode.
(iii) To compare the teaching effectiveness of government schoolteachers trained through formal and distance mode.
(iv) To compare the teaching effectiveness of private school teachers trained through formal and distance mode.

7. **Teaching Effectiveness and Teaching Experience**
To compare the teaching effectiveness of more and less experienced teachers trained through formal mode.

To compare the teaching effectiveness of more and less experienced teachers trained through distance mode.

To compare the teaching effectiveness of less experienced teachers trained through formal and distance mode.

To compare the teaching effectiveness of more experienced teachers trained through formal and distance mode.

To study the attitudes of teachers towards teaching profession trained through formal mode.

To study the attitudes of teachers towards teaching profession trained through distance mode.

To compare the attitudes of teachers towards teaching profession trained through formal and distance mode.

11. Teachers’ Attitudes towards their Teaching Profession and Sex

To compare the attitudes towards teaching profession of male and female teachers trained through formal mode.

To compare the attitudes towards teaching profession of male and female teachers trained through distance mode.

To compare the attitudes towards teaching profession of male teachers trained through formal and distance mode.

To compare the attitudes towards teaching profession of female teachers trained through formal and distance mode.

12. Teachers’ Attitudes towards their Teaching Profession and Type of School

To compare the attitudes towards teaching profession of government and private school teachers trained through formal mode.

To compare the attitudes towards teaching profession of government and private school teachers trained through distance mode.
(iii) To compare the attitudes towards teaching profession of government school teachers trained through formal and distance mode.

(iv) To compare the attitudes towards teaching profession of private school teachers trained through formal and distance mode.

13. Teachers’ Attitudes towards their Teaching Profession and their Teaching Experience

(i) To compare the attitudes of more and less experienced teachers towards their teaching profession trained through formal mode.

(ii) To compare the attitudes of more and less experienced teachers towards their teaching profession trained through distance mode.

(iii) To compare the attitudes of less experienced teachers towards their teaching profession trained through formal and distance mode.

(iv) To compare the attitudes of more experienced teachers towards their teaching profession trained through formal and distance mode.

14. To find out the relationship between teaching effectiveness of teachers trained through formal mode and their attitudes towards teaching profession.

15. To find out the relationship between teaching effectiveness of teachers trained through distance mode and their attitudes towards teaching profession.
HYPOTHESES OF THE STUDY

Based upon the objectives of the study the following null hypotheses were formulated.

1. Teaching Effectiveness and Teachers Trained through Formal and Distance Mode

The following hypotheses were formulated in relation to objective 4 i.e., to compare the teaching effectiveness of teachers trained through formal and distance mode.

Ho1.1 There is no significant difference between 'review of home assignment' of teachers trained through formal and distance mode.

Ho1.2 There is no significant difference between 'introduction of the lesson' of teachers trained through formal and distance mode.

Ho1.3 There is no significant difference between 'development of the lesson' viz., a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of teachers trained through formal and distance mode.

Ho1.4 There is no significant difference between 'ending of the lesson' of Teachers trained through formal and distance mode.

Ho1.5 There is no significant difference between the 'classroom climate' of Teachers trained through formal and distance mode.

2. Teaching Effectiveness and Sex

The following hypotheses were formulated in relation to objective 5(i) i.e., to compare the teaching effectiveness of male and female teachers trained through formal mode.

Ho2.1 There is no significant difference in 'review of home assignment' of male and female teachers trained through formal mode.

Ho2.2 There is no significant difference in 'introduction of the lesson' of male
and female teachers trained through formal mode.

\(H_{02.3}\) There is no significant difference in 'development of the lesson' viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of male and female teachers trained through formal mode.

\(H_{02.4}\) There is no significant difference in 'ending of the lesson' of male and female teachers trained through formal mode.

\(H_{02.5}\) There is no significant difference in 'classroom climate' of male and female teachers trained through formal mode.

The following hypotheses were formulated in relation to objective 5(ii) i.e., to compare the teaching effectiveness of male and female teachers trained through distance mode.

\(H_{02.6}\) There is no significant difference in 'review of home assignment' of male and female teachers trained through distance mode.

\(H_{02.7}\) There is no significant difference in 'introduction of the lesson' of male and female teachers trained through distance mode.

\(H_{02.8}\) There is no significant difference in 'development of the lesson' viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of male and female teachers trained through distance mode.

\(H_{02.9}\) There is no significant difference in 'ending of the lesson' of male and female teachers trained through distance mode.

\(H_{02.10}\) There is no significant difference in 'classroom climate' of male and female teachers trained through distance mode.
The following hypotheses were formulated in relation to objective 5(iii) i.e., to compare the teaching effectiveness of male teachers trained through formal and distance mode.

**H_{0.11}** There is no significant difference in 'review of home assignment' of male teachers trained through formal and distance mode.

**H_{0.12}** There is no significant difference in 'introduction of the lesson' of male teachers trained through formal and distance mode.

