CHAPTER ONE
INTRODUCTION

1.0 Introduction:

Education is the compilation and product of varied resources. Among these, teachers stand out as a key to realizing the high standards that are increasingly emphasized in schools and school systems across the globe. Despite general agreement about the importance of high-quality teachers, it is seen that researchers, practitioners, policy makers and the public have been unable to reach a consensus about what specific qualities and characteristics make an effective teacher. Policy makers are left with questions surrounding what counts as a quality teacher—information that could be valuable in guiding policies regarding whom to hire, whom to reward, how to train and how best to distribute teachers across schools and classrooms. Answers to these questions have potentially important implications for the efficiency and equity of public education.

A good educational system should develop citizens and workers who can govern themselves, who are flexible, resourceful and able to deal with situational complexity, knowledge explosion and new technologies. They should be equipped with a set of values, individual stability and integrity. Students should be able to internalize content so as to be able to use it spontaneously and appropriately in changing contexts. Students need to learn how to learn and to be responsible for their own learning as well as how to contribute as competent citizens to social harmony.

Teaching is a unique profession, where teachers are continuously discovering, incorporating and applying new and more effective skills and knowledge about student learning for development of self and students. An effective teacher focuses fundamentally on providing for a student's
long-term development into a self-responsible, independent learner. The ultimate student outcome is a positive, confident, competent, caring learner who is able to take the initiative, solve problems, set goals and make decisions that help him or her to continuously adapt and prosper in a rapidly changing technological society.

Effective Teaching is more than knowing subject matter and clearly presenting it. Effective teaching involves knowing students, understanding their preconceptions and misconceptions, realizing what genuinely gets their attention and being aware of how to build their desire to learn from within themselves. The commitment and dedication of the professional teacher, therefore, should be to persevere in finding ways to build independence in the learner and nurture the natural curiosity of the student.

The teacher should identify interests and points of personal relevance, provide for emotionally and developmentally appropriate experiences and adjust instruction to engage learners and to encourage them to want to learn more, no matter how challenging the task may be. Also, basic to the role of the teacher is creating a community of learners within the classroom and school where students may trust, feel safe, experience a sense of success and accomplishment, develop integrity, self-discipline, empathy, responsibility to self and others and a love of learning.

Teachers are at the front line of developing pupils' understanding, attitudes, and skills. Teaching, in any country or context, is a complex professional activity whose effectiveness can be helped or hindered by a host of factors, including physical environment, policies related to the curriculum and pupil assessment, quality assurance and accountability systems, institutional leadership. Most of all teaching is affected by the frameworks for, and practical implementation of, strategies for addressing
the supply, training and professional development of teachers. The function of the teacher is of vital importance. He/ She must be a committed person, committed to faith in the future of man, in the future of humanity, in the future of his/ her country and the world. He/She must work with implicit confidence in the power of humanity, in the recuperative power which it has and by which it can cleanse and purify itself. Unless he/she has faith in this he/she will never be able to advance further.

1.1 Expectations from a teacher:
Stakeholders as students, parents, institution and society expect much from a teacher. It is essential that teachers reflect over these expectations so that they are able to find ways to meet these expectations by reviewing their roles regularly. It is expected that the teacher follows professional practices consistent with school and system policies in working with students, students’ records, parents, and colleagues.

1.1.1 Expectations of students:
Students expect a teacher to teach what is in and what is beyond the syllabus. Hence the teacher must have in depth knowledge of the subject and be able to deliver it skillfully. They expect good communication from the teacher. They expect a teacher to be well paced, bear in mind their difficulties, be available to solve their problems, discipline without curbing too much of their freedom. They expect a teacher to be of high moral character and possess integrity. The teacher should be impartial, should be enthusiastic and have a well balanced emotional state. A teacher should be reasonably approachable and be appreciative of students’ achievements.

1.1.2 Expectations of Parents:
Parents expect that the teacher be a good guide to the pupils, providing guidance in matters of both academic and personal importance. The
teacher must help a student to optimize his / her abilities, instill
certainty, have a positive approach and help the parent in the
upbringing of the child. A teacher's behaviour should be consistent.
He/she must have ability to listen, interact and communicate effectively
and help diagnose problems in the child.

1.1.3 Expectations of the Institution:
The institution expects a teacher to live up to the mission of the institution
and work towards its goals. A teacher should be regular, punctual and
sincere in his/her work. He/She must have versatile abilities and bear a
result oriented approach. He/She should be loyal to the institution and be
concerned about its well being. A teacher must possess managerial skills
and good organizing capacity. The teacher should uphold positive values
as sincerity, hard work and co-operation and be a role model to the
students. The teacher should work for the prestige of the institution and be
able to inspire the students to be worthy students and later worthy alumni
by being contributing members of society. The bond that alumni bear
towards their alma mater is forged largely by teacher – pupil relationships.

1.1.4 Expectations of the Society:
Society expects teachers to be nation builders by helping pupils to self
actualize and become worthy citizens. Society expects that teachers are
transmitters of healthy traditions and cultural values. Teachers are
expected to be social reformers. They must realize the desired social
change and work towards it by initiating the same in the classroom. They
must make pupils aware of social conditions, problems and challenges
and help create a problem solving attitude. Society expects teachers to be
socially committed and humane towards the welfare of socio-economically
backward students. Teachers should identify potential anti-social
behaviour among students and curb it at the right time. A teacher is
expected to be a community educator. Expectations placed on teachers
seem to be expanding exponentially. Increasingly their role encompasses not only teaching specific content and mentoring students in the love of learning, but also functioning as frontline social workers.

1.1.5 Expectations of Various Education Commissions:
In these days of globalization the role of a teacher has undergone much change. The complexity of social factors, the surge of media, the shrinking of the world due to information technology and the shift in the nature of education itself have necessitated the viewing of a teacher’s role through a wider perspective.

Various commissions have elaborated on the erstwhile roles of a teacher

- The Indian Education Commission (1964-66)\(^1\) reports “Of all factors that influence the quality of education and its contribution to national development, the quality, competence and character of teachers is undoubtedly the most significant”

- The Report on the International Commission on Development of Education (1972)\(^2\) says ‘The teacher’s duty is less and less to inculcate knowledge and more and more to encourage thinking, his formal functions apart, he will have to become more and more an adviser, a partner to talk to, some one who helps seek out conflicting arguments rather than handing our ready made truths. He will have to devote more time and energy to productive and creative activities, interaction, discussion, stimulation, understanding and encouragement. The Commission further states “In general the teacher’s role is changing in the fact that authoritative delivery of knowledge is being supplemented by spending more time diagnosing the learner’s needs, motivating and encouraging study and checking the knowledge required.”
• According to the Commonwealth Report (1974)\(^3\), the teacher has a major role in educational development, whether he approaches his work actively or passively. He can influence development adversely by opposition or by merely remaining mute in the face of a growing need for reform. On the other hand he can participate actively as the innovator or as an implementer of plans devised by others.

• The National Policy of Education (1986)\(^4\) states ‘The status of the teacher reflects the socio-cultural ethos of a society, it is said that no people can rise above the level of its teachers. The government and community should endeavour to create conditions which will help motivate and inspire teachers on constructive and creative lines. Teachers should have the freedom to innovate, to devise appropriate methods of communication and activities related to the needs, capabilities and the concerns of the community.’

• The General Conference on Education, UNESCO\(^5\) (1997) declared that teachers are essential partners in the knowledge-based societies of the future. They play an enhanced role in helping communities meet the challenges of lifelong learning and changing employment patterns.

• A report entitled ‘Role of Teachers in the Knowledge Society’\(^6\) (2005) states “Teachers play a vital role in our society. But their role keeps expanding to meet the changing needs of our society. Teachers add to the cultural and to the economic aspects of the knowledge society. They prepare our young people to be active citizens and independent lifelong learners, and this is crucial for their employment opportunities.”
• The National Curricular Framework in Teacher Education (2005)\textsuperscript{7} describes the importance of teacher as follows: A teacher is the one who facilitates learners to realize their potentials, articulate their personal and context specific experiences in ways that are acceptable in the wider context of our nation. Teacher has to recognize that in learner centered learning situations, curriculum ‘evolves’ and is not ‘pre designed’; the teacher merely prepares possible supports for learning. Every subsequent learning situation cumulatively provides better insight to the teacher in discerning learner needs and creates, gathers and identifies varied learning supports. In this sense, teacher is a participant in the learner's efforts at evolving learning experiences and helps to develop a program for learning. There is no one method that is effective in causing all learners to learn in similar ways. Each teacher has to find one’s own style of learning through perceptive practice but recognize the fact that all learners learn in their own ways.

