CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 THE CONCEPT OF EFFECTIVE TEACHING

The concept of teaching has undergone a number of changes during the last few years.

Teaching is not everybody's tea cup to sip. It is an art and skill to be learnt. It requires the knowledge of subject context, method, techniques and teaching aids to be used for making teaching interesting and effective. The selection of these methods and techniques depends on nature of task, learning objectives, learner abilities and student's entering behaviour. In the words of Pillai (1985) "Teaching is one of the oldest professions, and it is an art, a science and a skill."

Teaching is neither easy nor monotonous. Artists and craftsmen manipulate tangible and inert things. The teacher manipulates the living mind, with its ever-changing and ever-surprising responses and attitudes. Teaching is never static, it is a living process that is coloured by the past experience as well as by the present mood and purpose of the learner. It requires blood, sweat and tears.

Teaching is more than standing before a class and applying a few specific techniques. It is merely presenting text-book information and then testing the student's ability
to repeat it; there is no magic formula for transforming knowledge from the teacher's mind to align the pupils. Teaching is not a mechanical process. It is an intricate, exacting, challenging job. According to Mann (1953) "Teaching is the most difficult of all art and profound of all sciences."

Teaching is not a monologue but a dialogue; a dialogue in which one partner is vocal, but the other partner may, by simple expressions on the face, by some gesture of exclamation or by brief participation in the form of a query, part in the dialogue.

Teaching is purposeful behaviour. To quote Smith "Teaching is a system of actions intended to induce learning. There is no teaching where there is no learning." where there is learning, there must be teaching". It is a system that is primarily verbal in nature even though several types of teaching acts may be performed by the teacher.

According to Braskamp, Bromdenburg and Gery (1989) good teaching means more than entertaining in front of the class. Teaching is varied in style, tempo and strategies with an order of logical operations involved in it (Krishnan, 1992).

Good teaching develops the mutual respect between the teacher and the taught and instills intellectual integrity and independent judgement among the pupils. The
teacher has to realise the activities he provides and the knowledge and know-how, he imparts, goes a long way in preparing the child to be a life-time learner. The mutual respect between the teacher and the pupils is an important factor in determining the effectiveness of teaching. The mutual respect should be cordial and brotherly.

Effective teaching means teaching which produces maximum learning outcome. It aims to achieve the goals of education. It may be stated that 'pupil' is the most relevant criterion for teacher effectiveness. Educationists, administrators and psychologists know well about the importance of effective teaching. The effectiveness could be achieved with the help of skillful and efficient teachers, well planned syllabus, necessary infrastructural facilities, trained laboratory technicians and open library system.

Good teaching helps children recognise, expand and act upon their own purposes. Good teachers create their own methods according to the situation in which they are placed. Their teaching is creative and is characterised by individuality, originality, and spontaneity. The process of effective teaching is a cooperative endeavour. It is a tripolar activity i.e., teacher, pupil and content. It is a stimulating, specific, purposeful and polymorphus activity. The successful and effective teaching of any subject is to be assessed not so much in terms of the ground covered, nor in examination scores, as in terms of what insights, appreciations and attitudes it helps to cultivate in the
learner, that is, how far it affects the thought, life and personality of the pupils.

Effective teaching is associated with a seemingly endless series of tasks. The teacher is ever involved in planning learning experiences for children, choosing instructional materials, gathering supplies, instructing, evaluating work, correcting papers, collecting money and goods for one purpose or another, having parent conferences, and participating in staff meetings and professional associations.

A theory of effective teaching is perspective. It is perspective in the sense it sets forth rules concerning the most effective ways of helping learners to achieve knowledge and skills. "The main objective of teaching is not to explain the meaning, but to knock at the door of the mind." so said Rabindranath Tagore. From this point of view, teaching should not be regarded as merely a job or even a profession. The teaching-learning process implies the process of educating the child.

Kyriacou (1988) said that there were 'three variables, namely (1) context variables, (2) process variables and (3) product variables, essential for effective teaching. There may also be stated under the captions - teacher characteristics, public characteristics, class characteristics, subject characteristics, school characteristics, community characteristics and characteristics of the occasion.
The effective teaching is also called teacher effectiveness, criteria for competence and ability to teach and teaching success. The effective teaching is essential concerned with how best to bring about the desired pupil learning by some educational activity. Over the years thinking about effective teaching can be approached in different ways. Until the 1960's research on effective teaching was largely dominated by attempts to identify attributes of teachers, such as personality traits, sex, age, knowledge and training which might have a bearing on their effectiveness.

2.1.1 Distinction Between Teaching Effectiveness and Teacher Effectiveness

The teacher is the single most important key factor in the success of an educational programme, reform or advancement. Saïyidain observes, "The more I see of educational work - good work and bad work - the more emphatically I feel that the quality of the teachers in an educational system is more important factor than all the other educational factors put together - syllabus, textbooks, equipment and buildings."

One of the most difficult problem in educational research is that of recognizing teaching effectiveness and discrimination between the more and less effective teachers. The impact of any educational programme or innovation on the pupil operates through the pupil's teacher. It is therefore quite accurate to say that a school's effectiveness depends
directly on the effectiveness of its teachers. Maximizing teacher effectiveness is a major goal of education.

To quote Krishnan (1992) "The more efficiencies the teacher has the more efficient the teacher is". It is the origin of the effective teaching.

Despite an enormous amount of available literature on the subject of teaching effectiveness, no universally acceptable formula can be given to define an "effective teacher; however the following definitions provide a distinction between teacher effectiveness and teaching effectiveness.

According to Remmers (1952) "....... effectiveness is a degree to which an agent produces effects." The question immediately arises what effects and on what. Usually, these categories of effects in terms of the object effected are (a) pupil, (b) school operation and (c) the school community.

According to the study reported by Stern, Stein, and Bloom (1956), effectiveness is rather a standard of performance in a specific work situation that some individuals are said to manifest.

In the Dictionary of Education, Harold Benjamin, defined teacher effectiveness as "The degree of success teacher in performing instructional and other
specified in his contract and demanded by the nature of his position.

Barr (1952) explains teacher effectiveness as a relationship between teachers, pupils and other persons concerned with the educational undertaking, all effected by limiting and facilitating aspects of the immediate situations.

Flanders and Simon (1969) observed that teacher effectiveness is an area of research which is concerned with relationship between the characteristics of the teacher, teaching acts and their effects on the educational outcomes of classroom teaching.

According to Mishra (1980) attributes like motivating students interesting methods of presentation of course content, clear explanation and the accomplishment of stated course objectives are involved in the concept of teacher effectiveness.

Gupta and Kapoor have derived the term 'Teacher Effectiveness' as a repertoire of efficacy exhibited by a teacher in (a) instructional strategies (b) classroom management (c) personal disposition, temperament and tendencies (d) evaluation and feedback (e) interpersonal relations, (f) job involvement (g) initiative and enthusiasm (h) professional values and (i) innovativeness respectively in the every day teaching-learning situations.
According to Ryans (1950) "Teaching is effective to the extent that the teacher acts no ways that are favourable to the development of basic skills, understanding work habits, desirable attitudes, value judgements and adequate personal adjustment of the pupils".

In the Dictionary of Education, Good (1959) defined teaching effectiveness as "The ability and the interaction between the physical, intellectual and psychological interests of the student and some given subject content, the ability of the teacher to relate the learning activities to the developmental process of the learners and to their current and immediate interests and needs.

According to Dickson (1980) "Teaching effectiveness is a demonstrated repertoire of competencies involved with (1) teaching plans and materials (2) classroom procedure, (3) inter-personal skills and (4) learner's reinforcement, involvement reflected in teacher behaviour.

Although there is a little agreement in the above definitions, yet they do point out that "teaching effectiveness is concerned with teacher-pupil relationships in the classroom. So, knowledge about teaching consists of relationships between what a teacher does while teaching and the effect of their actions on the growth and development of his pupils" as Flanders (1970) puts it."
Teaching effectiveness for our purpose is "concerned with what a teacher is and what he does in the classroom in order to induce pupil learning."

Defined thus, teaching effectiveness includes (a) such characteristic qualities of a teacher as he exhibits in the classroom with the intention that his pupils learn what he teaches, (b) such actions of a teacher which he performs in the classroom as have the intention that his pupils learnt what he teaches.

Therefore, we summarize that "teaching effectiveness is limited to classroom activities whereas teacher effectiveness is not limited to classroom. It is also a overall effectiveness of a teacher in other areas."

The teaching effectiveness or teaching success or teacher effectiveness or teacher efficiency are the terms usually used synonymously to refer to the concept. But, in defining the terms, as already pointed out, there is great variation from one another and similarly there is no total agreement upon the dimensions of the characteristics or the factors which are associated with teaching effectiveness.

2.1.2 Characteristics of Effective Science Teachers

The success of an education system depends much on the expected qualities of teachers. Laying the emphasis on teachers' qualities, the report of Kothari Commission (1964-66) mentions that of all the different factors which influence the quality of education and its contribution to
national development, the quality and the characteristics of teachers are undoubtedly the most significant. But it is generally recognised that it is not possible to specify the ideal characteristics and norms of good science teachers. It is also a fact that there are numerous varieties of basic training styles amongst good science teachers. Since what is best for one may not be the same for others. In other words there cannot be a universal criterion for effective science teachers as well as for teaching. It is not definite and apriori. There should be certain expected global norms for a good science teacher. They should be attainable. Very often teachers actually tend to agree on certain features which characterize a good science teacher.

T.L. Green (1965) enlist the characteristics and abilities need for success in biology are: (a) Interest in Biological specimen (b) love for nature (c) collecting habit (d) classifying mind (e) strong imagination (f) capacity to argue (g) observational powers (h) patience (i) memory (j) visual memory (k) capacity for cramming (l) technical skill in handling (m) dexterity in dissection (n) skill in drawing (o) knowledge of physics and chemistry.

A successful science teacher is expected to possess some significant characteristics. Westaway enlists them. They are: (1) he knows his special subject thoroughly (2) he knows how to teach (3) he is able to express himself lucidly (4) he is skillful in manipulation (5) he is
resourceful in demonstration (6) he is resourceful in laboratory work (7) he is an historian (8) he is an enthusiast (9) he is faithful in his own practical work (10) he is keeping in touch with ever increasing advances in the subject.

Finelay and Hurd (1970) conducted a survey on characteristics of science teachers. He listed out the various characteristics of science teachers as: (1) pleasing personality (2) knowledge of psychology (3) training of education (4) self-training (5) thorough knowledge (6) love for task (7) zeal for teaching (8) self study (9) thirst for knowledge (10) keen observation (11) good laboratory preparation (12) arranging field trips or excursions (13) museum and library arrangement (14) knowing evaluation techniques (15) sympathetic and broad-mindedness (16) possessing scientific culture.