**H_{0.13}** There is no significant difference in 'development of the lesson' viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of male teachers trained through formal and distance mode.

**H_{0.14}** There is no significant difference in 'ending of the lesson' of male teachers trained through formal and distance mode.

**H_{0.15}** There is no significant difference in 'classroom climate' of male teachers trained through formal and distance mode.

The following hypotheses were formulated in relation to objective 5(iv) i.e., to compare the teaching effectiveness of female teachers trained through formal mode.

**H_{0.16}** There is no significant difference in 'review of home assignment' of female teachers trained through formal and distance mode.

**H_{0.17}** There is no significant difference in 'introduction of the lesson' of female teachers trained through formal and distance mode.

**H_{0.18}** There is no significant difference in 'development of the lesson' viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of female teachers trained through formal and distance mode.
3. Teaching Effectiveness and Type of School

The following hypotheses were formulated in relation to objective 6(i) i.e., to compare the teaching effectiveness of government and private school teachers trained through formal mode.

- H$_{03.1}$: There is no significant difference in ‘review of home assignment’ of government and private school teachers trained through formal mode.
- H$_{03.2}$: There is no significant difference in ‘introduction of the lesson’ of government and private school teachers trained through formal mode.
- H$_{03.3}$: There is no significant difference in ‘development of the lesson’ viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of government and private school teachers trained through formal mode.
- H$_{03.4}$: There is no significant difference in ‘ending of the lesson’ of government and private school teachers trained through formal mode.
- H$_{03.5}$: There is no significant difference in ‘classroom climate’ of government and private school teachers trained through formal mode.

The following hypotheses were formulated in relation to objective 6(ii) i.e., to compare the teaching effectiveness of government and private school teachers trained through distance mode.

- H$_{03.6}$: There is no significant difference in ‘review of home assignment’ of government and private school teachers trained through distance mode.
- H$_{03.7}$: There is no significant difference in ‘introduction of the lesson’ of government and private school teachers trained through distance mode.
- H$_{03.8}$: There is no significant difference in ‘development of the lesson’ of government and private school teachers trained through distance mode.
- H$_{03.9}$: There is no significant difference in ‘ending of the lesson’ of government and private school teachers trained through distance mode.
- H$_{03.10}$: There is no significant difference in ‘classroom climate’ of government and private school teachers trained through distance mode.
There is no significant difference in 'development of the lesson' viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of government and private school teachers trained through distance mode.

There is no significant difference in 'ending of the lesson' of government and private school teachers trained through distance mode.

There is no significant difference in 'classroom climate' of government and private school teachers trained through distance mode.

The following hypotheses were formulated in relation to objective 6(iii) i.e., to compare the teaching effectiveness of government school teachers trained through formal and distance mode.

There is no significant difference in 'review of home assignment' of government school teachers trained through formal and distance mode.

There is no significant difference in 'introduction of the lesson' of government school teachers trained through formal and distance mode.

There is no significant difference in 'development of the lesson' viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of government school teachers trained through formal and distance mode.

There is no significant difference in 'ending of the lesson' of government school teachers trained through formal and distance mode.

There is no significant difference in 'classroom climate' of government school teachers trained through formal and distance mode.

The following hypotheses were formulated in relation to objective 6(iv) i.e., to compare the teaching effectiveness of private school teachers trained through formal and distance mode.
H03.16 There is no significant difference in 'review of home assignment' of private school teachers trained through formal and distance mode.

H03.17 There is no significant difference in 'introduction of the lesson' of private school teachers trained through formal and distance mode.

H03.18 There is no significant difference in 'development of the lesson' viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of private school teachers trained through formal and distance mode.

H03.19 There is no significant difference in 'ending of the lesson' of private school teachers trained through formal and distance mode.

H03.20 There is no significant difference in 'classroom climate' of private school teachers trained through formal and distance mode.

4. Teaching Effectiveness and Teaching Experience

The following hypotheses were formulated in relation to objective 7(i) i.e., to compare the teaching effectiveness of more and less experienced teachers trained through formal mode.

H04.1 There is no significant difference in 'review of home assignment' of more and less experienced teachers trained through formal mode.

H04.2 There is no significant difference in 'introduction' of the lesson of more and less experienced teachers trained through formal mode.

H04.3 There is no significant difference in 'development of the lesson' viz. (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of more and less experienced teachers trained through formal mode.

H04.4 There is no significant difference in 'ending of the lesson' of more and less experienced teachers trained through formal mode.
H04.5 There is no significant difference in ‘classroom climate’ of more and less experienced teachers trained through formal mode.

The following hypotheses were formulated in relation to objective 7(ii) i.e., to compare the teaching effectiveness of more and less experienced teachers trained through distance mode.

H04.6 There is no significant difference in ‘review of home assignment’ of more and less experienced teachers trained through distance mode.

H04.7 There is no significant difference in ‘introduction of the lesson’ of more and less experienced teachers trained through distance mode.