Teaching method has two aspects for assessing its effectiveness or appropriateness. One pertains to teacher’s style which influences teaching methods. It relates to one’s own rationale. The second is the learner’s individual way of learning. The participation in unique ways speaks of the role of teacher and learner in the pursuit of knowing or learning. While both teacher and learner participate in learning situation and they are beneficiaries, acquisition of learning on the part of the student has been a major concern in educational situations. In this sense, technically, both the teacher and the student are learners. A teacher needs to recognize oneself as a ‘professional’ endowed with the necessary knowledge, attitude, competence, commitment, enthusiasm, spirit of seeking new ways and means, capable of reflection. The teacher should be sensitive and perceptive to not only the learners and the institution but also the emergent concerns in the larger social perspective within which one
functions. The media explosion challenges their minds with immense learning choices and possibilities. Facilitating meaningful and positive learning in the face of unprocessed information is the task of a teacher.

The teacher must develop an understanding of the nature and dynamics of action comprising education. Such an understanding would not be a cognitive acceptance of things that occur but will prompt attempt to do things, contemplation on 'what works and does not work', and critical analysis of the pros and cons of the action, reflection and internalization. It is visualized that providing for learner autonomy will ensure the stage appropriateness of every learning experience. The teacher has to be familiar with these variations in school patterns and the corresponding expectations they set for her or him. This ensures readiness in a teacher to adjust himself/herself effectively in any of the school systems he/she enters and function relevantly. Explosion of knowledge, impact of mass media, new trends in teaching, influence of Information and Communication Technology, changing nature of social systems, disintegration of joint family, presence of nuclear families and increasing cases of marital distress, increased cases of teenage suicides and depression, changing social needs, presence of alternative systems of education, changing value system, impact of coaching classes, entrance tests for admission to vocational stream, large numbers in the classrooms, greater awareness amongst pupils and parents, problems posed by environmental degradation, terrorism and communalism have made it necessary to re-define the role of educational institutions in general and that of the teacher in particular. It is necessary for a teacher to continuously re-engineer his/her skills and build his/her competencies to live up to the expectations of those he/she is in contact with. In the light of the expectations outlined above and the views of the various Commissions on Education, certain roles of the teacher that have implications for modern times are described in detail.
Fig 1.1: ROLES OF A TEACHER

FUNDAMENTAL ROLES
Facilitator
Animator
Evaluator
Developer of Learning Resources

A NETWORKER
Collaborator
Co-learner
Reflective Practitioner

AN INNOVATOR
Idea generator
Researcher
Curriculum developer
Course organizer
Manager

ANURTURER
Motivator
Counsellor
Guide
Mentor

DEVELOPER OF THE NATION
Nation builder
Social Reformer
Developer of Human Resources
1.2 The Contemporary Teacher as a Multi-faceted Person:
The present century is a century of progress, unprecedented scientific and technological changes. These changes have ushered in a change in lifestyle which may be comfortable but at the same time is a lifestyle plagued with challenges. The twenty-first-century teacher has to be a multi-faceted person so as to execute expected responsibilities. The teacher dons several roles. A successful teacher is one who is able to handle all these roles with equanimity. These roles are not contradictory but rather they are complementary – one role enhancing the efficacy of another. The following paragraphs minutely examine the nature of these varied roles.

1.2.1 Fundamental roles of a teacher:
Certain roles of a teacher are absolutely basic to the profession. Among these, instruction and assessment stand out as areas of priority. These basic roles are examined bearing in mind their need in the present times.

Teacher as a Facilitator of Learning: The traditional responsibility of the teacher is to pass on to students the information, knowledge and understanding of a subject. This leads to the traditional role of the teacher as one of provider of information in the lecture context. Good teachers can share with the students their thoughts helping to assist the process of decision making. Learning depends upon the personal relationship between the teacher and the student. The teacher’s genuineness, approachability, concern, empathy for the student and attitude all decide the effectiveness of classroom and out of classroom transactions.

To facilitate learning, the teacher must set the initial mood by rapport creation, clarify aims, establish the right motivational force, make available the right resources, respond to the intellectual and emotional aspects of the members of the group, establish a non-threatening, acceptable climate and provide timely, purposeful and adequate feedback. The move to a
more student-centred view of learning has required a fundamental shift in the role of the teacher. No longer is the teacher seen predominantly as a dispenser of information or a walking tape recorder, but rather as a facilitator or manager of the students' learning. The introduction of problem-based learning with a consequent fundamental change in the student-teacher relationship has highlighted this change in the role of the teacher from one of information provider to one of facilitator of learning means that the teacher’s role is to provide the type of the environment conducive to the kind of learning the teacher wishes to encourage. Frank Smith (cited by Brantmeier8) identifies three aspects of the learning process, which he refers to as demonstration, engagement and sensitivity. For learning to take place, the environment must provide demonstrations of what is to be learnt. A facilitator assesses the needs of their learners before initiating classroom strategies to meet these needs.

Teachers who facilitate learning do not set up demonstrations that are unnecessarily repetitious and boring for children. They provide only what the children need, even if this means that some of the best prepared demonstrations go unused because the children already know what they show. As a facilitator, the teacher challenges, questions, and stimulates the students in their thinking, problem solving and self-directed study. After a while, the students will similarly challenge each other and themselves as they work, think, and learn. In this process, students assume responsibility for their learning and move from teacher-centered to student-centered education. The student becomes an active as opposed to passive.

Teacher as an Animator: Much in a child may be latent for lack of awareness or opportunity. A teacher animates these latent talents to action. Helping a student to realize the vastness of his / her resources and to optimize the same is the role of the teacher. Passive reception in the
student has to be replaced by active experimentation by the teacher. Former President Dr Abdul Kalam⁹ attributes his success in Physics to the animation of his capacities by his primary school teacher. Anne Sullivan was successful in animating the capacities of her multiply challenged student, Helen Keller.

Teacher as an Evaluator: Learning is accentuated when the learner is provided with meaningful and timely feedback. An evaluator provides an unbiased and objective picture of the student’s progress keeping in mind his / her capacities. Evaluation involves assessment and value judgment. A teacher in the capacity of an evaluator provides vital information of performance not only for cognitive achievement but also for development in affective and psychomotor abilities. A student’s behaviour whether in the classroom or outside the classroom is observed, analyzed and judged by the teacher.

Teacher as a Developer of Learning Resources: An increased need for learning resource materials is implicit in many of the developments in education. New technologies have greatly expanded the formats of learning materials to which the student may have access and make it much easier for the student to take more responsibility for their own education. The role of the teacher as resource creator offers exciting possibilities. The production of self study material is a further role for the teacher. Such material suitably prepared in electronic or print form, can be seen as the students’ personal tutor available 24 hours a day and designed to assist the students with their learning. It tells the student what they should learn – the expected learning outcomes for the course, how they might acquire the competencies necessary – the learning opportunities available, and whether they have learned it – the students assessing their own competence. Along with the shift from teacher-centered classrooms bound by physical walls to multidimensional, more
open learning environments, the roles of the teacher and the learner also
tend to become multidimensional. Today the teacher is expected to
develop learning resources keeping in mind the variety of learners in the
classroom. Innovations in educational technology, impact of
telecommunications and development in child psychology have
necessitated that a teacher utilizes innovative techniques in teaching.
Today theories of Individual Differences, Learning styles and Multiple
Intelligences have influenced the classroom like never before. To ensure
that each child’s uniqueness is not only accepted but also celebrated, a
teacher’s role of developer of learning resources is fast gaining
importance.

1.2.2 Teacher as a Networker:
A buzz word for success today is networking. No profession can survive
meaningfully without a good system of networking. A teacher too should
be able to successfully network with a number of people to ensure that the
set objectives are met.

Teacher as a Collaborator: Collaboration is ‘to work with another or
others on a joint project’. The teacher collaborates with a number of
people to ensure that learning is facilitated. Collaboration with the
educational authorities helps to develop meaningful and useful curricula
for the students. The teacher must convey difficulties faced in execution of
the curriculum to the authorities so that necessary changes are made.
Sometimes it is necessary to collaborate with NGOs to facilitate classroom
transactions or provide guidance to students. Collaboration with the
counsellor helps the counsellor get a better perspective of a child seeking
help. The teacher must collaborate with parents to achieve optimum
development of the student. Within the school the teacher collaborates
with the management and other teachers to conduct curricular and co
curricular activities. Techniques as team teaching need a teacher to function as a collaborator.

Teacher as a Co learner: Classrooms of today are based on democratic setups. The teacher is a co-learner and plays a participatory role in the learning process. Learning is best facilitated by an exchange of ideas in an atmosphere of interaction. A teacher actively involved in a search for knowledge becomes an excellent role model for the child where life long learning is concerned.

Teacher as a Reflective Practitioner: A teacher benefits from the accumulated understanding that is the result of reflection on past practice and experience in the contexts of their classrooms. Dr G. Elliot\(^ {10} \) has elaborated on this role saying “….as reflective practitioners, teachers ask questions and gather information that continues to shape their practices as they apply what they discover to subsequent classroom teaching and learning situations. Teachers who approach each day as reflective practitioners consider what they know and improvise on their understanding of students; their interests, strengths, needs, personal learning goals. They reflect on curriculum; philosophy and expectations, aim, goals, instruction/assessment suggestions. They need to formulate their own philosophy and reflect how their own philosophy is similar to or different from that of the curriculum.”