Blackington (1971) identified the following characteristics among science teachers (1) integrity and sound morals (2) intellectual ability (3) academic distinction (4) stable and mature mind (5) initiativeness (6) good personality characteristics (7) teaching efficiently (8) maintaining interest (9) interest in profession (10) stable philosophy (11) good health standards.

Boeck and Boeck (1972) studied on pupil rating of science teachers. 5 items descriptive of teacher personality, teacher-pupil relationships, teaching procedures and classroom control were randomly assigned to three groups out
of five, to judge the performance of teachers pupil ratings were accepted by teachers as honest and valid appraisal. They felt the ratings gave them a picture of their work which would be helpful in their student teaching. The same traits were identified all groups of pupils as characteristics of a good science teacher.

Dicter and Hursnell (1975) made a study of the priorities that the judges appointed by the National Association of Biology Teachers made 20 factors proved important to all the judges, of which the following may relate to caring. They are: (1) ability to encourage self motivation and self-confidence (2) concern for individual needs and attempt to provide for them.

Raja Mohan and Bhaskara Rao (1985) stressed that scientific attitudes can make a teacher participate properly in the social revolution. Lack of scientific attitudes in a science teacher, makes him socially less useful, introvert and even different. They studied on attitudes namely critical mindedness, suspended judgement, respect for evidence, honesty, open mindedness, willingness to change opinions. They administered standardised tool of James Kozlow and Marshall Nay. The important findings of this study were: (1) sample of experienced science teachers seems to be holding low scientific attitudes. Out of 65 per cent of the sample, 57 per cent hold low and 8 per cent very low scientific attitudes. Only 35 per cent of them hold average scientific attitudes., No one is with high or very high
scientific attitudes. (2) The only scientific attitude treated as predominant in the sample is willingness to change opinion. (3) Location is not a barrier. (4) Nature of science discipline is not a factor.

Maurer (1976) noted that there was very little concrete work in the area of competency-based teacher education. He identified observable competencies for prospective high school science teachers and attempted to validate the identified competencies. 21 high school teachers were selected by a stratified random sampling drawn from randomly drawn sample of 201 teachers state wide. The competencies listed out in decreasing rank as viewed by the teachers were as follows: A teacher must know his subject and keep striving to update his/her knowledge; have a good rapport with his or her students, recognise the individual academic abilities of students and try to encourage them; take his/her lessons interestingly without wasting time; be able to control disciplinary problems in order to protect the learning experience of his/her students; plan class lessons in advance with the idea to present scientific concepts and ideas in an organised and clear manner; foster, unbiased, independent and critical thinking among students; relate scientific ideas to the daily life experiences and the needs of the students; evaluate the academic progress of the students and make the results available to them; appropriately respond to the sudden diversions of students' thoughts; fulfil his/her professional responsibilities.
Rodger W. Bybee (1978) completed research concerning perceptions of ideal science teachers with samples from elementary school children, secondary school students, pre-service and in-service teachers. He followed Q-short technique with 172 teaching items. 50 items were organized into 5 major categories each having 10 items. The 5 major categories were: (1) knowledge of the subject matter, (2) adequate personal relations with students (3) adequate planning and organization, (4) enthusiasm in working with students and teaching, (5) adequate teaching methods and class procedures. Science educators perceived adequacy of personal relations and enthusiasm as the two most important qualities of the ideal school teachers.

Amitha Price Davis (1979) and his investigatory study on science teachers also identified similar characteristics.

The study of Mathew (1980) attempted to identify desirable teaching competencies of a physical science teacher in the context of certain presage, process and product variables. 14 factors were identified through teachers' perception and interpreted as, general teaching competency of the teachers' concern for students; using A.V. aids, professional perception, competency of giving assignment, competency of illustrating with examples, classroom management, use of questions, initiating pupil participation, use of black board and recognizing attentive behaviour. The competencies identified through factor
analysis related closely to those expected of the teachers by the students.

Chiappetta and Collette (1980) identified science teacher competencies for implementing ISIS (Individualised Science Instructional System) mini-course instruction. They took 70 science teachers for the study and the judges grouped the responses into 3 categories: 1. cognitive competencies, 2. affective competencies, 3. personality characteristics.

Application of practical principles, undemanding real life situation, confidence, inspiration, excitement and competence were the important characteristics identified by Leon Lederman (1990) and Erich Bloch (1990), to mobilise the human resources, to compete effectively in the modern world.

2.1.3 Specific Requirements of Effective Science Teacher

Education of science is emphasised with the conviction that scientists give the best possible service to the community and their competence and behaviour are of high standard. Hence, the way of living of science teachers should be simple, honest and full of devotion: (a) They should be affectionate, inspiring and true friends of their pupils. In teaching this ambitious goal, they would naturally reduce their wants to the minimum, be philanthropic and would acquire dedicated spirit for imparting knowledge, (b) they should help to remove the
sufferings of their pupils, guide them in every possible manner in the prosecution of their studies and secure for them positions of highest honour. In larger interest, it may say, that this attitude of the teacher will help India to emerge out of its miseries, wants and evils in which it has been plunged for ages.

It is necessary and useful for teachers of science to have familiarity with the biographies of eminent scientists who laid the foundations of several branches of science, and with the history of their discoveries and subsequent developments of individual branches. The acquired knowledge would definitely help them in teaching their subject in many ways. In the first instance, they would get acquainted with the terminology introduced in each branch by the leading contributors and hence their lessons can be precise and meaningful. Secondly information gathered can be found very handy in introducing a new subject to the beginners. Thirdly it serves to commemorate the names, life and work of the leaders who dedicated their lives for the sake of the advancement of science. The pupils on the other hand, get the valuable touch of the human spirit which worked behind every discovery, understand how science was developed, gain an insight into the manner in which knowledge was acquired and begin to appreciate the real nature of science; these impressions would enthuse some if not all.
The poor science teacher complains, blames lack of equipment for the dullness of his lessons, and allows his pupils to revert to the dull monotony of note-taking and passive learning of the text-book. The good science teacher, however, finds in the same circumstances a challenge to his ingenuity. With an alert mind, he adapts his lesson to the materials available. There are always the great, out of doors the winds the clouds, the stars and the changing seasons.

Every science teacher should possess (a) Basic academic qualifications, (b) Trained in modern methods and techniques (c) Practical knowledge of child psychology and the process of learning and also other personal qualities.

Scientific attitudes can make a teacher participate properly in the social revolution. Lack of these attitudes in a teacher make him socially less useful, introvert and even indifferent. Hence a science teacher should know and understand what the scientific attitudes are, because success in developing scientific attitudes among the pupils depends ultimately upon the teachers.

Moore (1981) surveyed a stratified random sampling of science teachers of grade 7 in 21 school districts of Harris country, Texas. Factor analysis of the data showed that the secondary school science teachers perceived 6 priority need areas: 1. Developing basic skills in science, 2. Motivating students to learn, 3. Obtaining and utilizing science materials, 4. Guiding students to set up and achieve
realistic goals. 5. Training in science teaching methodology and 6. Providing appropriate and meaningful science experience.

Peter (1981) made survey on Illinois secondary school science teacher needs and classified them under 6 categories which are similar to Moore's priority need areas.

Thomson's report (1982) summed up the feelings that have been steadily increasing among science teachers. Thomson's committee considered the laboratory work is very essential.

Zurab, Abdul Rahman, Rubba and Peter (1986) studied on the science teachers and perceived needs. Their report indicated that the most prevalent needs were associated with science instruction, delivery, facility, equipment administration and improvement of competence levels for science teachers.

For an effective and efficient teaching in science a good laboratory with necessary equipment is essential. In recent years the purpose of teaching science at the secondary stage have undergone drastic changes. We do not aim at stuffing the minds of the pupils with mere facts of science but at developing in them the application ability; skills of experimentation, construction, improving scientific attitudes; interests; appreciation etc. Therefore, a science teacher should have a specialised knowledge on laboratory experiments and their maintenance.
Science fairs and science clubs and scientific hobbies provide a unique opportunity for the display as well as recognition of such experimentation, innovations and projects which benefit the students. Several new ideas are projected in still newer ways giving an insight into the working of our young searching minds and at the same time to do better and learns still better. So the science teacher should possess much enthusiasm, resourcefulness and ingenuity to conduct such type of activities.

Science Museum, arts and techniques are necessary for vitalising science teaching programme in schools. He should have knowledge of preserving specimens of plants and animals and arranging science aquarium and vivarium etc.

Besides possessing the above requirements, the following are some of the other needs to become an effective science teacher. (a) Manipulative skill is a valuable asset to the teacher of science, who should know something of working in wood and metal. (b) The science teacher should have an up-to-date knowledge in science, (c) Teaching-learning process should be a cooperative endeavour of the teacher and the pupils. So the science teacher should require cooperativeness. (d) Every science teacher should maintain a diary in which he should write down his timetable, the syllabus, the scheme of work, record of students' work activities of science club etc. (e) The science teacher should have a skill in drawing. (f) The science teacher
should require ability on preparation and organisation of instructional material etc.

2.1.4 The Need for Training to develop Specific Skills among Science Teachers

Science should be taught relating it to the society in which the pupil lives. The recent slogan "Environmental education" is voiced by all educationists. Teaching science should not just make the students aware of these environmental concerns but should give them the necessary skills so that they will be able to do something when they leave the school/college. To inculcate such skills in the students, the science teachers are well trained in those skills.

Competent teachers can be prepared through professional training, despite the contrary opinion of some critics, that "teachers are born, not made". Every profession requires training in some unique skills necessary for that profession. The same is the case with the teaching profession. We can prepare competent and effective teachers through appropriate training in teaching skills.

Teaching is an art. This art has to be learnt by undergoing a specific training. Mastery of the subject matter was all that was required of a would be teacher. Professional training was not considered necessary in olden days. But with the increasing knowledge about child-psychology and advancement in the science of pedagogy, the old belief has changed now. Teaching begins to be recognised
as an expert's job. The whole concept about teacher and teacher-education has undergone a tremendous change.

A trained teacher understands the child better. Pedagogy demands that the teacher should know the subject as well as the child. He should be able to appreciate the needs of the child at various stages of his development. He should know how learning takes place; how to motivate the child to learn; how to create opportunities for the stimulation of basic urges and pent-up emotions; how to avoid the formation of different complexes; what are the various activities to be organised for the development of whole some, balanced and integrated personality and so on and so forth. An untrained teacher will be at a loss to undertake all these responsibilities. All teachers must acquire the necessary competence to perform these tasks successfully.