H04.8 There is no significant difference in ‘development of the lesson’ viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class management of more and less experienced teachers trained through distance mode.

H04.9 There is no significant difference in ‘ending of the lesson’ of more and less experienced teachers trained through distance mode.

H04.10 There is no significant difference in ‘classroom climate’ of more and less experienced teachers trained through distance mode.

The following hypotheses were formulated in relation to objective 7(iii) i.e., to compare the teaching effectiveness of less experienced teachers trained through formal and distance mode.

H04.11 There is no significant difference in ‘review of home assignment’ of less experienced teachers trained through formal and distance mode.

H04.12 There is no significant difference in ‘introduction of the lesson’ of less experienced teachers trained through formal and distance mode.

H04.13 There is no significant difference in ‘development of the lesson’ viz., (a) explanation, (b) communication, (c) questioning, (d) response management, (e) reinforcement, (f) use of chalkboard, and (g) class
management of less experienced teachers trained through formal and
distance mode.

H04.14 There is no significant difference in 'ending of the lesson' of less
experienced teachers trained through formal and distance mode.

H04.15 There is no significant difference in 'classroom climate' of less
experienced teachers trained through formal and distance mode.

The following hypotheses were formulated in relation to objective 7(iv) i.e., to
compare the teaching effectiveness of more experienced teachers trained
through formal and distance mode.

H04.16 There is no significant difference in 'review of home assignment' of
more experienced teachers trained through formal and distance mode.

H04.17 There is no significant difference in 'introduction of the lesson' of more
experienced teachers trained through formal and distance mode.

H04.18 There is no significant difference in 'development of the lesson' viz.
(a) explanation, (b) communication, (c) questioning, (d) response
management, (e) reinforcement, (f) use of chalkboard, and (g) class
management of more experienced teachers trained through formal and
distance mode.

H04.19 There is no significant difference in 'ending of the lesson' of more
experienced teachers trained through formal and distance mode.

H04.20 There is no significant difference in 'classroom climate' of more
experienced teachers trained through formal and distance mode.

5. Attitudes of Teachers towards Teaching Profession Trained through
Formal and Distance Mode

Hypotheses related to objectives 10 i.e., to compare the attitudes of teachers
towards teaching profession trained through formal and distance mode.

H05 There is no significant difference in the attitudes of teachers towards
teaching profession trained through formal and distance mode.
6. Teachers' Attitudes towards Teaching Profession and Sex

Hypotheses related to objective 11, i.e., to compare the attitudes of male and female teachers towards teaching profession trained through formal and distance mode.

H_{06.1} There is no significant difference in the attitudes towards teaching profession of male and female teachers trained through formal mode.

H_{06.2} There is no significant difference in the attitudes towards teaching profession of male and female teachers trained through distance mode.

H_{06.3} There is no significant difference in the attitudes towards teaching profession of male teachers trained through formal and distance mode.

H_{06.4} There is no significant difference in the attitudes towards teaching profession of female teachers trained through formal and distance mode.

7. Teachers' Attitudes towards Teaching Profession and Type of School

Hypotheses related to objective 12, i.e., to compare the attitudes of government and private teachers towards teaching profession trained through formal and distance mode.

H_{07.1} There is no significant difference in the attitudes towards teaching profession of government and private school teachers trained through formal mode.

H_{07.2} There is no significant difference in the attitudes towards teaching profession of government and private school teachers trained through distance mode.

H_{07.3} There is no significant difference in the attitudes towards teaching profession of government school teachers trained through formal and distance mode.

H_{07.4} There is no significant difference in the attitudes towards teaching of private school teachers trained through formal and distance mode.
8. Teachers' Attitudes Towards Teaching Profession and Teaching Experience

Hypotheses related to objective 13, i.e., to compare the attitudes of more and less experienced teachers towards their teaching profession trained through formal and distance mode.

H_{08.1} There is no significant difference in the attitudes of less and more experienced teachers towards their teaching profession trained through formal mode.

H_{08.2} There is no significant difference in the attitudes of less and more experienced teachers towards their teaching profession trained through distance mode.

H_{08.3} There is no significant difference in the attitudes of less experienced teachers towards their teaching profession trained through formal and distance mode.

H_{08.4} There is no significant difference in the attitudes of more experienced teachers towards their teaching profession trained through formal and distance mode.

9. Relationship between the Teaching Effectiveness of the Teachers Trained Through Formal and Distance mode and Their Attitudes Towards Teaching Profession

Hypotheses related to objective 14 and 15 i.e., to compare the relationship between the teaching effectiveness of teachers trained through formal and distance mode and their attitudes towards teaching profession.

H_{09.1} There is no significant relationship between the teaching effectiveness of teachers trained through formal mode and their attitudes towards teaching profession.
There is no significant relationship between the teaching effectiveness of teachers trained through distance mode and their attitudes towards teaching profession.