1.2.3 Teacher as an Innovator:
To innovate is to stall stagnation. The educational system thrives on innovation. Impact of changes in technology, management and child psychology are profoundly seen in education. The teacher has to be creative, reflective and innovative.
Teacher as an Idea Generator: The teacher facilitates the thought process of a student by encouraging creativity or through guided critical thinking and thus helps the student to generate ideas. Such idea generation is an asset and helps to solve problems, increase productivity, stall wastage, thus paving way for progress.

Teacher as a Researcher: The teacher must demonstrate evidence of keeping current with recent research and significant literature; get involved in organizations and projects, particularly leadership roles, references and recommendations indicating excellent performance and potential for success. He / She must develop and continue to refine a well-reasoned educational philosophy that includes receptivity to new ideas and express strong commitment to one or more educational values. Teacher as a researcher involves the commitment to systematic questioning of one’s own teaching as a basis for development, the commitment and skills to study one’s own teaching and concern to questioning and testing theory in practice by using skills and readiness to allow other teachers to observe his/her work directly or through recordings and to discuss it with them on an honest basis. Teacher plays a role in investigating pedagogical problems through inquiry. According to Dewey(cited by Stengeluther)\textsuperscript{11}, teacher’s investigations not only led to knowledge about the school but also to good teaching, the development of clearer theory of language and learning increased knowledge and understanding of classroom practice, increased teaching skills, easier collaboration with pupils and the potential to develop a shared commitment to the desired improvements.

Teacher as a Curriculum Developer: A teacher has to plan thoroughly to achieve his/her goals. For this, teaching strategies are congruent with purpose, plans reflect the diversity of the classroom; lessons have effective assessments constructed within the design. The teacher shows an ability to speak and write about the significance of acquired knowledge
and cumulative experience, understands theoretical and practical aspects of curriculum development and implementation, demonstrates a thorough understanding of one or more teaching models, makes conscious, creative decisions about the components of lesson design, develops on a continuing basis a repertoire of effective and positive classroom management techniques, presents materials in a variety of ways to accommodate different dominant learning styles, exhibits high standards of professional ethics regarding colleagues. A teacher has to plan for all activities related to the transaction of curriculum. A teacher must plan for diagnostic testing and remedial action. To ensure optimum usage of resources, both material and human, thorough planning is necessary.

Teacher as a Course Organiser: The curriculum may be designed by the authorities but organising the course, bearing in mind the context of the learner, is the job of a teacher. For this the teacher has to be familiar with the entry behaviour of the students. He/She must be aware of the socio-cultural and economic background that the students come from, the value system they abide by and the expectations they come with to class. A sound knowledge of all the above will help to translate the aims of education to reality. As a designer of curriculum, the teacher's task is to select and structure problems so that they address both the important content objectives of the curriculum and important real-world issues. This process results in a reaffirmation of the importance of some objectives, the clarification of some and the elimination of others as lacking relevance or importance.

Teacher as a Manager: The Teacher as a manager is one who can plan and organize the classroom by implementing a positive learning environment for all students to succeed by use of effective intervention strategies. The teacher as a manager plays a vital role in the students' learning environment by incorporating the strategies of classroom layout, classroom management and philosophy of education. Teacher as a
manager has to organize his classes and contribute to the total organization of his school. Classroom management has been defined as the provisions and procedures necessary to establish and maintain an environment in which instruction and learning can occur. The primary goal of effective classroom management is not the reduction of misbehavior or even the creation of an orderly environment. Although they are related issues, effective classroom management and the establishment of order are not synonymous. For example, teaching practices that lead to passive non-engagement would not threaten an orderly environment, but would greatly reduce opportunities for learning. Student learning is the primary goal of effective classroom management.

Doyle\(^{12}\) reported that effective teachers in difficult management situations pushed students through the curriculum as a way of achieving and sustaining order. The teacher structures the learning environment. In this role, all decisions and actions require maintaining order in the classroom, such as laying down rules and procedures for learning activities are taken by the teacher. Teachers are environmental engineers who organize the classroom space to fit their goals and to maximize learning. The way the physical space of the classroom is organized can either help or hinder learning. The teacher involves modeling a positive attitude towards the curriculum and towards school and learning in general. Teachers who reveal a caring attitude towards learning and the learning environment help to instill and reinforce similar attitudes in their students. Teachers are required to manage and process great amounts of clerical work. There are papers to be read and graded, tests to be scored, marks to be entered, attendance records and files to be maintained, notes and letters to be written. Yet the primary emphasis in effective classroom management is the creation of a learning environment. It is the increase in appropriate student behavior. The effective teacher knows fully well that effective class
management is not primarily the process of reducing misbehavior, but rather the process of increasing appropriate behavior.

1.2.4 Teacher as a Nurturer:
One of the most commonly attributed comparisons to a teacher is that of a gardener. A teacher nurtures the latent talent of those entrusted to her care. She has to help the students imbibe life skills, make decisions, be aware of their own strengths. Some times she needs to help them solve their problems. Thus a teacher is a nurturer. As a nurturer, the teacher motivates and guides the students as well as parents.
Teacher as a Motivator: Motivation is the driving force for any action. Students tend to get demotivated while learning. Sometimes they are demotivated by the state of global affairs. Such disillusioned students need guidance and motivation to prevent them from getting cynical or frustrated. Detecting the need for and providing the right motivation is the job of a teacher.

Teacher as Counsellor: Modern day life is hectic. The student has to balance between several activities. He /She may seek assistance in choice of careers, means to cope with stress generated due to studies, relationships or other causes. At such times the teacher by virtue of expertise and experience is put in the role of a counsellor. A teacher counsels the students on various issues ranging from personal to academic to career related matters. Presently many schools have trained counsellors. Yet students may feel more comfortable with their own teachers. Hence the role of the teacher as a counsellor is important. At times this counselling is extended to the parents as well.

Teacher as a Guide: Never before have we been bombarded with so much of information. This increase in information necessitates exerting of choices. If these choices are made carelessly it will lead to repentance.
The onslaught of material from the media is often unsieved and unfiltered. In all such cases the student needs information and guidance. The teacher provides such guidance regarding use of leisure time, choice of careers and courses, proper study habits, guidance to cope with stress and personal problems and management of relationships. For a teacher increased knowledge and understanding of classroom practice and increased teaching skills leads to easier collaboration with pupils and the potential to develop a shared commitment to the desired improvements.

Teacher as a Mentor: A mentor is one who leads students to ease them through difficult transitions; it is about smoothing the way, enabling, reassuring as well as directing, managing and instructing. It helps to unblock the ways, to change by building self confidence, self esteem and a readiness to act as well as to engage in ongoing constructive interpersonal relationships. Individuals are engaged in a one-to-one teaching/learning relationship in which the mentor serves as a fundamentally important model with respect to values, beliefs, philosophies and attitudes as well as a source of more specific information. Rowley\textsuperscript{13} explains, “Mentoring implies a close relationship within which the teacher may be a role model, consultant, advisor and source of wisdom –even a sort of protector. Mentoring is defined as a nurturing process in which a more skilled or more experienced person, serving as a role model, teachers, sponsors, encourages, counsels and befriends a less skilled or less experienced person for the purpose of promoting the latter’s professional and/or personal development. Mentoring functions are carried out within the context of an ongoing, caring relationship between the mentor and the protégé. Mentoring is used to describe a combination of coaching, counseling and assessment.” A mentor tries to develop individual’s strengths to maximize their personal potential.
1.2.5 Teacher as Developer of the Nation:
No nation can rise above the quality of its teachers. A teacher assists in nation building by focusing on the national needs and incorporating the same in her teaching.

Teacher as a Nation Builder: “The future of the nation is shaped in the classroom of the present”. The lead statement of the Report of the Indian Education Commission (1966), aptly sums the important role of the teacher, that of a nation builder. By committing oneself to being a perpetuator of values, transmitter of culture and a visionary for the nation, the teacher moulds young minds to be worthy citizens. Convincing the students of their social and national commitments, helping them being citizens of integrity and high morality and equipping them with the power to actualize their convictions is adequate to ensure national progress.

Swami Ranganathananda\textsuperscript{14} in ‘Roles and Responsibilities of a Teacher in Modern India’ writes “The students must be educated to become the instruments to develop an integrated nation out of our diversities. They must be made acquainted with the noble humanistic sentiments of our Constitution and impressed with the passion to translate them into socio-political realities.”