Training of teachers is of utmost importance to make education effective. Education degenerates into formal instruction in the hands of untrained teachers. They follow the unscientific and unpsychological methods. Education becomes meaningless and dry process under their charge. Teaching becomes dull and uninteresting. Training prepares the teacher for his job and makes him competent. He discovers his talent and makes right use of it. No educational reconstruction can takes place effectively without an adequate preparation of teachers.

The need for definite training was recommended by the Indian Education Commission (1882) and the Government of
Indian Resolution on Education (1904). The Commission observed that "an examination in the principles and practice of teaching be instituted; success in which should hereafter be a condition of permanent employment as a teacher in any secondary school."

The Ministry of Education in England, stated in this connection is as follows: "The hallmark of a good teacher is that he is himself always learning and always developing his knowledge and understanding of children and young people." A teacher should be a person who, because of his attitude to knowledge, to ideas, to his fellows and to life generally is better educated today than he was yesterday and will be better educated tomorrow than he is today.

A well trained science teacher should develop teaching skill that enables him to convey his scholarship to his students effectively. To this end, acquaintance with accepted pedagogical methods is a must. It is important that a teacher fully understands what he is trying to do, the objectives he has in view and the methods to be adopted in achieving those objectives. Wrong methods of teaching leave the students frustrated and confused, and they are becoming more outspoken now on the inadequacies of the teachers who have not acquired the art and skill of good teaching.

A trained teacher is very much in favour of audio-visual aids to be used in a classroom, which are more effective in teaching, particularly in science subjects.
Extensive use of the black-board must be made as, after all, this is practically the only visual aid we have in most of our teaching institutions. It is said that a single picture is worth a thousand words. Instead of describing at length any piece of scientific apparatus, it is always better to show the apparatus to the students in the class and demonstrate its use in laboratory experiments; of course, the use of overhead projectors, television sets, video-recorders, films and film-strips, can never be over-estimated. If these aids are made available to the teacher with the proper approach, the results could be astounding.

A teacher's quality and competence can be judged by his role. The role can be organised round the functions that he has to perform. Among the functions, the most dominating is the transformation of knowledge for the desired modification of the behaviour of his students. To transmit knowledge, the teacher should possess certain training in that teaching skill.

A good and loud voice is an excellent asset for any teacher particularly when the classes are large. There are many teachers who speak only to the black board and go unheard by even those who are students on the front benches, not to speak of those on the back benches. A well modulated voice goes a long way in holding the interest of the students. Therefore, voice training could be made compulsory in teacher training programme.
The Secondary Education Commission (1952) observed that "However excellent the programme of teacher training may be, it does not by itself produce an excellent teacher. It can only engender the knowledge, skills and attitudes which will enable the teacher to begin his task with a reasonable degree of confidence and with the minimum amount of experience.

2.1.5 Different Methods of Identifying an Effective Teacher

Classroom teaching may be conceptualized as a dynamic communication process between a teacher and a student.

Researches have been voluminous and variables and vantage points concerning student evaluations of teaching effectiveness have been varied. But the attributes that determine effective teaching and appropriate methods for identifying effective teacher still lack clarity. Further, the possible relationships between students self-perceptions and their perceptions of their teachers have been virtually ignored in empirical studies of student evaluations of teaching effectiveness.

The practice of collecting and using pupils ratings for evaluating teaching has empirical and logical support, dating back nearly 50 years. Research on measurement issues of students as evaluators indicate that pupil assessment ratings are as reliable and valid as adult judges, and do not appear to be influenced by the sex of student or
teacher, the difficulty of the course or the course grade awarded. However different methods used by different researchers in their studies to identify the effective teachers are presented below.

Elliot (1915) and Boyce (1915) were the first to make the use of the rating scale as a measure of evaluation teacher efficiency. Barr (1938) and his students made extensive study of validity, reliability and objectivity of teacher rating scale with the thought of determining their practicability. Torgerson (1930) used pupils achievement as a measuring criterion for validating the scores on the test as constructed and standardised by him. Menon (1949) is perhaps the first researcher in the field, who collected qualities of a good teacher.

Howsam (1960) reviewed studies using various kinds of rating scales and discuss four kinds of rating scales and discuss four kinds used in commonly in research: (1) Self-ratings, which have proved of little use because there is a consistent bias toward over rating, (2) Peer ratings by colleagues, which seem to be based on marginal evidence, (3) Student ratings, which seem to be more consistently and favourably treated in the literature than other ratings of other supervisors or with other external measures. Supervisors ratings seem to be highly biased and subjective.

Lins (1946) tried out in his investigation to estimate teaching efficiency through three sorts of criteria, i.e., (1) Supervisory ratings, (2) Pupil evalua-
tion, and (3) Residual pupil gain. The supervisory rating criterion was a composite of five ratings and the ratings were all made on the Wisconsin adaptation of the M. Blank of the evaluate criteria plus certain other instruments. The pupil evaluations were all made according to a carefully designed plan and under the direction of a single person who visited each school and secured the evaluation of anonymous ballots. The residual pupil gains were discrepancies between the actual gains much upon certain standardised subject matter tests and a predicted pupil gain based upon a four variable prediction equation derived from average gain scores, the pre-test score, mental age, and an intelligent quotient. As a result of this investigation, many of the correlations were quite low, but enough, statistically significant correlations were found to give multiple R of 0.74 with the residual pupil gain 0.72 with a composite of supervisory ratings and 0.60 with pupil evaluation of the teacher.

Barr (1949) surveyed the research on teacher effectiveness and identified the following four approaches:

1. Evaluation of performance, observance of behaviour;
2. Evaluation of personal qualities, inferred from behaviour or paper and pencil tests.
3. Education of mental prerequisites knowledge, skills, interests, attitudes etc., that seem lie back of and to control performance and
4. Education of pupil growth and achievement.
It was pointed out that students are objective consumers of the teaching process (Morsh, Burgess and Smith, 1956; Frey et al., 1975). The judgements were sought by asking ten senior students who had the maximum number of teaching-learning contacts. They ranked all the teachers within a subject on a student ranking proforma.

Out of class interaction is often considered to be an important aspect of teaching effectiveness. The process of interaction may not dependent solely upon a classroom setting, but in visiting student to participate in developing class plans, by discussing points of view other than their own, and so forth. These teachers derive greater intrinsic rewards from teaching than other faculty members do, and are more likely to be cited students as having most influence on the students personal and educational development (Wilson, et al., 1975).

Rosenshine (1975), reported findings of several studies which examined the uses of student evaluation. Some researches indicated that student ratings are valid and reliable. Rebecca (1974), reported that the evaluation, of a teacher is directly related to the 'amount, that the student has learned from the teacher.

It was concluded by Verble (1979) that "the public agreement upon the quality of teaching is ultimately the test by which teachers in schools stand for all. Good teachers are those whom students consider good."
The students are virtually the direct consumers of services provided by the school. Since students are the objective consumers of the instructional process, their assessment should be the sole determinants in defining their effectiveness in teaching.

Surendra (1979) involved 500 students of rural and urban high schools at random and were asked to write an essay on effective teachers. The statements so obtained were analysed and a final form of 12 statements were presented to students to rank in order of importance.

The results showed, that, to all students first in importance was 'teaching', second the 'personality' and the third the method of 'discipline'.

In the light of these observations it is obvious that student ratings are of immense value to identify the effective teachers.

Koerin (1980), pointed out that out of class interaction is often considered to be an important aspect of teaching effectiveness by both students and colleagues.

Vyas (1987), while studying the teaching success of prospective teachers, by using the rating of the supervisors, as well as self rating, revealed, that there was a positive relationship between teaching success and academic achievement.
Noerrlinger (1988), were of the opinion that the students have the potential to provide teachers with valuable feedback as they view their teachers in a variety of situations and circumstances throughout the school year.

Nineteen principals, seventy six teachers and over fifteen hundred students from a large school district were participated in the study. The results indicated that students are the reliable source of information on teacher effectiveness. The students agreed with the principals and rated the more effective teachers significantly higher than the less effective teachers on personal interest, classroom management, presentation, guided practice and independent practice.

It was still evident from the study of Jenkins (1990) that the areas of inter-personal relations and classroom management appeared to be relatively more important than other performance areas as perceived by students. It was also determined that students could differentiate between meritorious and non-meritorious teachers using a questionnaire designed specially for that purpose.

Statements pertaining to the component of effective teacher behaviour were collected from 25 experienced teachers and 25 experienced headmasters. From those statements as many as 30 statements with the highest frequency were selected. When they were given to a panel of
10 experienced teachers who selected only 15 statements for the final ranking by the subjects.

It was evident from the findings that presentation of the lesson in an interesting manner by the teacher was ranked first. It means teacher should have the capacity to present the bits of information in a very attractive and interesting manner.

Therefore, in the evidences of these studies it is learnt that there are two major types of ratings, viz., supervisors ratings, and student ratings. This bit of information forms the basis to relay on the ratings from either of the sources, the students and the immediate supervisor (headmaster) to identify effective teachers.

The criteria of determining teaching effectiveness have been, for the most past, measurers of student satisfaction and measures of student achievement. Hildebrand et al., (1971) reported that the effective teachers were characterised by exhibiting intellectual breadth, having good relationships with students and having an interest in teaching.

Teacher-student relationship is important from the point of view of teacher effectiveness. Arora (1978), in her study on difference between effective and ineffective teachers, found that more effective had favourable attitude to teacher pupil relationship, that was they were for closer contacts, understanding and friendly relationships between
pupils and teachers. In other words effective teachers should have better relationship with students.

In an investigation Belgard (1988) assumed, that when knowledge in child development, cognitive psychology and theory of instruction exists, the effective teachers would demonstrate in a variety of pedagogical practices.

The data from observations, interviews and teachers instructional interactions with students were collected and analysed. It was found that the effective teachers express and demonstrate knowledge of child development, cognitive psychology in varying instructional situations to correspond to the learning styles of their students.

Further, the effective teachers in the study were largely credited by the continuing education and inservice training.

Thus, it is evident that the identification of effective teachers is also estimated by way of observations, interviews and classroom behaviour of the teachers.

It is generally assumed that the teacher competency is the capacity to affect student performance. The competency of the teacher, therefore, must be an important consideration. Existing research is conflicting, but recent literature indicates that teacher behaviour affect student behaviour which result in student achievement. scholastic achievement, an index of which was
made to represent the quality of education and measure of teaching effectiveness.

Mohinder Singh (1965) attempted to find out the factors which are highly correlated to teaching skills. A sample of 48 students was chosen at random out of about 200 B.T. students of a government training college.