DELIMITATIONS OF THE STUDY

Keeping in view the time available and limited resources; the present study will be delimited to the following aspects.

1. The present study is restricted to secondary schools located in the National Capital Territory of Delhi.
2. Only those schools were selected who have teachers trained through formal as well as distance mode and teaching secondary classes.
3. The study was delimited to compare the teaching effectiveness of teachers trained through formal and distance mode on a few variables as sex, type of school and experience.

METHODOLOGY AND PROCEDURE

Coverage and Population

To achieve the objectives, the schools in the National Capital Territory of Delhi were taken which encompasses different types of schools namely, government and private schools. The population was composed of nine districts with 28 zones and teachers comprised of male and female who taught classes VI to IX in boys, girls and co-educational schools of Delhi.

Sample

The sample for the study consisted of one hundred fifty (150) teachers (75 formal trained and 75 distance trained teachers) working in twenty secondary schools in the two districts (South and Central) of Delhi. On the basis of the personal data sheet, information of teachers were categorized as government
teachers (37 formal trained and 37 distance trained) and private teachers (38 formal trained and 38 distance trained) on the basis of type of school; as more experienced (40 formal trained and 32 distance trained) and less experience (35 formal trained 43 distance trained) on the basis of their teaching experience (teachers with teaching experience of 10 years and above as more experienced and below 10 years as less experienced); and sex variable includes (32 formal trained and 27 distance trained) male teacher and (43 formal trained and 48 distance trained) female teachers.

Tools Used

1. **Personal Data Sheet**

Personal data schedule developed by the investigator was prepared for getting personal information about the teachers. It has following data, namely age, sex, qualification, teaching experience, school category, and also specifying whether teacher is trained through formal or distance mode.

2. **Teaching Effectiveness Observation Scale (TEOS)** developed by the investigator has sixty-four items distributed over five aspects, viz., review of home assignment, introduction of the lesson, development of the lesson, ending of the lesson, and classroom climate. Development of the lesson is further subdivided in seven specific skills viz., explanation, communication, questioning, response management, reinforcement, use of chalkboard, and class management. In the TEOS out of sixty-four items, 53 are in positive declaration forms and 11 of them are in negative form. Each statement was rated on a five-point scale i.e. ‘very effectively’ to ‘least effectively’. For positive statements, the ‘very effectively’ responses to ‘least effectively’ responses were given scores from 5 to 1, for negative statements, the scoring procedure was reversed with ‘least effectively’ responses being given a score of 5 and ‘very effectively’ response given a score of 1. Higher scores of the scale represent the higher effectiveness of classroom teaching.
3. **Teacher Attitude Scale (TAS)**

A standardized attitude scale developed by Goyal (1984) is used profitably for measuring attitude of teachers in profession towards teaching. The scale consisting of 22 items. Ten items are favourable, ten items are unfavourable and the remaining two are neutral towards teaching. Boxes are given against all the 22 items. Each teacher was to respond by reacting to the statement and put a tick mark against those items only with which he/she agreed. The subjects respond to each item by putting in tick mark and do not have an option to leave any item unanswered.

Each statement has been assigned a scale value. The attitude score of a subject is the sum total of the scale values of the statements ticked (✓) by the subject divided by the number of statements marked by him/her. It may be represented by the following formula:

\[ \text{Score} = \frac{\sum 1+2+3+\ldots+n}{N} \]

where 1,2,3--- are the scales values of the statements marked and N are number of statements ticked. Thus the mean attitude score of a teacher is the average score value of the statements endorsed by each teacher. The teacher with lower mean scores indicates a favourable attitude and the higher score indicates unfavourable attitude of a teacher towards teaching profession.

**PROCEDURE FOR DATA COLLECTION**

**Personal Data Sheet**

Personal data sheet was used for getting personal information about the teachers with respect to age, qualifications, teaching experience, school category, and also specifying whether teacher is trained through formal or distance mode.
Teaching Effectiveness Observation Scale (TEOS)

After selection of schools and the teachers, the investigator met the teachers after obtaining a prior permission from the principals of respective schools. For making the classroom observations, the timetables of the teachers were obtained from the principals of the respective schools. A lot of coordination was required before the classes could be observed. In order to make the required observations the investigator sat through the whole period at the back corner of the class. As the teacher taught, the investigator marked frequencies and sometimes wrote verbal descriptions against each item. At the end of the teaching period, she gave her ratings on the TEO scale against all the items. Not more than 2 to 3 teachers could be observed on a single day by the investigator. An effort was made not to disturb the proceedings of the class. The scheme of observation in each school was designed such that each teaching situation was observed both with teachers trained through formal and distance mode for full one period while teaching in the same class and the same students to keep the teaching situation consistent. In some cases, on the spot permission of the teachers was sought and the classroom observation was done.