Teachers have to be the instruments of the educational policy and action programme to develop a high character-energy, a pure national awareness, a firm democratic loyalty and a dedicated social responsibility. This must be done in the context of the teaching of the curriculum subjects. It is here that a teacher’s national responsibility finds expression. The role of a teacher is to shape the minds of the younger generation. That shaping will be on positive lines; it will include development of a scientific and humanistic attitude and temper, self-discipline, concern for other people, an ecological awareness and concern, a firm conviction that democracy thrives on tolerance and a firm commitment to challenge the
thought process of the learner. The teacher has been rightly called ‘nation-builder’ because he/she holds the remedy for problems like illiteracy, population explosion, poverty, employment and erosion of values. Society in general and parents in particular continue to have a tremendous faith in the teacher and the teacher has to live up to this faith. By exhibiting true patriotism the teacher turns to be a role model for the impressionable youth.

Teacher as a Social Reformer: A social reformer is an intellectual who is a disturber of status quo. The same holds for a teacher. Education by itself is meaningless if unaccompanied by desired social change. A teacher through inculcation of a critical thought process sensitizes a student’s mind to social conditions, makes him aware of disparities and helps him see areas that require a change. All great teachers were initiators of social change. Socrates ushered in an era of didactic thought. Mahatma Phule, Dr Ambedkar and Mahatma Gandhi all used education as a means of social reform. By developing social values and creating awareness in the community about social evils and social problems, a teacher can bring about a social change. A change agent influences clients’ decisions in a direction deemed desirable by society. As an agent of change, teachers work directly with students to adopt an innovative idea. This encourages students to become opinion leaders in their own interpersonal network. Creation of such thinkers and reflectors provides the society with valuable resources.

Teacher as a Developer of Human Resources: The child is a mine of untapped talent. These resources have to be discerned and developed by the teacher. All the material resources possessed by a nation are useless in absence of the right human resources. Ingenuity, hard work, dedication, creativity are to be enhanced through appropriate activities. By helping the
child perceive his/her talents, encouraging the development and right use of the same, the teacher assists in the economic progress of the nation.

The role framework described above is of use in the assessment of the needs for staff to implement a curriculum, the appointment and promotion of teachers to meet educational needs within the institution, the organization of staff development activities, the allocation of teaching responsibilities to staff, teacher evaluation by Principal and students, self-assessment by teachers of their optimum role and construction of a teaching portfolio by a teacher. Though these roles have been described separately, in reality they are often interconnected and closely related to one another. Indeed a teacher may simultaneously take on several roles. A good teacher need not be competent in all roles. It would be unusual to find, and unreasonable to expect, one individual to have all the required competencies. Human resource planning should match teachers with the roles for which they have the greatest aptitude. This matching is necessary bearing in mind the thrust upon Teacher Effectiveness.

1.3 Teacher Effectiveness:

The term Teacher Effectiveness has been used differently in different situations and hence it is necessary to elaborate on its various aspects. Teacher Effectiveness has been defined by Gupta and Kapoor\(^{15}\) as a repertoire of efficacy exhibited by a teacher in instructional strategies, classroom management, personal disposition, temperament and tendencies, evaluation and feedback, interpersonal relations, job involvement, initiative and enthusiasm, professional values, innovativeness in every day teaching learning situation.

Rao D.B and Darla Naresh Kumar\(^{16}\) define Teacher Effectiveness as the effective linkage of teacher competence and teacher performance with the accomplishment of teacher goals. It mainly depends on the
teacher characteristics such as knowledge base, sense of responsibility, and inquisitiveness; the student characteristics such as opportunity to learn, and academic work; the teaching factors such as lesson structure, and communication; the learning aspects such as involvement and success; and the classroom phenomena such as environment and climate, and organization and management. Medley and Shannon\textsuperscript{17} (1994) defined Teacher Effectiveness as a matter of the degree to which a teacher achieves desired effects upon students. Thus, Teacher Effectiveness is the power to realize objectives that are associated with the teaching learning process. Teacher Effectiveness does not imply just efficiency in the classroom. It goes beyond good teaching. It includes the influence that a teacher has on the students. It encompasses efficiency in all roles that a teacher has to execute. With the changing view regarding the role of the teacher, it is necessary that Teacher Effectiveness be viewed from a wider perspective and not just from the perspective of teaching efficiency. Effective teaching or effectiveness in classroom transactions is one of the important aspects of Teacher Effectiveness.

1.3.1 Effective Teachers vis-à-vis Effective Teaching:

Effective teaching empowers significant student learning about oneself, others and the world in high-quality learning environments that embody a genuine sense of community. The National Council for Teacher Education (NCTE)\textsuperscript{18} has identified ten competency areas of teaching, five commitment areas and five performance areas. The competency areas are contextual, conceptual, content, transactional, other educational activities, developing teaching-learning material, evaluation, management, working with parents, working with community and other agencies. The commitments to be internalized and put to practice are commitment to the learner, to community/society, to the profession, to knowledge/excellence and to values. The performance areas are classroom, school level,
outside school, parent related and community related. These three areas taken together could very well be the guiding factors in assessing Teacher Effectiveness.

Teacher quality is the most important school-related factor influencing student achievement. A refined understanding of how teacher attributes affect their performance across these different teaching contexts can be helpful in determining the plan of action for an institution. In “A Faculty Evaluation Model for Community and Junior Colleges,” Raoul Arreola\(^{19}\) views effective teaching as that composed of instructional delivery skill, knowledge of subject, enthusiasm, and concern for students. Teaching also includes instructional design skills, such as test construction, development of syllabi and course organization. Various measures of the content expertise of the instructor, as well as dimensions of record keeping and management, counseling and mentoring could be added.

According to J.K Mohapatra\(^{20}\), ‘Teaching-learning is a complex activity in a four dimensional mental space resulting in a real, measurable parameter, called the degree of meaningful learning by the learner.’ The four dimensions are the Pupil, his/her Alternative conceptions (influence of peers, family, media and society), the Curriculum to be transacted and the Teacher (PACT). Tuxworth\(^{21}\) opines that the teacher is the significant agent in causing learning and intellectual development of the learner. Okey and Capie\(^{22}\) support by stating that what the teacher does in his/her transactions with the learner makes a difference to the rate and quality of the desired learning.

Effective teaching includes efforts aimed at an objective at the right level of difficulty with clear purpose and relevancy. Effective teaching focuses on meaning throughout, has clear organization and presentation, and includes use of modeling techniques, guided practice, useful activities, materials and media. It is objective monitored and adjusted to fit the
learners, incorporates the principles of learning as attention, intention, reinforcement, practice, motivation, retention and transfer effectively. It moves progressively towards its goal and offers enrichment and remediation. Effective teaching empowers significant student learning about oneself, others, and the world in high-quality learning environments that embody a genuine sense of community. Effective teachers create high quality learning environments. A learning environment encompasses the physical and social-cultural context within which students and teachers interact. The classroom can be described as a learning environment. An effective teacher generates a genuine sense of community where there is a feeling of belonging and appreciation. A learning community makes connections among teachers, students, subject matter, educational purposes and goals, the university as a whole, and the larger world.

Highlighting such a learning community, a report entitled “Seven Principles of Good Practice in Undergraduate Education”\textsuperscript{23} (AAHE Bulletin, Oct 1996) suggests that effective teachers:

- Encourage student-faculty contact.
- Encourage cooperation among students (sharing backgrounds, use of study groups, peer tutoring).
- Encourage active learning (students may summarize to the class, use role playing or simulations, use field trips or internships).
- Give prompt feedback (prompt, detailed evaluations on performance).
- Emphasize time on task (clarify class preparation expectations, emphasize the need for studying).
- Communicate high expectations.
- Respect different learning styles and talents (create a safe environment where students can ask questions; discourage
uncivil remarks; use diverse teaching activities to encompass different learning styles).

As quoted in Wilbert J. McKeachie\textsuperscript{24} in Teaching Tips, "A teacher knows something not understood by others, presumably the students. The teacher can transform understanding, performance skills, or desired attitudes or values into pedagogical representations and actions. These are ways of talking, showing, enacting, or otherwise representing ideas so that the unknowing can come to know, those without understanding can comprehend and discern, and the unskilled can become more adept." Thus, teaching begins with a teacher’s understanding of what is to be learned and how it is taught. It proceeds through a series of activities during which the students are provided specific instruction and opportunities for learning, though the learning itself ultimately remains the responsibility of the students. "Teaching must properly be understood to be more than the enhancement of understanding because it also must emphasize reasoning, transformation, and reflection..."according to Lee S. Shulman\textsuperscript{25}, President of the Carnegie Foundation for the Advancement of Teaching. He further adds that three perspectives for the development of excellent teaching are essential: the teachers (professional development); courses, curriculum and technology (instructional development); and academic units and the school / university (organizational development). The perspective concerning the role of the teacher is discussed below in detail.