The cumulative scores as determined on the basis of marks in B.A., methods of teaching educational psychology previous teaching experience and age were positively correlated with scores in teaching eaching skills which was obtained by the students in their two discussions lessons. It was suggested in the study that those factors lead to effective teaching.

In an investigation Passi and Sharma (1982), measured the teaching competency of secondary school teachers and its relevance to student achievement. To measure the teaching competency a total number of 220 classroom teaching-learning situations were observed. The achievement test was administered to a sample of 776 pupils from grade IX. It was enveiled from the findings that the teaching competency of the teachers was significantly related with the academic achievement of pupils.

Daniel (1989), observed teachers on five observable criteria of teacher performance. The performance criteria ratings of the teachers in relation to the achievement outcomes of their students were studied and
found that supervisor ratings on 21 of the 25 teacher performance criteria were related to improved student outcomes on reading and mathematics of fourth grade pupils. Therefore, it could be concluded, that there is a relationship between teacher’s classroom characteristics and student achievement.

Kloock (1990), described that the direct instruction had been cited as one characteristic of effective schools, and in response to increase accountability many schools were incorporated the direct methods as a way to identify effective teachers and student achievement.

It was manifested by the results that the effective teacher group practiced more direct teaching elements than the less effective teacher group. It was also found that, the elements of lesson preparation, checking for understanding and feedback were practiced more frequently by the effective teacher.

In the recent days, most of the investigations conducted in the field of teaching-effectiveness are using the device of rating scales in order to identify the effective teachers. Rating scales may be of any type viz., (1) self-ratings, (2) peer-ratings, (3) student ratings, (4) supervisory-ratings. Among these four types of ratings, last two types of ratings are more in use.
The subject of teaching effectiveness has long been a topic of popular and academic interest. A number of studies have been carried out to study teaching effectiveness. Studies of teaching effectiveness focussed on classroom processes have adopted one or more of three main approaches to examine behaviour of the teacher in the classroom: systematic observation, participant observation, and questionnaire surveys.

Ryan (1951) took a study with the purpose to investigate certain factors or conditions that might be related to effective teaching at the secondary level and estimate to extent to which measures of such conditions were associated with judgements of teaching effectiveness.

Fattu (1962) reviewed the research on predictor criteria and teacher effectiveness and conclude that such research had failed to substantiate links for such characteristics as intelligence, age, experience, cultural background, sex, marital status, scores on aptitude tests, job interests, voice quality, and special aptitudes. There were slight positive correlations shown between scholarship and teaching effectiveness, although no course or group of courses has been shown to be a predictor professional knowledge has proceed to be a more successful predictor, particularly of teaching performance.
Anderson and Hunka (1963) spot light problem areas in research on teacher effectiveness. They discuss studies which have used predictor or criterion variables and conclude that this research has reached a dead end. Attempts to build a theory of teaching from a statistical description of what is happening fail to prescribe what should be happening. Even examples of the best of teaching may not provide the theoretical basis for the most effective teaching.

Ryans (1963) discussed the need for a conceptual framework for understanding the research findings on teaching effectiveness. Ryans utilizes a system analysis approach and discuss the general implications of the studies reviewed. This review includes an extensive listing of items used to describe teachers' behaviour patterns as compared with terms used by researchers.

Both Biddle (1964), Ellena (1964) and Soar (1964) after independently reviewing recent research on teacher effectiveness, declare a need for agreement about the effects that the teacher is to produce in order to determine the components of teacher effectiveness. They distinguish between the research components of teacher effectiveness (in which relationships between teacher characteristics and behaviours and pupil output measures are determined) and the criterion component (which is a question of selecting the pupil output components considered to be desirable). Both specify the collection of observational data as the most direct method of teaching and Biddle discuss the practical
limitations of the kind of classroom observations.

Gangappa (1969) study located two factors, viz., external and internal, that makes teachers mutually ill and maladjusted and thereby, have a negative effect on their teaching efficiency, the external factors include poor salary, heavy work load and lack of professional freedom. The internal factors include inferiority complex, self-centredness and over-ambitiousness. The study pointed out that for promoting the mental health of teachers, it is necessary to develop in them a whole some attitude professional competence, social efficiency, democratic outlook and good living habits.

Samantharoy (1971) studied the relationship of teachers attitude with teaching efficiency. He studied the nature of relationship among teacher attitude, teacher adjustment and teaching efficiency. The hypothesis laid down for testing were: teacher attitude and teacher adjustment are positively correlated; teacher attitude influences teaching efficiency, teacher adjustment influence teaching efficiency.

Arora (1976) identified effective and ineffective teachers in the schools of Delhi based on the teacher characteristics. Descriptive form developed by her with the help of judges. Out of total 506 teachers included in the sample there were 80 effective and 80 ineffective teachers as per the criteria adopted in the study.
Haslett (1976) study on "Dimensions of Teaching Effectiveness" reveals after number of varimax rotations were done, it was found that a student/teacher rapport was characterised by the qualities of trustworthiness, fairness, cooperativeness and openness are accounted for 54 per cent of the variance explained by these factors.

Dave (1979) conducted a study on "prediction of student teachers teaching success". Data was collected from 546 student teachers preparing for the B.T. examination of Agra University at six teacher training institutions in western Uttar Pradesh for his study. He used a 7 point rating scale covering the three characteristic areas viz., personal qualities, professional competence and classroom performance. He adopted Flanagan's (1954) "critical incidents technique with other predictors. The main findings of the study are: (1) The two adjustment inventories employed in the present study i.e., social adjustment and personality adjustment have come out as best predictors of teaching success. They account for 23.6 per cent of the variance in the criterion. The remaining predictors i.e., academic achievement, socio-economic status and intelligence account for only 8.3 per cent of the variance in the criterion. (2) Intelligence has emerged as a predictor of negligible importance. It was only a small contribution in the coefficient of multiple correlation which falls only by 0.006. (3) The study has succeeded in explaining 32 per cent of the variance in student teaching success on the basis of battery of five predictors.
Therefore, the above are a few among the previous review of research on teaching effectiveness. Many individual studies carried out on the subject are broadly categorised and discussed under four heads viz., teaching effectiveness in relation to teaching aptitude, attitude towards teaching profession, personality characteristics and personal and institutional variables.

2.2.1 Studies in Relation to Teaching Aptitude

Human efficiency is not as easily defined as that of a machine and it is not as easily measured. Generally speaking different persons in the society possess different types of aptitudes. For example, some possess markedly mechanical aptitude, some musical, some artistic, some clerical and some aptitude for teaching or some other professions. When we say a person possesses an aptitude for teaching, it is assumed that he has a good proportion of traits required for becoming successful in teaching.

Super (1949) writes tests of aptitude for teaching have been experimented with by number of individuals and schools of education, in attempts to improve the selection of students of education.

Anne Anastasi (1957) comments, the development of special aptitude tests for the teaching field has not met with much success. A number of such tests have been prepared along the same general pattern as the tests for medical students, law students and other professional groups, one of
the best known of these tests is the Orleans Prognosis test of teaching ability.

Adaval, S.B. (1942) conducted an experimental investigation on "Aptitude for teaching". In a review in the Indian Education Abstracts the following lines are written about the experimental investigation. The investigator examines the nature of aptitude and interest and the various aptitude tests of teaching ability (prepared by Knight and others). The same instrument was adopted by Moss, Hunt and Wallace to Indian conditions and administered to 429 student teachers in 10 institutions in U.P. and Delhi. The poor response to the test is attributed by the author to either the carelessness of the student-teachers or to the lack of aptitude for teaching profession in them.

Shah, M.M. (1965) conducted a study on "An Aptitude Test for Secondary School Teachers". He took a sample of 530 trainee teachers of Arts and Science graduates from Maharashtra and Gujarat states. The test contains 120 items distributed among the five sub-tests. The major findings of the study were: (1) The five factors selected in the beginning initially are really contributing to the success in teaching. (2) The forecasting ability of the test battery is 16 per cent. This is to some extent satisfactory. (3) The final test battery should include all the five sub-tests. But the sub-test III is to be given zero weightage, while using "prediction equation". Thus eliminating it from
the multiple regression equation established to predict success in teaching.

Srivastava (1965) conducted a study on "Teaching aptitude and its functional phenomena" on 300 student teachers of both sexes of 3 government basic teacher training institutions situated in Vindhya region of Madhya Pradesh. He took the tools of teaching aptitude test for measuring teaching aptitude of student teachers under training. The test includes 10 personality traits such as cooperative attitudes, kindliness, patience, wide-interest, fairness, moral character, discipline, optimism, scholarly taste and enthusiasm and achievement and performance of student teachers in the quarterly examination in theory papers. The findings of the study were: (1) On the basis of the teaching aptitude scores that more than one fourth of the pupil teachers of the sample cannot be upto the mark in their teaching profession, particularly the defected and border line. (2) Taking into consideration the assessment scores that more than one fourth of pupil teachers are below the average. (3) Some teachers are really good teachers possessing positively all the traits, while some are poorly gifted having scored negatively in some traits. (4) The sample is homogeneous with respect to the socio-economic status, cultural impact and educational attainments. Hence no influence can be drawn on their basis. (5) There is no significant difference in their scores with respect to sex and rural and urban population.
Thilakam and Visveswaran (1986) construct a "Teaching Aptitude Test". They took a sample of thousand graduate and post-graduate teacher trainees of both sexes from different colleges of education in Tamil Nadu were drawn from rural and urban areas of private and government colleges of education, with varied families of socio-economic, educational and occupational groups. The findings of the study were: (1) The attitude and aptitude of the trainees are highly related with each other and the positive correlation coefficients indicate that those who have high aptitude in teaching also have high positive attitude towards teaching profession; (2) The eleven traits selected for the five sub-tests are really contributing to success in teaching.

Meera S. and Jayalakshmi, V. (1990) conducted "A Study of the Relationship between teacher behaviour and teaching aptitude of teacher trainees on random selection of 60 student teachers undergone B.Ed. course in the Avinashilingam institute of Home Science and Higher Education (Deemed University), Coimbatore in Tamil Nadu state. There were 12 student teachers from each of the five disciplines, i.e., English, History, Biological Science, Physical Science and Mathematics in the sample. They used Flanders (1970) Ten category system of interaction analysis to study classroom vertical behaviour of the student teachers and teaching aptitude test, constructed and standardised by Tilakam (1986) to measure teaching aptitude. The results of the study are: (1) Teaching aptitude and
teacher behaviour has been found to be related. Aptitude for teaching is an important criterion that determines teacher classroom behaviour, (2) Teaching aptitude significantly influence the amount of teacher talk; (3) Mental ability is an important component of teaching aptitude.