Teacher Attitudes Scale

The teachers were requested to express their agreement for an item by putting a tick-mark (✓) in the box against it or express their disagreement by putting a cross-mark (X) in the box against it. For each statement they are to either put a tick-mark or a cross-mark. Teacher Attitude Scale towards teaching profession was individually filled up by teachers. Thus the data was collected from 150 teachers trained through distance and formal mode belonging to secondary schools of Delhi.
SCORING

Teaching Effectiveness Observation Scale

The sum of the rating against all the 64 items constitutes the score of Teaching Effectiveness Observation Scale of the teacher being observed. The maximum score possible is 320 and the minimum is 75. So the scoring was done by adding the ratings of TEO scale against all the items given by the investigator after observation of teaching process.

Teacher Attitude Scale

The scoring of Teacher Attitude Scale was done by adding the scale values of each item ticked by the teacher and taking the mean value of the total. The mean value is the score of the teacher. The teacher with lower mean scores indicated a favourable attitude and the higher score indicated unfavourable attitude of a teacher towards teaching profession.

STATISTICAL TECHNIQUES USED

The present study is based on the comparison of various aspects of teaching effectiveness viz., review of home assignment, introduction of the lesson, development of the lesson (explanation, communication, questioning, response management, reinforcement, use of chalkboard, and class management), ending of the lesson, and the classroom climate, of the teachers trained through formal and distance mode and their attitudes towards teaching profession. Critical Ratios (CRs), values of chi-square ($\chi^2$), and coefficients of correlation (r) were the statistical techniques for the analysis of the data.
FINDINGS

The findings of the present study are presented below in relation to each objective:

Teaching Effectiveness of Teachers Trained Through Formal and Distance Mode

(i) There was significant difference between ‘review of home assignment’ of teachers trained through formal and distance mode. Formal trained teachers were found to be better in reviewing the home assignment of the students in the classroom as compared to teacher trained through distance mode.

(ii) No significant difference was found between ‘introduction of the lesson’ of teachers trained through formal and distance mode.

(iii) In the case of ‘development of the lesson’, significant difference was found between the formal and distance mode trained teachers with respect to explanation and reinforcement. Whereas in the case of other skills like communication, questioning, response management, use of chalkboard and class management, no significant difference was found between the two groups.

(iv) There was no significant difference between ‘ending of the lesson’ of teachers trained through formal and distance mode.

(v) There was no significant difference between the ‘classroom climate’ of teachers trained through formal and distance mode.
Teaching Effectiveness and Sex

(i) No significant difference was found between the male and female teachers trained through formal mode with respect to 'review of home assignment'.

(ii) There was significant difference in 'introduction of the lesson' of male and female teachers trained through formal mode. Female teachers were more effective in introducing the lesson as compared to male teachers.

(iii) In the case of 'development of the lesson', significant difference was found between the male and female teachers trained through formal mode with respect to questioning and reinforcement, and use of chalkboard. Whereas in the case of other skills like explanation, communication, response management, and class management, no significant difference was found between the two groups.

(iv) There was significant difference in 'ending of the lesson' of male and female teachers trained through formal mode. Female teachers were more effective in ending the lesson as compared to male teachers.

(v) There was significant difference in 'classroom climate' of male and female teachers trained through formal mode. Female teachers exhibited better classroom climate as compared to male teachers.

(vi) No significant difference was found between the male and female teachers trained through distance mode with respect to 'review of home assignment'.

(vii) There was significant difference in 'introduction of the lesson' of male and female teachers trained through distance mode. Female teachers were more effective in introducing the lesson as compared to male teachers.
(viii) In the case of ‘development of the lesson’, significant difference was found between the male and female teachers trained through distance mode with respect to explanation, communication, questioning and reinforcement, and use of chalkboard. Female teachers were more effective in developing the lesson as compared to male teachers. No significant difference was found between the male and female teachers in the case of other skills like response management and class management.

(ix) There was significant difference in ‘ending of the lesson’ of male and female teachers trained through distance mode. Female teachers were more effective in ending the lesson as compared to male teachers.

(x) There was significant difference in ‘classroom climate’ of male and female teachers trained through distance mode. Female teachers exhibited better classroom climate as compared to male teachers.

(xi) No significant difference was found between the male teachers trained through formal and distance mode with respect to ‘review of home assignment’.

(xii) No significant difference was found between the male teachers trained through formal and distance mode with respect to ‘introduction of the lesson’.

(xiii) In the case of ‘development of the lesson’, significant difference was found between the male teachers trained through formal and distance mode with respect to explanation, reinforcement, and use of chalkboard. Formal trained male teachers were more effective in developing the lesson during classroom teaching as compared to distance trained male teachers. No significant difference was found between the male teachers
in the case of other skills like communication, questioning, response management and class management.

(xiv) No significant difference was found between the male teachers trained through formal and distance mode with respect to ‘ending of the lesson’.

(xv) No significant difference was found between the male teachers trained through formal and distance mode with respect to ‘classroom climate’.

(xvi) There was significant difference in ‘review of the home assignment’ of female teachers trained through formal and distance mode. Formal trained female teachers were more effective in reviewing the home assignment of the students as compared to distance trained female teachers.