Lee Shulman identified seven kinds of knowledge minimally required for effective teaching in schools or universities:

1. Content knowledge
2. General pedagogical knowledge, with special reference to those broad principles and strategies of classroom management and organization that appear to transcend subject matter
3. Pedagogical content knowledge, which is that special amalgam of content and pedagogy that is uniquely the domain of teachers in a particular discipline
4. Curriculum knowledge, with particular grasp of the materials and programs that serve as tools of the trade for teachers
5. Knowledge of learners and their characteristics
6. Knowledge of educational contexts, such as the workings of the group or classroom or the governance and financing of school
7. Knowledge of educational ends, purposes, and values, and their philosophical and historical grounds

To emphasize the relationship between pedagogy and content knowledge, Shulman introduced the term Pedagogical Content Knowledge (PCK). PCK is concerned with the representation and formulation of concepts, pedagogical techniques, knowledge of what makes concepts difficult or easy to learn, knowledge of students' prior knowledge and theories of epistemology. It also involves knowledge of teaching strategies that incorporate appropriate conceptual representations, to address learner difficulties and misconceptions and foster meaningful understanding. It includes knowledge of what the students bring to the learning situation, knowledge that might be either facilitative or dysfunctional for the particular learning task at hand. This knowledge of students includes their strategies, prior conceptions, misconceptions students are likely to have about a particular domain and potential misapplications of prior knowledge. PCK exists at the intersection of content and pedagogy. Thus it does not refer to a simple consideration of content and pedagogy, but rather to an amalgam of content and pedagogy, thus enabling transformation of content into pedagogically powerful forms. PCK represents the blending of content and pedagogy. Shulman argued that having knowledge of subject matter and general pedagogical strategies, though necessary, were not sufficient for capturing the knowledge of good
teachers. To characterize the complex ways in which teachers think about how content should be taught, he argued for "pedagogical content knowledge" as the content knowledge that deals with the teaching process, including the "the ways of representing and formulating the subject that make it comprehensible to others". If teachers were to be successful they would have to confront issues of content and pedagogy simultaneously.

**Fig 1.2: Schematic representation of Pedagogical Content Knowledge**

In Shulman's words, this intersection contains within it, "the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations - in short, the ways of representing and formulating the subject that make it comprehensible to others."
Thus to be effective, teachers must consider pedagogy and content mastery not as two distinct identities but as two aspects greatly influencing each other.

The opinion "good teachers are born, not made" is contrary to both the wide range of personalities observed among effective teachers and the acknowledgement that professional knowledge, skills, and attitudes are acquired for effective teaching. While "personality" characteristics can influence perceptions of effective teaching and may lead to individual preferences for teaching and learning, the essential qualities associated with effective teaching are acquired, refined, and renewed over a teaching career. For students to achieve more, they have to engage in challenging, academically-demanding work. Teachers have to create such classroom experiences and out-of-class assignments that will optimize student learning. Teachers are consultants, problem-solvers, career guides and leaders of the learner. A good school system helps teachers achieve effectiveness in the execution of these tasks.

1.3.2 Need for Teacher Effectiveness:
Teacher Effectiveness has been deliberated upon in depth in preceding paragraphs. There is an urgent need to translate this to actuality. This need for Teacher Effectiveness is elaborated below.

1. It is very necessary that a teacher be effective in the class as her interactions have an impact on the students. The relationship between teacher classroom behaviour, student classroom behaviour and student achievement are reciprocal and therefore it is represented as cyclical or circular. This is because teacher behaviour affects student behaviour, which in turn affects student behaviour and student achievement.
2. Teachers who believe strongly that their students are capable of learning are more likely to increase student learning. This was demonstrated by Brophy\textsuperscript{27} (1979). Sabine\textsuperscript{28} corroborated the view by showing that students prosper owing to two teacher-characteristics; teachers challenging the students and teachers caring for the students. Thus Teacher Effectiveness enhances student learning and positively effects the nation's development.

3. Teacher quality has a positive correlation to pupil achievement. Even in a constructivist approach the form, focus and role of the teacher in the teaching-learning process have become more demanding than ever before. Darling-Hammond\textsuperscript{29} state that knowledgeable teachers and their students in a supportive, caring environment are hallmarks of improving learners' achievement. Thus teacher quality has a great bearing upon the educational system.

4. Effective teachers are those who are not just involved with effective teaching. They positively influence the learner helping him/ her to develop into an integrated personality replete with life skills, confidence and a high self esteem. They transcend meeting just academic targets; rather they progress towards meeting the target of total personality development.

1.3.3 Characteristics of Effective Teachers:

Effective teachers display certain specific characteristics. Effective teachers believe students are capable of learning. They show a willingness to try different methods and treat failure as a challenge. They allocate most of the available time to instruction and knowledge construction; demonstrate superior classroom management and
organization. They proceed rapidly but in small steps and generate a very high success rate. Such teachers use active teaching methods involving direct instruction, using both large and small groups, provide many opportunities for practice and application, monitor student progress, provide feedback and remedial instruction, and ensure basic skills have been mastered, understand the varying needs of students at different levels and provide a supportive learning environment.

Some actions of effective teachers include clarity of presentation or demonstration, variability of learning activities, directness and enthusiasm, task-oriented/business-like approach, acknowledgement and use of student ideas, usage of a variety of prompting mechanisms, maximum time on task, use of structuring comments, inspiring attention and commitment, raising relevant questions and developing the habit of self-questioning, drawing parallels and finding relationships, expressing support, reflecting feelings, evaluating and developing self-evaluation. A teacher enters a school with some basic amount of academic and professional training. However this may be insufficient. In such cases Teacher Effectiveness can be developed through meaningful exercises. Development of Teacher Effectiveness will have profound influence on the teacher’s job satisfaction, the learning of the students and the aims of the institution.

1.3.4 Enhancing Teacher Effectiveness:

With such a huge premium on Teacher Effectiveness it is worthwhile examining what different strategies have helped to enhance Teacher Effectiveness. Some of the ways in which faculty develop professionally as teachers are through:

- Reading, viewing and reflection on topics related to teaching-learning
• Conversations about teaching and learning with colleagues in one’s department/section and with peers in one’s field/discipline.
• The experience of teaching and reflections on teaching practices
• The collection and use of feedback from students and colleagues
• The creation and evaluation of changes in course objectives, course content, student learning experiences, student assessment tools, and technologies used for interaction with students as well as course management
• Course, instructional, and/or curriculum improvement projects undertaken alone or with a group
• Participation in teaching-related seminars, workshops, and conferences
• Instructional consultations, both offered and received
• Professional development leaves
• Presentations and publications related to teaching and learning

Together, five components can help teachers develop their effectiveness:

1. Commitment by top leadership to teacher-led instructional improvement
2. A structure for collaborative efforts by small teams of teachers to improve instruction
3. Resources, including time and professional development opportunities, to support teacher teams working to improve instruction
4. Clear, measurable goals set by educational leadership
5. Short-term feedback mechanisms to help teachers judge the success of teacher-pupil interaction in moving students toward the long-term goals.

Beyond some minimum level of mastery of techniques and tools for teaching, the professional development of faculty as teachers involves
sustained inquiry into teaching practices and the impact of teaching practices on the learning and development of students. Eric Hoyle\textsuperscript{31} in his book "The Role of the Teacher" says "...the successful teacher will be highly adaptable in his behaviour. The skilful teacher can play different roles but yet retain the capacity to return with ease to a more detached role when necessary without losing the goodwill of his pupils. Summarizing the above, it can be said that the successful teacher is one who:

1. has the skill to form accurate perceptions of the classroom situation and the changes which occur within this situation,
2. is aware of the teacher roles which are appropriate to different situations
3. possesses the personality skills which allow him/her to adapt to changing situations.

All the above discussion crystallizes to one fact that Teacher Effectiveness is a product of several factors encompassing personal factors as aptitude, attitude, intelligence and interest as well as other factors as the environment one is trained in, the school environment, institutional support and government policies. Measurement of Teacher Effectiveness has always been a debatable issue given the subjective nature of such an exercise. Before looking into how to measure Teacher Effectiveness, a study of the components of Teacher Effectiveness would be more appropriate. Components of Teacher Effectiveness based on some acclaimed models are discussed below.

1.3.5 Models of Teacher Effectiveness:

Systems of teacher appraisal and evaluation are being created across the world in order to monitor and assess teacher performance. In-depth studies of classroom activities have resulted in Models of Teaching
Effectiveness that are widely accepted. These models are described below to offer clarity to the concept of Teacher Effectiveness. The theoretical models of teacher effectiveness can be seen as a source for generating a set of criteria for teacher evaluation that captures the multiple teacher roles in changing the educational environment.

1.3.5.1 Hay McBer Model of Teaching Effectiveness (2000):

In June 1999, the Department for Education and Skills (DES), U.K commissioned management consultants Hay McBer\textsuperscript{32} to investigate the characteristics of effective teachers on the basis of interviews, questionnaires, observation and focus-group discussions. Though the original application of Hay McBer’s research was designed to inform the standards for threshold assessment, Hay McBer produced a model of teacher effectiveness at three different stages of professional expertise, based on an analysis of what effective teachers do in practice. It stated that effective teachers of the future will be those who work to make what is now the best become the standard for all. Central to the model is the concept of classroom climate. To establish the right classroom climate the teacher will need professional characteristics and specialized teaching skills.