A study was undertaken by Bhoom Reddy (1991) on "Teaching Aptitude and Attitudes of Secondary School Teachers in Andhra Pradesh", using the existing tools on aptitudes and attitudes, which have to be further streamlined and standardised. The teaching aptitude test, used in this study consisted of 50 items covering; the aims and objectives of evaluation; curricular and co-curricular activities; classroom teaching-learning situations. Discipline in the classroom. The sample consisted of 332 teacher trainees of colleges of education under Kakatiya University. 80 teachers with a service of more than 10 years, and 20 teachers who were given special awards best teacher awards at the national, state and district levels were selected. Age, sex and faculty of study were the variables for student teachers, and the study measured teaching aptitudes and teaching attitudes of science teachers and student teachers. The study revealed that there is a significant relationship between teaching aptitude and attitudes of secondary school teachers.

2.2.2 Studies in Relation to Attitude towards teaching profession

In the school a teacher who has a favourable
attitude towards teaching will enjoy teaching. The following are some of the studies which are in line with the above theme.

Valentine C.W. (1942) studied about the reasons for the choice of teaching profession by university students. The study showed that while men chose to become teachers because of economic motives, women did so because of their liking for teaching or fondness for children. A minority chose teaching as a stop gap or because they saw no other alternative.

In 1945, the MRS Research Division also conducted some research studies regarding attitude of teacher trainees towards teaching profession. The sample consisted of 500 teachers of both sexes of these 74 per cent of the women teachers are rural areas reported that if given a chance to start over again they certainly would teach. The same attitude was expressed by 43 per cent of rural men teachers and 44 per cent of urban men teachers. 5 per cent of all rural teachers and 8 per cent of all urban teachers reported that they would not become teachers, if they were living their lives once again. One women out of eight regarded teaching as the most advantageous and most exciting of all professions.

Evans (1946) studied the attitude of 211 school certificate candidates in eight grammar schools in England and Wales. Attitude towards schools seemed to be having high correlation with attitude to teaching as a career. Neither
the socio-economic level of the home nor the profession of relatives and or friends who were teachers seemed to have any relationship to the attitude.

Timme Gowda (1948) took up the study of the attitude of teachers in England towards their course of training. His attitude scale consisted of five parts which elicited the attitude towards (a) the principles of education, (b) educational psychology, (c) general subjects, (d) non-academic subjects like physical education, music, arts etc., and (e) school practice. The attitude scale was responded by 198 teachers. Attitude towards school practice alone was found significant while others were insignificant.

Investigations carried out by Cook and Calling (1957) over ten years, indicate that attitudes of teachers towards children and school work can be measured with high reliability and that they are significantly related to teacher-pupil relations in the classroom. The favourable attitude towards teaching is likely to be prove helpful to teachers in maintaining harmonious relations with their pupils, characterised by mutual affection and sympathetic understanding. In the studies it was found that effective teachers have a real love and strong liking towards teaching profession which makes them to get satisfied with their job. On the other hand, teacher related on low effectiveness in the study by Ryans (1960) were found to possess a critical attitude towards others and a less favourable attitude towards teaching.
Monroe (1952) conducted a survey inquiring among employed men about their satisfaction with their job. He found that while only 1 per cent of the men teachers who were polled stated, "I seldom enjoy teaching", 7.2 per cent of employed men in general said their work was dull or boring.

A study of the attitude of students in the teacher's college in New South Wales conducted by Hale (1954) reveals that there is little change in the range of attitudes assessed at the beginning and end of a two year course.

Kenneth, W. Vaughis (1965) doctoral thesis pertains to a study of attitude towards teaching profession of student teachers during their two year training course. The main purpose of the thesis was to study intensively the attitude of a group of college students enrolled in teacher training colleges in an attempt to (a) isolate factors influencing attitude towards teaching and (b) to determine the changes in attitude towards teaching which occurs during the period of professional training. Some of the important findings are: the attitude of those students who complete the two year programme is significantly improved as a result of their training. There is definite evidence to show that the attitude in general can be matured and strengthened during the period of professional training.

Angel Brifitta (1975) conducted a study on personality and attitude changes during the training period. Effects of general development factors, training factors and factors from outside were explored by an analysis of
variance. The student teacher's attitude towards problems concerning practical training were also studied.

Channa (1952) has made an investigation into the reasons that influences men to take up the teaching profession. The questionnaire method was employed. The subjects consisted of an unselected group of 500 teachers and student teachers in the high schools and training colleges in Punjab. Of these 500, 270 returns were taken up for final analysis and of these 136 papers were discarded as unreliable, since they were not supported by answers to all questions. Twenty reasons choice of the teaching profession were traced and they were ranked.

The results of the study suggested that teachers generally did not want their sons to take up teaching nor did the son's like to join the profession of their father. The rich and the people of high social status did not seem to patronise teaching profession. With regard to satisfaction over choice of the profession, 41 per cent expressed satisfaction, 26 per cent partial satisfaction and 33 per cent dissatisfaction. The reasons advanced for dissatisfaction were low salary, no hope for further rise, defective system of education and unsympathetic attitude of officers.

Pritam Rohila and Thukral (1965) made a survey with a view of study career patterns of secondary school teachers and their attitude towards their profession. The subjects were 52 male and 12 female teachers working in 33
urban and 31 rural schools in Jullunder district. The tool used was a questionnaire. The findings of the study were: 83 per cent of men and 100 per cent of women were selected the teaching in their first occupation; only 53 per cent of men reported satisfaction with the present occupation. It allowed freedom and change, only 37.5 per cent of them would still remain in teaching. 62 per cent of them did not want any of their friends or son's or daughter's to go in for teaching.

NCERT (1971) conducted a study which sought to determine the extent of the teacher's acceptance of the role in which they find themselves. The objectives of the survey were: (1) to know how teachers related to various issues related to their professional life and efficiency. (11) To study how the above reactions were related to the factors like management, area, sex, age, experience, academic and professional qualifications, marital status etc. Major findings of the survey were: (a) The attitude of teachers differed significantly under different managements; (b) The tenure of service did not have any effect on the attitude of teachers; (c) The attitude of male and female teachers differed significantly; (d) The marital status did not influence the attitude of teachers towards the profession; (e) Younger teachers showed more positive attitude towards the profession than elder teachers; (f) Teachers with lower educational qualifications had more positive attitude than those with higher qualifications; (g)
Experience and positive attitude were inversely proportionate; (h) The attitude of trained and untrained teachers did not differ much on negative items, (1) Training appeared to be a contributing factor in the development of apparent positive attitude.

Samantharoy (1971) found that there exists some degree of positive relationship between teacher's attitude towards their profession and teaching efficiency obviously efficiency is affected by the attitude of the teachers towards their profession. Shantha (1974) critically studied the attitude of Tamil teachers in the city schools towards their profession. She used a questionnaire in Tamil having 50 items with five point scale of agreement covering the aspects of teaching i.e., teacher-teacher relation, teaching-general, teacher-pupil relation and other on teaching of Tamil poem, non-detailed text, essay writing etc. The sample of the study covered government, corporation and private schools. The scoring given 1 to 5 point agreement scale was 5, 4, 3, 2, 1 from strongly agree to strongly disagree. The study revealed that, a majority of Tamil teachers, who have taken the teaching profession have chosen this profession because they consider this as a 'noble profession'. Singh (1974) found that there was a significant relationship between attitude towards teaching and teaching effectiveness. Malhotra (1976) and Gupta (1977) found that success in teaching was significantly related to professional attitude.
A study of the attitude of graduate teacher trainees towards the teaching profession was taken up by Soundararaja Rao and Kulandaivel (1979). A specially designed attitude scale and questionnaire was administered to 600 graduate trainees in Madras city. The study reveals that (a) the subjects showed generally a favourable attitude towards the teaching profession; (b) the women trainees have a significantly more favourable attitude towards teaching profession.

Jha and Vidya Rani Roy (1980) conducted a study of teacher's attitude towards teaching as a career and education. The sample comprised of 130 male teachers and 38 female teachers varying in experience and age. The male teachers selected from two schools and the female teachers from one school of Patna in Bihar state. No specific technique of sampling was followed. In order to assess the teachers attitude towards teaching the scale developed by Merwin and Divesta (1960) consisting of 11 items (seven items were positive and remaining 4 were negative) was employed. The findings of the study were: (a) attitude of the female teachers towards teaching as a career will be more favourable than their male counterparts, (b) experience failed to contribute towards the attitude of teachers toward their career, (c) There will not a significant relationship between attitude towards teaching as a career and attitude towards education, (d) The two groups, namely, those scoring high and low on the dimension of attitude towards teaching as a career and their responses on individual items of the
scale of attitude towards education did not differ significantly except for 6 items in case of male teachers and 2 items in case of female teachers.

Raghuram Singh (1981) studied the professional attitude of B.Ed. and M.Ed. student teachers and its correlations. Ahluwalia teacher attitude inventory was administered for the purpose of measuring the teacher attitude of the student teachers. Kuppuswamy's socio-economic status scale (urban) was used for determining socio-economic status. These are the results: (a) 1.5 per cent of B.Ed. students had unfavourable teacher attitude. None of the M.Ed. students had unfavourable teacher attitude, (b) 5.5 per cent B.Ed. and 3.9 per cent of M.Ed. students had strongly favourable teacher attitude, (c) Seven women students excelled men students in teacher attitude; (d) Students of high socio-economic status had better attitude than those with low socio-economic status; (e) B.Ed. and M.Ed. students with teaching experience had higher teacher attitude than those without.

Gupta and Kusum Sham Sherry (1982) conducted a survey on "Prediction of teaching efficiency through teachers attitude towards professional training" found that (a) there is a positive relationship between teacher's attitude and teaching efficiency though teacher's attitude towards professional training is possible; (b) There is a negative relationship between teaching experience and
teachers efficiency. In other words, the efficiency of a teacher decreases after a certain period of experience.

Sharma (1985) conducted a study on student teachers' attitude towards teaching profession. This study was aimed to find out the reasons for attracting young men and women towards the teaching profession. An attitude scale constructed by Chauhan (1983) was used for this purpose. The study revealed that "immediate solution for employment" and to pass the time are the most important factors which motivate them to join teacher training course.

Sundararaja, Sakthivel, and Ponnalagappan (1988) showed that the women B.Ed. student teachers had a more favourable attitude towards teaching than the men student teachers.

Singh's (1989) study shows that rural and urban teachers do not differ significantly in their attitude towards teaching profession. However, in case of rural teachers, attitude towards teaching profession is significantly related to teacher's effectiveness, but same is not true in case of urban teachers.