(xvii) No significant difference was found between the female teachers trained through formal and distance mode with respect to ‘introduction of the lesson’.

(xviii) No significant difference was found between the female teachers trained through formal and distance mode with respect to ‘development of the lesson’.

(xix) No significant difference was found between the female teachers trained through formal and distance mode with respect to ‘ending of the lesson’.

(xx) No significant difference was found between the female teachers trained through formal and distance mode with respect to ‘classroom climate’.
Teaching Effectiveness and Type of School

(i) There was significant difference in ‘review of home assignment’ of government and private school teachers trained through formal mode. The private school teachers were found to be better in reviewing the home assignment of the students in the classroom as compared to government school teachers.

(ii) There was significant difference in ‘introduction of the lesson’ of Government and private school teachers trained through formal mode. Though both the groups were formal trained, yet private school teachers were more effective in respect to introduction of the lesson as compared to government school teachers.

(iii) In the case of ‘development of the lesson’, significant difference was found with respect to explanation, communication, questioning, response management, reinforcement, and class management of government and private school teachers trained through formal mode. No significant difference was found in use of chalkboard among the government and private school teachers. Private school teachers were more effective in using the skills required in developing the lesson as compared to government school teachers.

(iv) There was no significant difference in ‘ending of the lesson’ of government and private school teachers trained through formal mode.

(v) There was significant difference in ‘classroom climate’ of government and private school teachers trained through formal mode. The private school teachers exhibited better classroom climate as compared to government school teachers.

(vi) There was significant difference in ‘review of home assignment’ of government and private school teachers trained through distance mode.
The private school teachers were found to be better in reviewing the home assignment of the students in the classroom as compared to government school teachers.

(vii) There was significant difference in ‘introduction of the lesson’ of Government and private school teachers trained through distance mode. Though both the groups were trained through distance mode, yet private school teachers were more effective in respect to introduction of the lesson as compared to government school teachers.

(viii) In the case of ‘development of the lesson’, significant difference was found in all the aspects i.e., to explanation, communication, questioning, response management, reinforcement, use of chalkboard, and class management of government and private school teachers trained through distance mode. Private school teachers were more effective in using the skills required in developing the lesson as compared to government school teachers.

(ix) There was significant difference in ‘ending of the lesson’ of government and private school teachers trained through distance mode. Though both the groups were trained through distance mode but the private school teachers were more effective in ending the lesson as compared to government school teachers.

(x) There was significant difference in ‘classroom climate’ of government and private school teachers trained through distance mode. The private school teachers exhibited better ‘classroom climate’ as compared to government school teachers.

(xi) There was no significant difference in ‘review of home assignment’ of government school teachers trained through formal and distance mode.
There was no significant difference in ‘introduction of the lesson’ of government school teachers trained through formal and distance mode.

In the case of ‘development of the lesson’, no significant difference was found between government school teachers trained through formal and distance mode.

There was no significant difference in ‘ending of the lesson’ of government school teachers trained through formal and distance mode.

No significant difference was found between the government school teachers trained through formal and distance mode with respect to ‘classroom climate’.

There was significant difference in ‘review of home assignment’ of private school teachers trained through formal and distance mode. Though both the groups are teaching in private schools but formal trained teachers were found to be better in reviewing the home assignment of the students in the classroom as compared to distance trained teachers.

There was no significant difference in ‘introduction of the lesson’ of private school teachers trained through formal and distance mode.

In the case of ‘development of the lesson’, no significant difference was found between the private school teachers trained through formal and distance mode.

There was no significant difference in ‘ending of the lesson’ of private school teachers trained through formal and distance mode.

No significant difference was found in ‘classroom climate’ of private school teachers trained through formal and distance mode.
Teaching Effectiveness and Teaching Experience

(i) There was significant difference in 'review of home assignment' of more and less experienced teachers trained through formal mode. Though both the groups are trained through formal mode but less experienced teachers were found to be better in reviewing the home assignment of the students in the classroom as compared more experienced teachers.

(ii) There was significant difference in 'introduction of the lesson' of more and less experienced teachers trained through formal mode. Less experienced teachers were found to be better in introduction of the lesson in the classroom as compared more experienced teachers.

(iii) There was significant difference in 'development of the lesson' with respect to explanation skill of more and less experienced teachers trained through formal mode. However, no significant difference was found in case of other skills required for the development of the lesson i.e., communication, questioning, response management, reinforcement, use of chalkboard, and class management of more and less experienced teachers trained through formal mode. Though both the groups are trained through formal mode, yet mean scores of less experienced teachers were slightly better as compared to more experienced teachers.

(iv) There was no significant difference in 'ending of the lesson' of more and less experienced teachers trained through formal mode.

(v) There was no significant difference in 'classroom climate' of more and less experienced teachers trained through formal mode.