One critical dimension would likely be openness to the integration of good practice from other teachers, schools, regions or even countries. This will require a shift in culture so that real team working is valued, and mutual feedback is embraced as an essential part of professional development. Three factors within the teacher’s control contribute to pupil progress (i) teaching skills, (ii) professional characteristics and (iii) classroom climate.
Of the three above mentioned factors contributing to pupils' progress, professional characteristics are the ongoing patterns of behaviour that combine to drive the things teachers typically do. Amongst those things are the "micro-behaviours" covered by teaching skills. Whilst teaching skills can be learned, sustaining these behaviours over the course of a career will depend on the deeper seated nature of professional characteristics.

Classroom climate, on the other hand, is an output measure. It allows teachers to understand how the pupils in their class feel about various dimensions of climate created by the teacher that influence their motivation to learn. Teaching skills, professional characteristics and classroom climate will predict well over 30% of the variance in pupil progress. Teaching skills are those "micro-behaviours" that the effective teacher constantly exhibits when teaching a class. They include behaviours like involving all pupils in the lesson using differentiation appropriately to challenge all pupils in the class, using a variety of activities or learning methods, applying teaching methods appropriate
to the national curriculum objectives, using a variety of questioning techniques to probe pupils' knowledge and understanding. These three contributory factors are described in detail below.

**Fig 1.4: Classroom Skills for Teacher Effectiveness**
(Source: Hay McBer Report, Dept of Education and Employment, UK)

(i) **Effective Teaching Skills:** Effective teachers set high expectations for the pupils and communicate them directly to the pupils. They challenge and inspire pupils, expecting the most from them, so as to deepen their knowledge and understanding. Effective teachers are good at planning, setting a clear framework and objectives for each lesson and are systematic in the preparation of and execution of each lesson. Individual work and small group activities are regularly employed as ways of reinforcing pupil learning through practice and reflection. With a clear strategy for pupil management, they achieve time and resource management by having a clear structure for each
lesson, making full use of planned time and allocating time fairly among pupils. They finish lessons with a succinct review of learning. Effective teachers ensure that homework is integrated with class work, is tailored to individual needs and is regularly and constructively marked. Effective teachers had well over 90% of the pupils on task through the lesson.

Fig 1.5: Professional Characteristics of Effective Teachers
(Source: Hay McBer Report, Dept of Education and Employment, UK)

(ii) Effective Professional Characteristics: The professional characteristics fall into five clusters: professionalism, thinking, planning & setting expectations, leading and relating to others. Effective teachers need to have some strengths in each of these clusters. Respect for others underpins everything the effective teacher does and is expressed in a constant concern that everyone
should treat pupils and all members of the school community with respect. Effective teachers explicitly value others, value the diversity in the school community and retain their respect of others. Effective teachers also provide challenge and support – a "tough caring" where they not only cater for pupils’ needs for physical and psychological safety but, crucially, repeatedly express positive expectations and build pupils’ self-esteem and belief that they can succeed, as learners and in life. Outstanding teachers do everything in their power to ensure all pupils get the best deal possible from their education. Effective teachers show confidence in most situations, expressing optimism about their own abilities and making an active contribution in meetings. Over time this confidence grows, so that a teacher sees himself or herself as a developed professional, able to succeed in most circumstances. Effective teachers take part in moving the school forward and improving its effectiveness, drawing on their experience to help shape policies and procedures. They have emotional resilience in dealing with challenging pupils and situations where, because they have a range of professional skills and have already experienced similar challenges, they are able to keep calm. This ability is fuelled by a conviction about the importance and value of what they are doing as highly effective practitioners in shaping the future of their pupils. They identify with the job and see the challenge of an increasingly ‘front line’ role as part of the territory. The very best go even further, rising to stretching challenges and expressing a belief that they will succeed against the odds. Effective teachers are consistent and fair, creating trust with their pupils because they honour their commitments. They are genuine, and generate the atmosphere where pupils can venture to be themselves, express themselves and not be afraid of making mistakes – an important starting point for learning. They are a dependable point of
reference in what, for many pupils, is a turbulent world. As they progress in the profession, increasingly they live up to their professional beliefs. Effective teachers are quite evidently there to support their pupils, and their sense of vocation is at the heart of the model of effective teaching. The Thinking that effective teachers bring to the job is characterized by Analytical Thinking - the drive to ask why, to see cause and effect and think ahead to implications; and Conceptual Thinking - the ability to see patterns in behaviour and situations and, at the level of outstanding teaching, to adapt creatively and apply concepts, ideas and best practice. Effective teachers display planning and setting expectations. Effective teachers are committed to meeting the needs of all pupils and to including everyone in the class. This means carefully prioritizing and targeting their efforts so that all pupils get their fair share of attention and everyone achieves good results. In terms of delivery of effective teaching and learning, teachers take a role in leading others. This they do by showing flexibility and showing a passion for learning. They are good at relating to others by understanding others, impacting and influencing their pupils.

(iii) Creating classroom climate: Effective teachers use their knowledge, skills and behaviours to create effective learning environments in their classrooms. They create environments which maximize opportunities to learn, in which pupils are well managed and motivated to learn. From the pupils' perspectives, they are mostly looking to the teacher to create a sense of security and order in the classroom, an opportunity to participate actively in the class and for it to be an interesting and exciting place.
The Hay McBer Report has provided a concrete base for various aspects of Teacher Effectiveness.

1.3.5.2: J.Cripps Clark and J.Walsh’s Model of Effective Teachers:
This model emphasizes not only the domains of effective teaching which receive most of the attention in teacher education and evaluation, namely content knowledge, pedagogical knowledge and, more recently, pedagogical content knowledge but also takes into account the teacher’s personal knowledge and knowledge of context.

![Fig1.6: Domains of Effective Teaching](Source: http://www.aare.edu.au/02pap/wal02220.html)

Characteristics of effective teachers are classified into four clusters: content (discipline) knowledge, pedagogical knowledge and skills, and knowledge of context and personal knowledge. The important construct of pedagogical content knowledge (PCK) is classified in the intersection of discipline knowledge and pedagogical skills. The other intersections include such elements as: the teacher's personal epistemology; the
teacher's knowledge of curriculum and their students; and the relationships that the teacher forges with colleagues and students.

**Discipline knowledge:** Discipline knowledge encompasses an understanding of the salient concepts, relations among concepts, ideas and skills of a subject and has always been acknowledged as the first prerequisite of ability to effectively teach a discipline. The effective teacher is more likely to chunk information, access relevant information, attach deeper meaning and extract more information from the environment in a more significant way. Discipline knowledge is a crucial prerequisite in the development of teacher self-confidence (Tisher, 1990, cited by Clark and Walsh)⁴⁴. Understanding and being able to apply discipline knowledge builds self-confidence, and self-confidence is crucial in the development of an effective teacher.

**Pedagogical skills:** Van Manen (1994, cited by Clark and Walsh)⁴⁵ describes pedagogy as the relational knowledge of children, that one understands children and youth: how young people experience things, what they think about, how they look at the world and how each child is a unique person. In this description the relationship between the teacher and the student is paramount. The teacher establishes the relationship with the student, cares for the student by caring for what they may become, and makes adjustments to their interactions based on the situation and experiences of the student. For the student, the teacher provides opportunities for heightened experiences, a sense of self, and a real growth and personal development.

**Knowledge of context:** The classroom, school culture, community, educational system and students can all significantly influence the effectiveness of a teacher. Any theory of contingency will need to involve such factors as the volatility of the environment, the discipline taught, the community, the school and departmental organization and philosophy and the backgrounds of the students.
**Personal knowledge:** Two components of personal qualities are: a moral code of behaviour such as honesty, and integrity, and the teacher's personal philosophy and self-belief, which is best described within a motivational framework. Effective teachers are driven by a strong, coherent philosophy, influenced by their self-efficacy belief. They have positive self-efficacy beliefs and are comfortable with innovation and risk taking. Developing positive self-efficacy beliefs is a process built up over time through experience and a deeper understanding of self.

**Fig1.7: The professional growth of teachers under the influence of both teacher educators and the teaching profession**
(Source: http://www.aare.edu.au/02pap/wal02220.htm)

![Diagram showing professional growth]

Initially there is no perfect match between the teacher's discipline knowledge, pedagogical knowledge, contextual knowledge and personal knowledge. In the beginning the influence of the training programme is more and that of the profession is less. As the teacher progresses in his/her career, the influence of the profession gets stronger. Reflection
followed by modification will lead to the best match between the four elements of Teaching Effectiveness.

1.3.5.3 Dunkin and Biddle's Model for Study of Classroom Teaching:

Dunkin and Biddle\textsuperscript{35} (1974) have provided a model for classroom teaching and learning that is useful for understanding the many factors that must be considered by classroom teachers. They proposed four major types of variables that influence or result in student learning: Presage variables, Contextual variables, Process variables and Product variables.