Ganesan (1992) conducted a study of attitude towards teaching profession and goal achievement of student teachers of teacher education. The sample covered the subjects from both government, aided and private colleges of education, including both sexes selected randomly. The study reveals that, (a) sex is not having a bearing on attitude
towards teaching profession: a positive relationship among the total score of B.Ed., M.Ed., M.Phil and Teacher educators in their attitude towards teaching profession.

Ram Mohan Babu (1992) made an extensive study on "Job satisfaction, attitude towards teaching, job involvement, teacher efficiency and the teacher perception of organisational climate of teachers of residential and non-residential schools." A sample of 200 teachers from residential schools and 200 teachers from non-residential schools of both sexes were selected at random. Different tools were administered to measure the different dependent variables. The major findings of the study were: (a) The teachers working in residential schools had a more favourable attitude towards teaching than those belonging to non-residential schools. (b) Women teachers had a more favourable attitude towards teaching than men teachers. (c) Teachers who had the most favourable attitude obtained the highest efficiency score, while low group obtained the least efficiency score.

2.2.3 Studies in Relation to Personality Characteristics

The various traits of teachers personality have been the object of much research and attempts have been made to examine the relationship between the personality and success in teaching. It has long been felt that personality is an important factor behind the successful teacher. Gage (1963) listed the following obstacles as seriously and are commonly faced by researchers in this area: (1) The problem
of definition, (2) The problem of instrumentation and (3) The problem of criterion. While commenting on the position of research on teaching and teaching personality he states "Despite the critical importance of the problem and a half-century of prodigious research effort, very little is known about the nature and measurement of teacher personality about the relationship between teacher personality and teaching effectiveness.

Charters and Waples (1929) studied the personality traits of the teachers. They evolved a link of 15 personality traits of teachers for classroom effectiveness. They are buoyancy, considerations, cooperativeness, dependability, emotional stability, ethicalness, expressiveness, flexibility, forcefulness, judgement, mental alertness, objectivity, personal magnetism, physical energy, drive and scholarship.

Lamke (1951) conducted a study to determine whether there were characteristic personality differences between good and poor teachers by administering 16 PF questionnaire and by considering two sources of data; expert opinion of teaching performance and acceptability of the teacher to his principal or supervisor to obtain scores on personality characteristics and teaching success respectively for 32 subjects. The analysis suggested that some good teachers were different from some poor teachers in the responses associated with Cattell's source traits, F, E and N. As described by Cattell, good teachers were more
likely than poor teachers, to be gregarious, adventurous, frivolous, to have abundant emotional responses, strong artistic or sentimental interests, to be interested in the opposite sex, to be polished, fastidious and cool. Poor teachers were more likely than good teachers to be shy, cautious, conscientious to lack emotional response and artistic or sentimental interests, to have comparatively slight interest in the opposite sex, to be clumsy, easily pleased and more attentive to people.

Montross (1954) administered three personality tests to 35 subjects and obtained ratings from 5 different sources. The results showed that there was no significant relationship between the seven areas of temperament of the Thrustone Temperament schedule and the criteria of teacher effectiveness. In the Cattell's 16 PF test, only one factor namely 'A' appeared significant. Five of the objective measures of temperament were found to be significantly correlated with the criteria. These correlations ranged from 0.39 to 0.57. In the light of the results, he believed that there might be certain temperamental patterns which would distinguish between good and poor teachers. Barr, et al., (1961) found that consciousness (G+), Control (Q3+) and practically (M-) were positively related to teaching success.

While consolidating the findings in different studies on the relationship between personality traits and teacher effectiveness, Gage (1963) reported that, (1) Only
one of the 16 factor scores, factor 'A' (cyclothemia vs Schizothymia) correlated significantly \( r = 0.40 \) with the composite ratings. (2) Detroit advanced intelligence test correlated with practice teaching grades \( r = 0.28 \), (3) Hennan Nelson test of Mental ability correlated with practice teaching grades as \( r = 0.23 \). (4) Factor \( Q_3 \) positively correlated with principals ratings \( r = 0.28 \), (5) factor 'O' worrying, suspicious vs calm, truthfulness, negatively correlated \( r = 0.27 \) with teacher's ratings by an outside agency and also teacher's selfratings, (6) Factor M - Bohemianism vs. Practical concernedness correlated negatively with principal's ratings \( r = 0.29 \) and pupil evaluation \( r = 0.28 \), (7) factor-G positive character vs immature dependent character - correlated positively with supervisor's ratings \( r = 0.26 \) and pupil evaluation \( r = 0.27 \), (8) correlations were calculated between 16 personality factors and 9 different measures of teaching effectiveness. Among the 144 \( (16 \times 9) \) correlations only 14 reached the 0.05 level of significance and (9) Good teachers were above average and poor teachers were below average on Cattell's source traits F-surgency vs Desurgency and paranoia vs threctia.

Warburton, Butcher and Forest (1963) found that the 16 PF test of Cattell as a fair predictor of teaching mark in that conscientiousness \( G^+ \), tender-mindedness \( I^+ \), and control \( Q_3^+ \) exhibited significant relationship at 0.01 level with teaching ability. They regarded this as a
sufficient promise to suggest their use as part of selection procedure.

Start (1966) obtained scores on 16 PF test and head teacher ratings on teaching effectiveness of 35 teachers. It appeared that the best teachers differed from the rest on factors 'cyclothymia (A-), general intelligence (B+), dominance (E+), Protension (L-), Autia (M+), Radicalism (Q1-), and high self-sentiment (Q3+).

Wayne and Blankenship (1972) in their study made a comparison between the ideological orientation and personality characteristics of teacher acceptance and rejection of B.S.C.S. biology. B.S.C.S. biology programme possesses favourable attitude towards the content philosophy and teaching methods advocated in the programme. Teacher attending institutes were defined as acceptors and teachers who had unfavourable attitude towards programme were called 'Rejectors'. They measured tolerance capacity for status, social presence, achievement via independence intellectual efficiency, flexibility etc., by using the instruments California Psychological Inventory (CPI) by Gough and pupil control ideology form (PCI). They found that acceptors were more humanistic.

Clapp (1977) listed out 10 qualities as the components of good teaching personality namely address, personal appearance, optimism, reservedness, enthusiasm, fairness of mind, sincerity, sympathy, vitality and scholarship.
Robinson Michael (1984) investigated the personality traits of American secondary teachers and administrators who work in the Association of American schools of South America (AASSA). Subjects were divided into 3 groups viz., 17 newly recruited teachers, 71 teachers already working in AASSA schools and 22 AASSA superintendents and principals. The 16 PF questionnaire and personal data form were administered. The investigation showed that newly recruited males and females differed from U.S. norms on nine and seven factors, secondary teachers who apply for overseas teaching jobs were already different from U.S. norms.

Guyton, John William (1988) made a study on "comparison of the personality traits of secondary school teachers in Mississippi Public schools. The main purpose of the study was to identify the personality differences between outstanding science teachers, regulated certified science teachers and provisional certified teachers of science. They found no significant difference existed in the personality traits of the 3 groups as measured by each important factor of Cattelle's 16 PF questionnaire. The outstanding teachers group was more abstract in thinking, self-reliant, independent, resourceful, preferred thinking their own decisions, proper, moralistic, aggressive and preferred hard working people. Discriminant analysis was used to identify six personality factors that combined and differentiated the outstanding and regular groups on the factors B, Q2, O, H, G and I.
Saxena (1969) made an attempt to study the attitudes and personality of teachers. He used Cattell 'contact' personality factor (Form 'A' Hindi version) on 139 teachers in U.P. in relation to their teaching competence. A coefficient of correlation of +0.60 with factor 'H' and +0.42 and +0.32 with factors 'A' and 'H' respectively were obtained. With high teaching competence, these correlations were +0.60, +0.06 and +0.36 respectively, which show a curvilinear relationship. It shows that a very high scores on factor 'H' is typical of less component teachers and only a moderately high 'H' is characteristic of a more successful teacher.

Kaul (1972) made a factorial study of certain personality variables of popular teachers in secondary schools. His objective was to differentiate the personality traits of popular and unpopular teachers. He used Cattell's 16 PF questionnaire. He came to the conclusion that the effectiveness of popular teachers was with respect to attitudes towards teaching, public examination results of their students and the appraisal of their work as teachers respectively.
Tripathi (1972) administered the 16 PF test (Form A) to 52 teacher-trainees and 52 experienced teachers to compare the personality profile of working teachers and teacher trainees. The technique of profile matching was employed for smooth comparisons between the two groups. Only eight factors (A, E, F, G, I, L and Q4) out of 16 personality factors distinguished the experienced teachers easily. These teachers were conscientious, persistent, sensitive, effeminate, suspicious, jealous, sophisticated and polished. The experienced teachers were significantly lower from the general population on factors A, E, F and Q1 and were aloof, stiff, submissive, soft hearted, glum and serious respectively.

Chhaya (1974) composed effective and ineffective teachers with respect to personality adjustment, teaching attitude and emotional stability. Eighty effective and 100 ineffective teachers were selected from 20 randomly selected schools of Kanpur district. Effectiveness and ineffectiveness were known on the basis of high school examination results (Board of Examinations of 1968, 1969 and 1970). She came to the conclusion that effective teachers had significantly better personality adjustment and favourable attitudes towards teaching. They were less interested in teaching than ineffective teachers, emotionally stable, more authoritarian and extrovert. She found that sex, and age of a teacher were significantly related to his/her effectiveness.
Srivastava (1974) used 16 PF Questionnaire (Cattell's Hindi Version) of 52 pupil teachers and 52 experienced teachers to know the impact of professional experience on the modification of personality traits. He found that experienced teachers differed on factors A, E, F, H, Q₁, Q₂ and Q₃ from the pupil teachers.

Singh (1979) made a comparative study of the personality profiles of married and unmarried high school female teachers. He derived the personality profiles of these teachers with the help of Cattell's 16 PF questionnaire. The investigator found that the unmarried female teachers differed significantly on factors A, F, L, O, Q₁ and Q₄ while the married teachers differed significantly on factors A, C, F, L and Q₂ from the general population. Low scores on factors O and Q₄ were shown by the unmarried female teachers. Married female teachers were less stable and frustrated. Female teachers (married or unmarried) were found to be significantly higher on factors L and Q₁. It means that they were more suspicious and self-opinionated. They were significant on factors A and F from general population. Thus, they are reserved, critical, cool, detached, rigid and aloof respectively.

Lokesh Koul (1974) found that the attitude of school teachers towards teaching was positively related to factors A (Reserved Vs. outgoing) and H (Shy vs. Venturesome). On the other hand attitude scores of school teachers were found to be related negatively to factors F
(Sober Vs. Happy-go-lucky), O (placid Vs. Apprehensive) and Q4 (Relaxed Vs. Tense).