(vi) There was significant difference in 'review of home assignment' of more and less experienced teachers trained through distance mode.
Though both the groups are trained through distance mode but less experienced teachers were found to be better in reviewing the home assignment of the students in the classroom as compared to more experienced teachers.

(vii) There was significant difference in ‘introduction of the lesson’ of more and less experienced teachers trained through distance mode. Less experienced teachers were found to be better in introduction of the lesson in the classroom as compared more experienced teachers.

(viii) There was no significant difference in ‘development of the lesson’ of more and less experienced teachers trained through distance mode.

(ix) There was no significant difference in ‘ending of the lesson’ of more and less experienced teachers trained through distance mode.

(x) There was no significant difference in ‘classroom climate’ of more and less experienced teachers trained through distance mode.

(xi) There was no significant difference in ‘review of home assignment’ of less experienced teachers trained through formal and distance mode.

(xii) No significant difference was found in ‘introduction of the lesson’ of less experienced teachers trained through formal and distance mode.

(xiii) In case of ‘development of the lesson’, no significant difference was found between the less experienced teachers trained through formal and distance mode.

(xiv) There was no significant difference in ‘ending of the lesson’ of less experienced teachers trained through formal and distance mode.

(xv) No significant difference was found in ‘classroom climate’ of less experienced teachers trained through formal and distance mode.
(xvi) There was no significant difference in ‘review of home assignment’ of more experienced teachers trained through formal and distance mode.

(xvii) No significant difference was found in ‘introduction of the lesson’ of more experienced teachers trained through formal and distance mode.

(xviii) In case of ‘development of the lesson’, no significant difference was found between the more experienced teachers trained through formal and distance mode.

(xix) There was no significant difference in ‘ending of the lesson’ of more experienced teachers trained through formal and distance mode.

(xx) No significant difference was found in ‘classroom climate’ of more experienced teachers trained through formal and distance mode.

Attitudes of Teachers towards Teaching Profession Trained through Formal and Distance Mode

There was significant difference in the attitudes of teachers towards teaching profession trained through formal and distance mode. Teachers trained through formal mode were found to have more favourable attitudes towards teaching profession as compared to the teachers trained through distance mode.

Attitudes of Male and Female Teachers towards Teaching Profession Trained through Formal and Distance Mode

(i) There was significant difference in the attitudes towards teaching profession of male and female teachers trained through formal mode. Female teachers have favourable attitudes towards teaching profession as compared to male teachers.

(ii) There was significant difference in the attitudes towards teaching profession of male and female teachers trained through distance mode.
Though both the groups were trained through distance mode but the female teachers have more favourable attitudes towards teaching profession as compared to male teachers.

(iii) There was no significant difference in the attitudes towards teaching profession of male teachers trained through formal and distance mode.

(iv) There was no significant difference in the attitudes towards teaching profession of female teachers trained through formal and distance mode.

Attitudes of Government and Private School Teachers towards Teaching Profession Trained through Formal and Distance Mode

(i) There was significant difference in the attitudes towards teaching profession of government and private school teachers trained through formal mode. The private school teachers have more favourable attitudes towards teaching profession as compared to government school teachers.

(ii) There was significant difference in the attitudes towards teaching profession of government and private school teachers trained through distance mode. The private school teachers have more favourable attitudes towards teaching profession as compared to government school teachers.

(iii) There is no significant difference in the attitudes towards teaching profession of government school teachers trained through formal and distance mode.

(iv) There is no significant difference in the attitudes towards teaching of private school teachers trained through formal and distance mode.
Attitudes of More and Less Experienced Teachers towards Teaching Profession trained through Formal and Distance Mode

(i) There was significant difference in the attitudes of more and less experienced teachers towards their teaching profession trained through formal mode. Though both the groups were trained through formal mode, yet less experienced teachers have favourable attitudes towards teaching profession as compared to more experienced teachers.

(ii) There was significant difference in the attitudes of more and less experienced teachers towards their teaching profession trained through distance mode. Though both the groups were trained through distance mode, yet less experienced teachers have more favourable attitudes towards teaching profession as compared to more experienced teachers.

(iii) There was no significant difference in the attitudes of less experienced teachers towards their teaching profession trained through formal and distance mode.

(iv) There was no significant difference in the attitudes of more experienced teachers towards their teaching profession trained through formal and distance mode.

Relationship between Teaching Effectiveness and Attitudes of Teachers towards Teaching Profession trained through Formal and Distance Mode

(i) There was significant relationship between the teaching effectiveness of teachers trained through formal mode and their attitudes towards teaching profession. A significant negative relationship exists between the attitudes and teaching effectiveness of teachers trained through formal mode.

(ii) There was significant relationship between the teaching effectiveness of teachers trained through distance mode and their attitudes towards
teaching profession. A significant negative relationship exists between the attitudes and teaching effectiveness of teachers trained through distance mode.