**Fig 1.8: Dunkin and Biddle's Model for the Study of Classroom Teaching**

(Source: Ken Beatty's Model of CALL)
**Presage variables** are those associated with the teacher behaviour prior to classroom interaction. These variables are proposed to affect the behavior of the teacher in the classroom. Dunkin and Biddle suggest that teacher formative experiences such as social class, age, and gender may influence their teacher training experiences. These teacher training experiences such as the university attended, the unique features of the teacher education program, and student teaching experiences, combined with some characteristics, the authors call, teacher properties—their teaching skills, overall intelligence, motivation, and personality traits tend to influence the behavior of the teacher in the classroom. These variables also include efforts put in by the teacher to prepare lessons, grow professionally and relate development in education to actual classroom teaching.

**Process variables** refer to the actual happenings in the classroom. The model shows the interaction between teacher behavior and pupil behavior resulting in observable changes in pupil behavior. This is the desired outcome—that student behavior will change in a positive manner. Teacher classroom behavior includes how the teacher conducts the classes, carries out the lesson plan, treats students, manages student behavior, evaluates student performance and generally interacts with the students in the classroom. The pupil behavior includes not only the conduct of the student in the class, but also the way they approach learning, their willingness to participate in class, their performance on learning activities and the way they treat other students in the classroom. Such variables interact producing observable changes in student behavior.

**Product variables** describe the desired outcomes of education. Certainly the teacher should be concerned with immediate pupil growth with respect to learning the subject matter taught and developing positive attitudes toward the subject. Other skills, especially social skills in working as teams
and getting along with other students should be a desired immediate outcome, as well. Product variables comprise of the immediate effects seen in the students’ learning. Teachers must also be concerned with long-term effects of education—the development of a person’s adult personality, the development of professional competence, and the attitude that learning continues throughout the lifetime of the person. The long-term outcomes are the ultimate measure of the effectiveness of an educational experience.

**Context variables** are those variables not influenced by the teacher. These variables are attributed to the students, the school and the community and are often referred to as learner variables. Examples of these variables are prior experiences, prior knowledge and skills, and personality traits of the learner.

Thus it can be concluded that Teaching Effectiveness encompasses the overall effect that the teacher has on the student’s learning as well as on his personality. It is influenced by teacher’s personal characteristics, the academic and professional training undergone and impact of the institution one works in.

**1.3.6 Assessment of Teacher Effectiveness:**

Considering the difference that Teacher Effectiveness makes to the nature of student learning, Teacher Effectiveness definitely needs to be seriously approached by all institutions. This needs a feedback mechanism for assessment and improvement. At the Secondary school level, stakeholders like students and parents can evaluate the teacher. Alumni, supervisors, Principals and educational authorities can help improve teacher effectiveness. But most important is the process of reflection by the teacher. A continuous process of self evaluation combined with feedback from other sources will help improve teacher quality and in turn
the quality of education. The diagram that follows shows modalities of assessment as were suggested by Walia and Rajput.

**Fig 1.9: Modalities of Teacher Assessment**
(Source: 'Assessing Teacher Effectiveness' by Rajput and Walia)

The diagram sheds light on important aspects that form the focus of the teacher appraisal system. It also focuses on the various facets of Teacher Effectiveness. It is clear that at Secondary level, teacher evaluation should focus on their achievements, shortfalls, commitment, competence,
transactional strategies and innovativeness. These aspects of teacher effectiveness are a blend of personal traits and training received. One strong input is the teacher’s own set of Multiple Intelligences. This is the key area which, like in any other situation, will play an integral role in their being effective. The Theory of Multiple Intelligences is discussed in detail.

1.4 Theory of Multiple Intelligences:

The roots of Multiple Intelligence (MI) can be traced to France in 1904, when the Minister of Public Instruction and a group of colleagues developed the first intelligence test to identify students in primary grades who were “at risk” for failure. They created the “IQ” test which was thought to measure intelligence objectively. Eighty years later, Harvard psychologist Dr. Howard Gardner challenged this belief. He suggested that intelligence had been defined too narrowly and hence proposed the existence of several basic intelligences. He sought to broaden the accepted view of human potential beyond the confines of the IQ score. In his landmark book, Frames of Mind: The Theory of Multiple Intelligences (1983), Gardner provided extensive research to support his contention that human intelligence is multifaceted rather than singular. Gardner in 1999 redefined intelligence as, “a bio-psychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture”.

1.4.1 Gardner’s criteria for intelligence:

To qualify as an area of Multiple Intelligence, the intelligence must fulfill certain conditions formulated by Dr. Gardner. These criteria are:

1. Specific centres in the brain for specific intelligences: As medicine studies isolated brain functions through cases of brain injury and degenerative disease, it was possible to identify actual physiological locations for specific brain functions. A true
intelligence will have its function identified in a specific location in the human brain. For example, linguistic abilities can be compromised or spared by strokes. There is a very specific region of the brain, “Broca’s Area,” that is responsible for interpreting linguistic information. Stroke victims reveal a loss of the linguistic faculty while other cognitive processes remain unchanged. A person with damage to Broca’s Area can understand words but cannot assemble these components into anything other than the simplest sentences. Thus to qualify as an area of MI there has to be a specific area in the brain associated with that intelligence.

2. The existence of prodigies, savants and other exceptional individuals: Human record of genius such as Mozart being able to perform on the piano at the age of four and Shakuntala Devi being able to calculate dates accurately down to the day of the week indicate that there are specific human abilities which can demonstrate themselves to high degrees in unique cases. Highly developed examples of a true intelligence are recorded in rare occurrences. Such individuals permit that particular intelligence to be observed in relative isolation.

3. An identifiable core operation or set of operations: Every area of Multiple Intelligence has a core set of elements to distinguish it. Musical intelligence, for instance, consists of a person’s sensitivity to melody, harmony, rhythm, timbre and musical structure. This is true for all areas of MI. Only when such core elements are distinguishable then the intelligence may be considered as one of the areas of MI.
4. **A distinctive developmental history within an individual along with a definable nature of expert performance:** As clinical psychologists continue to study the developmental stages of human growth and learning, a clear pattern of developmental history is being documented of the human mind. A true intelligence has an identifiable set of stages of growth with a Mastery Level which exists as an end state in human development. There exist examples of people who have reached the Mastery level for each intelligence.

5. **An evolutionary history and evolutionary plausibility:** As cultural anthropologists continue to study the history of human evolution, there is adequate evidence that human species has developed intelligence over time through experience. A true intelligence can have its development traced through the evolution of man. One can examine forms of spatial intelligence in mammals or musical intelligence in birds.

6. **Support from tests in experimental psychology:** Clinical psychologists can identify sets of tasks for different domains of human behavior. A true intelligence can be identified by specific tasks which can be carried out, observed and measured. Researchers have devised tasks that specifically indicate which skills are related to one another and which are discrete.

7. **Support from psychometric findings:** Psychometric instruments to measure intelligence (such as I.Q. tests) have traditionally been used to measure only specific types of ability. However, these tests can be designed and used to identify and quantify true unique
intelligence. The Multiple Intelligence theory does not reject psychometric testing for specific scientific study. Batteries of tests reveal which tasks reflect the same underlying factor and which do not.

8. Susceptibility to encoding in a symbol system: Humans have developed many kinds of symbol systems over time for varied disciplines. A true intelligence has its own set of images it uses which are unique to itself and are important in completing its identified set of tasks. Codes such as language, arithmetic, maps and logical expression, among others, capture important components of respective intelligences.

1.4.2 Gardner's Theory of Multiple Intelligences:

The Multiple Intelligence Theory helps in increasing understanding of the ways in which people are intelligent. MI Theory offers the most accurate description to date of intelligence in the real world and it continues to be a helpful articulation and organization of human abilities. Howard Gardner defines Multiple Intelligences as "the ability to solve problems or fashion products that are valued in at least one culture."^{40}

Two distinguishing features of MI Theory set it apart from conventional wisdom. The first is MI's definition of intelligence, which locates intelligence in real world problem-solving and product-making. In contrast to the implied view of IQ intelligence, MI is based on an understanding of how people's intelligences really operate. The second feature is that there exists a plurality of intelligences, each with distinct symbol systems and ways of knowing and processing information. "Multiple intelligences"
should not in and of itself be an educational goal. Educational goals need to reflect one’s own values, and these can never come simply or directly from a scientific theory. Once one reflects on one’s educational values and states one’s educational goals, however, then the presumed existence of our multiple intelligences can prove very helpful. And, in particular, if one’s educational goals encompass disciplinary understanding, then it is possible to mobilize one’s several intelligences to help achieve that goal.

1.4.2.1 Three broad categories of Multiple Intelligences:

A striking aspect of the multiple intelligences is that they may be conceptualized in three broad categories. Three of these, visual–spatial, logical-mathematical, and bodily-kinesthetic, may be viewed as “object-related” forms of intelligence. These capacities are controlled and shaped by the objects with which individuals encounter and interact in their environments. On the other hand, the “object-free” intelligences, consisting of verbal-linguistic and musical, are not shaped by the physical world but are dependent upon language and musical systems (auditory systems). The third category consists of the “person-related” intelligences with the interpersonal and intrapersonal intelligences reflecting a powerful set of counterbalances.