The major objective of the study conducted by Singh (1974A) was to examine the relationship between some personality variables, and teaching effectiveness. He found that the needs of superior average and inferior teachers were clearly distinct from each other and superior teachers were distinct from the other two in the needs viz., cognition, dominance, autonomy and construction.

Sharma (1974) conducted an investigation into the relationship between personality factors and teaching effectiveness. The sample consisted of 175 B.Ed. students of both sexes. Cattell's 16 PF test was administered on the sample for the collection of data. The researcher found 6 factors out of 16 which were positively correlated with teaching effectiveness. These factors were intelligence, trusting, experimenting, self-sufficiency, happy-go-lucky nature and practical mindedness. Intelligence, came out to be a very important factor for teaching effectiveness. Total personality of the teacher played an important role in teaching effectiveness. Prominent sex differences were also found in the teaching effectiveness.

Gupta (1975) applied Cattell's 16 PF test to predict teacher effectiveness through the use of a personality test. Three hundred male high school teachers having five to six years of teaching experience, 25 principals and 350 students formed the sample. Other tools
used were 'Teachers Rating scale' and 'Pupils rating scale. The researcher noticed that highly effective teachers were more effectothymic (A+), more intelligent (B+), having more ego-strength (C+), more surgent (F+), more self-sentiment (Q3+) and were less guilt prone, less suspicious (Q1-) in comparison to the general adult population. Less effective teachers were less intelligent (B-) with lower self-concept control (Q3-) as compared to the general population. Highly effective teachers were significantly more intelligent (B+), emotionally stable (C+), assertive (E+), conscientious (G-), adventurous (H+), tenderminded (I+), with higher self concept control (Q3+) and were more warm hearted (A+) in comparison to the less effective teachers. The average effective teachers were more outgoing (A+), surgent and happy-go-lucky (F+), controlled and socially precise (Q3+) in comparison to the less effective teachers.

Malhotra (1976) in his multistage randomized cluster design showed that poorly adjusted teachers were more direct in their classroom behaviour than teachers who were well adjusted. Mathew George (1976) concluded that (1) there was no significant relationship between creative teacher personality and indirect/direct behaviour of teachers; (2) there was positive correlation between creative teacher personality and teacher talk and negative correlation between creative teacher personality and other dimensions of teacher behaviour.
Grewal (1976) reported that teacher effectiveness was significantly related to some of the personality traits of the teachers. Gupta (1976) reported that the high effective teachers differed significantly from the general population with respect to nine personality factors out of sixteen. They were A+, B+, C+, F+, G+, H+, L, O and Q1.

Gupta (1977) conducted a study regarding the personality structure of primary and upper primary school teachers. Eighty five teachers constituted the sample - the age range was 23 years to 38 years. Cattell's 16 PF test was used. Means, S.Ds were calculated for each factor in terms of stens and raw scores. The study showed that the primary school teachers were humble (E-), Sober (F-), tenderminded (H-), forthright (M-), and controlled (Q3+). Humbleness, tender-mindedness and forthrighteousness are associated with submissiveness, day dreaming and familiarity, simple and unsophisticated nature. They have control over emotions and general behaviour. In fact the primary school teachers who were facing the base necessities of daily life cannot help but be submissive, day dreaming and unsophisticated in this materialistic age.

Gupta (1977 a) performed a study on the personality characteristics, adjustment level, academic achievement and professional attitudes of successful teachers. The study intended to find out the personality traits of successful teachers. It was found that teaching success was significantly related to the factors, A, B, C, F, G, H, L,
N, O, Q_3, and Q_4 of personality. The researcher also noticed that successful and less successful teachers were different in personality characteristics, adjustment and attitudes towards teaching. The personality factor as a group were better indicators of teaching success than individual factors.

Singh (1978) found out the relationship between teacher's personality and success in teaching. He took a sample of 135 male and female teachers with minimum of 3 years experience and 2879 boys of class IX. The tools administered were rating scale, information schedule, behaviour change questionnaire, interview schedule, critical incidents blank, 16 PF questionnaire, incomplete sentences blank and roarschach ink blot test. His study revealed that the theoretical and social values positively related to teaching success but the economic and aesthetic values were negatively related. Highly successful teachers were controlled, aesthetic emotionally stable and those teachers were better adjusted than the average and less successful teachers. Highly successful teachers possess better intellectual capacity and were able to induce learning, develop interest etc.

Singh (1978 A) worked on the leadership behaviour of the heads of secondary schools in Haryana. He compared the headmaster's leadership behaviour with that of some other professional leaders and noted the relationship of variables such as personality factors, sex, age, teaching
and administrative experience with leadership. Five teachers from each of 100 schools of Haryana state were selected. Thus, 100 heads as known by their 500 teachers constituted the sample. 7 factory managers, 7 army officers, 7 college principals and 7 municipal committee presidents were included in the sample for the study of leadership. The study tools were the leadership behaviour description questionnaire and Cattell's 16 PF Inventory. It was found that the leadership behaviour was significantly related to the four personality factors i.e., outgoingness, intelligence, emotional stability and assertiveness. Headmasters were on the 3rd position in the leadership scale out of 5 professional leaders. The head's leadership behaviour was not related to his age (between 25 years to 62 years). Post-graduate heads were significantly better than graduate heads but total leadership behaviour was neither related to academic qualifications nor related to their teacher experience (between 6 years to 15 years).

Mishra (1979) conducted a study to know the personality traits of fluent teachers. He measured the fluency of teachers through Mehdis Test of verbal creativity. Subjects scoring more than 50 were labelled as HFT (Highly Fluent Teachers). The LFT (Low Fluent Teachers) had a score less than 34. These HFT and LFT groups were given Cattell's 16 PF Test (Form A) to measure the 16 independent variables of personality. Differences at 0.05 level were observed on five personality dimensions viz., (1) affected by feeling vs. emotionally stable; (2) Sober Vs. happy-go-lucky, (3)
Shy vs. venturesome, (4) tough minded vs. tenderminded; and
(5) conservatives vs. experimenting, respectively.

Sharma (1979) observed verbal classroom behaviour of high school science teachers of Uttar Pradesh using Flanders Interaction Analysis Category system (FIACS). He found that structuring the learning had a significant positive relationship with some personality components like general activities, restraint, ascendance, emotional stability, objectivity, thoughtfulness and personal relations. Adaval (1979) observed that harmoniously developed and balanced personality was helpful for success in teaching.

Thakur (1980) made a study on personality characteristics of teachers showing direct and verbal behaviour. He found that there was no significant difference in the teaching behaviour of the direct/indirect teachers due to the variables of age, sex and experience. Four personality factors namely, C, O, Q₃, and Q₄ differentiated the direct and indirect teachers significantly.

The major aim of Bali's (1981) study was to investigate common personality factors of highly creative persons in different fields viz., poetry, painting, science, music etc. The sample consisted of 20 persons who have been awarded or recognized in their fields. They were administered Cattell's 16 PF test Form-A. The findings were scientists profiles consisted of common factors of ego-ideal, emotional introversion and social will.
Gupta (1981) made a complex study of the scores of male and female teachers in the inventory of values, personality needs and moral judgement and scores of teachers belonging to different localities (rural and urban). The major findings were: 1. Male and female teachers expressed high preference for the theoretical value and affiliation. The teachers of both sexes expressed keen moral sense. 2. Urban male teachers were more moral than rural. 3. Urban female teachers preferred economic and social values. 4. Teachers who were above 45 years preferred the needs of achievement, change and order. Teachers below 30 years had the need of affiliation. 5. Achievement and moral judgement were the dominant factors in the personality of male and female teachers.

Suthar (1981) studied classroom behaviour of teacher trainees in the context of some personality variables. He reported that 1. there was no significant difference in the classroom behaviour of emotional and tough teacher-trainees except in the case of I/D which was found to be significant at 0.05 level in favour of emotional teacher-trainees, 2. The difference in the mean I/D ratio of extrovert and introvert teacher-trainees was significant at 0.05 level and it was in favour of extrovert teacher-trainees, 3. Out of the twelve groups of teacher-trainees, ten groups namely emotional, mature, sensitive, confident, insecure, experimenting, extravert, introvert, submissive and dominating showed indirect influence while the remaining two groups tough and conservative, showed direct influence.
Patnaick and Panda (1982) made a research on the personality and attitude patterns of good and poor teachers working in secondary schools. 35 good male and 25 good female, 35 poor male and 25 poor female teachers were selected as the sample. The instruments administered were 16 PF scale Form-C and teacher attitude inventory developed by Ahluwalia (1976). Males have more favourable attitude towards teaching professions, classroom teaching, child centered practices etc. Poor female teachers showed favourable attitude towards teaching profession than poor male teachers. Poor male teachers have significantly positive favourable attitude than the poor female teachers.

Kamala Chopra (1983) designed her study to identify the personality characteristics related to effective and ineffective teaching. 120 teachers were selected at random (49 effective, 19 average and 52 ineffective teachers) and measured with teacher effectiveness scale used by Pramod Kumar and Mutta. 16 PF Questionnaire was also administered. The difference in personality traits of the teachers were significant in case of factors A, B, C, Q3 and Q4. However, the difference was not statistically significant in case of factors F, G, I, L, O, Q2. Results showed that effective teachers were significantly more warm hearted and good natured. These results were in agreement with the findings of Chhaya (1974) who observed that the effective teachers were emotionally more stable than the ineffective teachers and Gupta (1976) who observed that the
effective teachers differed significantly from the general population on nine personality characteristics.

Rama Mishra (1984) found that the relationship between professional attitude and personality adjustment \( (r = 0.49) \) of 200 secondary school teachers of Indore city, was significant at 0.01 level. If a teacher had positive professional attitude then his personality adjustment was also good. Male and female prospective and practising teachers are characterised by the different personality traits. Malik (1984) also inferred this fact in their study that the over-achieving students are characterised by social introversion, lack of confidence and emotional instability while underachieving students are characterised by depression, worry and psychic tension.

Chachra and Ahluwalia (1985) conducted a study on "Differential personality profiles of high and low creative teachers and to find out the personality patterns of high and low creative teachers. A sample of 150 teachers of different intermediate colleges of Kanpur city were selected randomly. The tools used for creative test (Chauhan and Tiwari 1974) and the adoption of R.B. Cattell and Faber sixteen personality factor questionnaire (Form-A, Hindi version) developed by S.D. Kapoor. The results of the study indicate that the high creative teachers scored lower on factors A, E, F, H, I, O, Q and higher on factors B, C, G, L, O, and Q3. Whereas low creative teachers scored lower on
factors B, C, E, H, I, M, Q, Q₂, Q₃ and Q₄ and higher on factors A, F, and L.