EDUCATIONAL IMPLICATIONS

Findings of the present study reveal some important educational implications for teacher-educators, formal trained institution, distance trained institutions, school authorities and teachers. The present investigation may provide crucial links in the area of teacher education which would be of immense helpful to the teacher educators, investigators and policy makers for formulating future plans and taking decisions in this important area.

The study has revealed that irrespective of the training background, the teachers need to have basic teaching skills as a part of their repertoire of teaching effectiveness. For this, modules for development of teaching skills both at the pre-service and in-service training levels needs to be developed. At pre-service training level, it is necessary for teacher educators to establish a close match between the work schedule of the teacher in a school and the programme adopted for teacher preparation in the training institutes. They should lay great emphasis on internship in teaching to develop pedagogical abilities and skills in student teachers. For this teacher educators should get themselves oriented and refreshed either by face to face encounter or through distance mode orientation strategies by employing multiple strategies including lectures, group discussions, seminars, conferences, workshops multi media etc. The distance teacher trainees can also be benefit by this technique during contact sessions. The print media which was found to be effective by Sreekumar (1978) in developing of managerial skills among the teachers gives the message that the print material if well developed can go a long way in developing effectiveness of teachers. At the in-service level, training should be given at regular intervals with systematic assessment and feedback programme.
Professional advancement of the teachers should never be neglected. A vigorous follow-up of all the workshops, courses etc. meant for their professional growth will ensure better teaching.

In order to make the teaching effective and to create a suitable learning environment in the schools, the school principals should take the responsibility of organizing orientation programme for the teachers from time to time so that they may add effective teaching skills in classroom teaching. They should be need-based programmes throughout the year and should deal with concrete or actual problems confronting the teachers. For this, the schools should invite resource persons so that different ways can be suggested to the teachers to generate the desired level of learning among the students. These programmes will be helpful in providing opportunities to teachers to interact with each other, contribute their ideas, and share their experiences and practices. Also, proper guidelines should be provided to the teachers about the effective classroom teaching so that they can be able to promote and enrich learning in the classroom, among the students thereby improving their achievement. For instance, in the present study one of the five aspects i.e. ‘development of the lesson’ of the teaching effectiveness is not being properly utilized in the classroom. Since skills required for ‘development of the lesson’ play a major role in determining the effectiveness of teachers, the training inputs should be such that their skills may be improved which will certainly enhance the achievement of the students.

The present study further reveals the significant relationship between the attitudes and the teaching effectiveness of the teachers. It gives a strong message to those involved in training of teachers that if it is not only important to empower the prospective teachers with knowledge and skills required for teaching but training should enable them to develop favourable attitudes towards teaching profession and its allied aspects. Moreover the development of skills of the trainees should be carried out in a manner that they become reflective practitioners by developing right attitudes and beliefs. This can be
made possible by giving the trainees first hand field experiences, opportunities for discussion and putting forth their ideas. While selecting candidates for the training programmes, it should be ascertained through interviews and use of aptitude tests that they have an inclination towards teaching, which can be worked upon and developed by giving them right inputs. It emphasizes an important aspect that attitude has a major role to play in the manner a teacher behaves in class. If a teacher has a favourable attitude towards profession, she will also make better use of skills of teaching while teaching in the classroom. The school authorities should adopt uniform pattern in the process of recruitment of teachers. At present there is a random variation in admission procedures. Also, to bridge the gulf between training institutions and schools, there should be extension service departments at the pre-primary, primary and secondary levels in each training establishment.

5.5 SUGGESTIONS FOR FURTHER RESEARCH

Due to paucity of time and resources at the disposal of the investigator, all the aspects of the problem cannot be expected to deal with. Therefore, the present study opens up certain avenues for further research which are briefly listed below:

1. In the present study, some independent variables like age, rural-urban, qualification, marital status, socio-economic status self-concept, etc. are not covered which also constitute the teaching profession. Another study covering these variables may be carried out.

2. Similar study can be conducted at different states to have in-depth knowledge of the classroom teaching behaviour of students and teachers.

3. An investigation to find out how use of teaching skills of teachers is moderated in terms of pupil characteristics may be done. There are number of intervening variables influencing teacher performance: of these, pupil
behaviour needs special attention. With elaborate criteria for assessing personality of both the teachers and pupils, matching of teacher characteristics of distance and formal mode training with those of the pupils may be carried out.

4. The study may be conducted on student teachers who are undergoing training at various formal trained and distance trained institutes.

5. A comparison can be made of the existing four year teacher training programmes and the conventional one year programme in order to ascertain which course is more effective in development of the repertoire of abilities of the teachers.

6. Amongst the teachers trained through the distance mode, a comparison can also be made between those who received their degree during service and others who got their degree before joining schools for teaching.

7. An important study, which can be undertaken, is a comparison between the teachers passed out by the newly stated B.Ed. programme of IGNOU and conventional institutes. The IGNOU B.Ed. programme can also be compared with other distance education programmes, and also with the privately established self financed college of education awarding B.Ed. degree.