Wangoo (1986) conducted a study on teacher personality correlates and scholastic competence as related to teacher effectiveness. He took a sample of 500 teachers of higher secondary teachers of the P.U.C. (Pre-University Classes) in the district of Srinagar and its outskirts. 16 P.F. questionnaire was used along with other instruments in this investigation. The major findings of the study were:

1. Personality adjustment emerged as the most prominent factor which goes with teacher effectiveness,
2. The sub-factors under the characteristics were forth-rightness, emotional stability, practical attitude, conscientious, controlled behaviour and venturesome having 85.71 per cent of coverage.

Verona and Sushila Devi (1987) studied on personality traits and job satisfaction of secondary school teachers by using 16 P.F. Cattell's questionnaire and teacher job satisfaction questionnaire to 20 secondary school teachers. They found significant difference between more liked and disliked teachers in the \(Y\) value of fourth personality factor, i.e., (Subduedness Vs. Independence). Most liked teachers appears to present the trait of independence.

Iqbal Mato (1988) conducted a investigation on personality characteristics associated with teacher effectiveness. A sample of 210 teachers were collected
randomly from 12 government high schools of Anantanag district in Jammu and Kashmir. The study was delimited to only male teachers teaching 9th and 10th classes using Cattell's 16 PF. (Adult form) questionnaire. The investigation reveals that outgoing behaviour (A); intelligence and brightness (B), emotional stability and higher ego-strength, (C) Happy-go-lucky and Enthusiastic (F), conscientious persistent and moralistic (G) venturesome, socially bond (H), tenderminded and sensitiveness (I); Polished and social awareness (N), self-sufficient, resourcefulness and preferring own decisions (Q₂) and relaxed ness (Q₄) are essentials factors which are associated with teacher effectiveness.

Srivastava and Sharma (1989) comparing teaching effectiveness and personality traits of four year and one year teacher trainees. A randomly selected 80 one year B.Ed. trainees and 80 four year B.A./B.Sc./B.Ed. teacher trainees from the Regional College of Education (NCERT), Bhopal were drawn for his study. 16 P.F. questionnaire (Kapoor, 1970; Cattell, 1967-68) and Indore Teaching assessment scale (ITAS) of Passi (1980) were used. The fourth year science group teacher trainees are significant on factors B+, C+, E+ Q₃+ and Q₄ where as in the case of the one-year science group C+, M+ and Q₂+ factors were significantly correlated with teaching effectiveness. Factors C+, M- and Q₄+ were significantly correlated in the four year arts group whereas
factor $H^+$ only was significantly correlated in the one-year arts group trainees.

Parandhama Amara (1992) found out the relationship between personality traits and their self-role expectations and role performance of science teachers. He took a sample of 600 secondary school science teachers randomly covering rural and urban schools under different managements. The tools administered were rating scale and 16 P.F. (Form-C) questionnaires. His study revealed that 'there is no relationship between personality traits and role expectations of science teachers except regarding the factor-C completely and factors $F$, $G$, $L$, $O$ and $O_3$ partially.

Jahanara Begum (1992) conducted a study on "Institutional Climate and Teaching Effectiveness of secondary Schools." A sample of 938 teachers from 86 institutions and 1748 students of 10th class were collected from different managements, i.e., Government, Municipal, Zilla Parishad and Private. The instruments administered were ICDQ and 16 P.F. (Form-C). The study reveals that "out of the 16 personality factors only four factors i.e., $A$, $H$, $L$ and $O$ could influence the level of perception of one or two climate dimensions significantly. All other factors could not exhibit any significant influence on the perception of the institutional climate of secondary school teachers. The same study also reveals that the teaching effectiveness of secondary school teachers would not significantly influenced by the 16 personality factors."
Jyothi, Rathore and Karuna Singh (1994) compare the personality characteristics of prospective and practising secondary school teachers. Among eight traits, prospective male and practising male teachers are found to be statistically non-significant on hypomanic temperament and depressive tendency, prospective and practising female teachers are found to be statistically non-significant on activity, attitude towards moral values, dominance, depressive tendency and emotional instability.

2.2.4 Studies in Relation to Personal, Demographic and Institutional Variables

As pointed out in many of the earlier references, the personal demographic and institutional variables have their influence on teaching effectiveness. The effect of these variables may vary from situation to situation in both magnitude and direction. So far, in determining their influence on teaching effectiveness many studies were conducted but no consistent solution was achieved. This part of the review deals with these variables one by one.

(a) Teaching Effectiveness Vs. Sex

Herda (1935) found no significance between male and female teachers in their effectiveness as measured by a teacher's examination and pupil ratings. Johnson, Jr. (1955) also observed that there was no significant relationship between sex and teaching effectiveness. Investigations by Ryans (1951), Anderson (1954), Jayamma (1962), Roy (1965),

Mangione and Quinn (1975) found that counterproductive behaviour was more prevalent among men than women.

In a study on effective and ineffective teachers, Gupta (1985) observed that in the case of effective teachers, women showed better teaching efficiency than men. But in case of ineffective teachers, male teachers showed better teaching efficiency than the females.

Virgil (1989) reported that the primary women teachers were more efficacious, both personally and professionally than intermediate grade women teachers. But Chandrasekhar Reddy (1980) and Patel and Dss (1984) observed that male teachers were more effective than their female counterparts.

(b) Teaching Effectiveness Vs. Qualifications

Jurgensen (1947) found that job performance was affected more by extent of education than by most other variables. Bandari and Mehta (1974) also obtained significant relationship between educational qualifications and performance of instructors. Gupta (1955) reported that efficiency in teaching increased with greater academic qualifications and training among secondary school teachers.
In an observational study Rao et al., (1990) found that postgraduate teachers were outstanding in most of the aspects of teacher effectiveness over the graduate teachers.

According to Hall (1964) fully certified teachers were more effective when pupil achievement scores were used as effectiveness criterion. Similar results were obtained by Bery (1962) and Collins (1964). Debnath (1971) also found that professional training was significantly related to teacher effectiveness.

On the other hand Jayamma (1962) reported that training did not influence, professional success of teachers at primary level though qualifications could add to professional success. Similar findings were obtained by Hawkins and Stoops (1966), Potter (1978), also found that there was no significant effect of training on teaching effectiveness of instructors working in Junior colleges. Padmanabhaiah (1984) and Rama Mohan Babu (1992) reported that there was no significant difference between suitably qualified and over qualified teachers with regard to their teaching effectiveness.

(c) Teaching Effectiveness Vs. Experience

One of the interesting things about any occupational groups is how long the members stay in a chosen job. The picture for teaching is encouraging here, assuming that long years of service indicate deep satisfaction for the workers. In a questionnaire study of some 5,000 teachers
In 1944, the research division of the National Educational association found that the median number of years of experience was 20 for urban teachers, for rural teachers the median number of years was 16. There were only slight differences in the median number of service years between elementary and secondary teachers, women teachers showed a little longer experience than did men. Ryan (1951) also found that experience was one of the most important and interesting variable exercising its influence on teaching effectiveness.

Johnson, Jr. (1955) reported that there was a significant negative relationship between length of experience and teaching effectiveness.


Hawkins and Stoops (1966), on the other hand observed that years of experience had no significant advantage or disadvantage over either formal or informal evaluation for measuring teacher competence. Feidler and Gillo (1974) and Subbarayan (1985) also found that there was no significant relationship between experience and performance in teaching. Similarly Jaharana Begum (1992)
also observed that the experience is not an influencing factor on teaching effectiveness.

(d) Teaching effectiveness Vs. Marital status

Waits (1932) found that there was no significant difference between married and unmarried teachers with regard to their teaching effectiveness as measured by supervisors ratings. Padmanabhaiah (1984) also reported that the marital status of teachers has no bearing on their teaching effectiveness. Similarly Rama Mohan Babu (1992) also observed that there was no significant difference between the teaching effectiveness of married and unmarried teachers.

On the other hand, measuring teaching effectiveness on the criteria of pupil achievement and mental growth, Peter (1934) found that married teachers were slightly more effective in their teaching than single female teachers. Ryans (1960) also found that there were systematic differences between married and unmarried teachers with respect to various classroom behaviours and attitudes. These differences, however, often varied accordingly to school level and grade and subject taught.

(e) Teaching Effectiveness Vs. Family Size

It seems generally accepted that teachers come from families that are average larger than average in size. Many of them come from agricultural families and the average
annual income of their families is estimated to be from Rs.4,000/- to Rs.5,000/-. Their homes are modest and comfortable but not in any sense luxurious.

Padmanabhaiah (1984) found that the size of the family of a teacher is a significant factor which influence the teaching effectiveness. On the opposite pole Chandrsekhar Reddy (1980) found that there was no significant difference between means of different categories whose family size were different.

(f) Teaching Effectiveness Vs. Place of Work or Locality

Jayamma (1962) found that a teacher's professional success at primary level was in no way influenced by the locality of work. In line with the above results, Fassum (1974) found that there were no significant differences between urban-rural group of teachers in their ability or performance. Rajagopalan (1976) also found similar results among English teachers.

Patel and Dass (1984) also found that teachers from urban and rural areas are more or less equal with respect to teacher effectiveness. Padmanabhaiah (1984) found that there were no significant differences between rural and urban teachers on their teaching effectiveness. Similarly Krishnan and Raja Singh (1994) reported that teachers locality do not have any individual impact on teacher effectiveness.
Certain Observations

An analysis of the past research on teaching effectiveness presented in this chapter, indicates the following important observations.

1. There are different meanings and definitions to effective teaching; and teaching effectiveness or teacher's effectiveness. There is no general or accurate definitions either teaching effectiveness or teacher's effectiveness. Therefore, it is not possible for drawing any generalisation in defining these two words.

2. Different skills and training were needed for becoming effective science teachers.

3. There are many controversies with regard to the methods to apply for the identification and the characteristics of effective science teachers.

4. From the beginning (i.e., before 1970) the influence of aptitude in teaching and attitude towards teaching profession is to some extent. But the trend is changed (i.e., 1970 onwards); most of the persons are favourable towards teaching profession to enter as a teachers.

5. The personality characteristics of effective and ineffective teachers are not leading to any generalisation.
6. The influence of personal and demographic variables on teaching effectiveness vary from situation to situation.

7. The studies conducted to predict teaching effectiveness with the help of different sets of causal variables are very few.

Keeping this in view, the problem is stated clearly with its objectives and suitable hypotheses are formulated in the succeeding chapter.