1.4.2.2 Areas of Multiple Intelligence:

Nine important areas of Multiple Intelligences have emerged as is depicted in the concept map shown in the following diagram.

![Concept Map](attachment:image.png)
Fig 1.10: A Concept Map of Multiple Intelligences
(Source: http://www.Missmart.com)

- **Verbal/Linguistic**: The capacity to use language to express what's on your mind and to understand other people.
- **Existential**: To exhibit the proclivity to pose and ponder questions about life, death and ultimate realities.
- **Logical/Mathematical**: The ability to understand the underlying principles of some kind of causal system.
- **Visual/Spatial**: The ability to present the spatial world internally in your mind.
- **Musical/Rhythmic**: The capacity to think in music, to be able to hear patterns, recognize them, and perhaps manipulate them.
- **Bodily-Kinesthetic**: Capacity to use your whole or parts of your body to solve a problem, make something, or put on a production.
- **Naturalist**: The ability to discriminate among living things as well as sensitivity to other features of the natural world.
- **Intrapersonal**: Having an understanding of yourself, of knowing who you are, what you can do, etc.
- **Interpersonal**: The ability to understand other people.

A brief description of each area elucidates its components and characteristics.

1. **Verbal or Linguistic Intelligence** includes the ability to use words effectively for reading, writing and speaking. Linguistic skill is important for providing explanations, descriptions and
expressiveness. Gardner describes the poet as the epitome of linguistic ability. Career fields requiring skill in this area include teaching, journalism and psychology. Convergent aspects of Linguistic intelligence assessed by standard intelligence tests include vocabulary and reading comprehension. Activities requiring divergent thinking include story telling, persuasive speech and creative writing. This intelligence, which is related to words and language both written and spoken, dominates most educational systems. Verbal linguistic intelligence is awakened by the spoken word, by reading someone's ideas, thoughts, or poetry, or by writing one's own ideas, thoughts, or poetry, as well as by various kinds of humor such as "plays on words," jokes, and "twists" of the language. Capacities involved include understanding order and meaning of words, convincing someone of a course of action, explaining, teaching, and learning, recall and memory and meta linguistic analysis. Linguistic and logical-mathematical intelligences are most often associated with academic accomplishment. The gift of language is found in all populations and in all cultures. It develops according to a very predictable schedule in infants. For these reasons, the linguistic faculty passes the empirical test to be included in the list of intelligences.

2. **Logical-mathematical Intelligence** involves skill in calculations as well as logical reasoning and problem-solving. People strong in this intelligence are usually the ones who are described as being "smart" Mathematicians, philosophers, logicians and statisticians are often considered as logically intelligent. Logical-mathematical intelligence is required for multi-step, complex problem-solving and mental math. Most IQ tests assess a person's ability to reason and problem-solve quickly, but do not examine divergent and reflective aspects of Logical-mathematical intelligence, such as the identification of novel problems or the generation of new and worthy
questions. Often called “scientific thinking," this intelligence deals with inductive and deductive thinking/reasoning, numbers, and the recognition of abstract patterns. Logical mathematical intelligence is activated in situations requiring problem solving or meeting a new challenge as well as situations requiring pattern discernment and recognition. Abstract pattern recognition, inductive and deductive thinking, scientific reasoning, performing complex calculations and discerning relationships and connections are components of this intelligence.

3. **Visual or Spatial Intelligence** includes the ability to perceive the visual world accurately and to perform transformations and modifications upon one’s own initial perceptions via mental imagery. Functional aspects of visual intelligence include artistic design, map reading, and working with objects. Visual artists and interior designers exemplify creative spatial thinking, and a successful architect will need both the creative abilities as well as technical expertise. An automobile mechanic or engineer, on the other hand, does not need creative and artistic abilities to find the solution to a malfunctioning engine. This intelligence, which relies on the sense of sight and being able to visualize an object, includes the ability to create internal mental images/pictures. Visual/spatial intelligence is triggered by presenting the mind with and/or creating unusual, delightful, and colorful designs, patterns, shapes, and pictures, and engaging in active imagination through such things as visualization guided imagery, and pretending exercises. Some capacities involved include recognizing relationships of objects in space, active imagination, forming mental images, finding one’s way in space, image manipulations and graphic representation. It also involves accurate perception from different angles. Spatial intelligence in the blind population underscores the important difference between the intelligence (the spatial ability) and the
various modalities of sense data (seeing and touching). A blind person is perfectly competent spatially, creating mental maps of an environment or recognizing objects by touch, without receiving the visual data that are so important to spatial judgments for the seeing person. Artists, fashion designers or architects have this sort of intelligence.

4. **Musical or Rhythmic Intelligence** includes sensitivity to pitch, rhythm, and timbre and the emotional aspects of sound as pertaining to the functional areas of musical appreciation, singing, and playing an instrument. A composer requires significant skill in many aspects of this intelligence—especially involving creative musical thinking. On the other hand, musical careers (e.g., instrumentalist, vocalist) generally require more circumscribed abilities that emphasize technical skill rather than creative output. This intelligence is based on the recognition is based on the recognition of tonal patterns, including various environmental sounds, and on a sensitivity to rhythm and beats. Musical/rhythmic intelligence is turned on by the resonance or vibrational effect of music and rhythm on the brain, including such things as the human voice, sounds from nature, musical instruments, percussion instruments and other humanly produced sounds. Musical intelligence involves appreciation for the structure of music, having schemes or frames in the mind for hearing music, possessing sensitivity to sounds, displaying recognition, creation and reproduction of melody/rhythm and sensing characteristic qualities of tone. Singers, musicians, composers are musically intelligent.

5. **Kinesthetic or Bodily Intelligence** highlights the ability to use one's body in differentiated ways for both expressive (e.g., dance, acting) and goal-directed activities (e.g., athletics, working with one's hands). Well-developed kinesthetic ability for innovative movement is required for success in professions such as
choreography, acting, and directing movies or plays. Precision, control, and agility are the hallmarks of athletes such as karate masters, professional soccer players, and gymnasts. This intelligence is related to physical movement and the knowing/wisdom of the body including the brain’s motor cortex, which control bodily motion. Body/kinesthetic intelligence is awakened through physical movement such as in various sports, dance, and physical exercises as well as by the expression of oneself through the body, such as inventing, drama, body language, and creative or interpretive dance. This type of intelligence includes control of “preprogrammed” movements, control of voluntary movements, expanding awareness through the body, mimetic abilities, good mind–body connection and improved body functioning. Movement of various parts of the body is controlled by the movement cortex regions of the brain, a localized function that is well-documented in the research literature. This control is contra-lateral: the right hemisphere of the brain is responsible for control of movements on the left side of the body and vice versa. Support for the claim that bodily-kinesthetic activities constitute an intelligence is supported by the fact that impairment of voluntary movements through conditions of brain damage can occur while reflexive movements of those same body parts can occur on a non-voluntary basis. The bodily-kinesthetic intelligence is responsible for such activities as athletics, crafts, and dance. Although the intelligences are independent and distinct, in a task of any complexity, several intelligences are usually deployed in concert. For example, playing the violin, a task that taps the musical intelligence, also requires a sophisticated form of bodily-kinesthetic ability. Choreographers, sportspersons and dancers have high kinesthetic intelligence.
Unique contributions of the MI model to educational theory are the personal intelligences. Intrapersonal and Interpersonal intelligences are presented as separate yet related functions of the human brain (especially the frontal lobes). They are described as two sides of the same coin, where Intrapersonal emphasizes self-knowledge and Interpersonal involves understanding other people.

6. **Intrapersonal Intelligence** includes vital functions such as, accurate self-appraisal, goal setting, self-monitoring/correction, and emotional self-management. Results of research have highlighted the importance of meta-cognition for learning in the basic academic skills of reading and mathematics. Intrapersonal intelligence is not the same as self-esteem, but it may be a strong factor in promoting self-confidence and effective stress management. A well-developed Intrapersonal intelligence may well be essential to an individual’s sense of satisfaction and success. Careers that require skills in Intrapersonal self-management include pilots, police officers, writers, and teachers. This intelligence relates to inner states of being, self-reflection, meta-cognition (i.e. thinking about thinking), and awareness of spiritual realities. Intrapersonal intelligence is awakened when we are in situations that cause introspection and require knowledge of the internal aspects of the self, such as awareness of our feelings, thinking processes, self-reflection, and spirituality. Intrapersonal Intelligence includes concentration of the mind, mindfulness, meta-cognition, awareness and expression of different feelings, transpersonal sense of the self, higher-order thinking and reasoning. Intrapersonal Intelligence is the hallmark of thinkers and philosophers.

7. **Interpersonal Intelligence** also plays a vital function in a person’s sense of well-being. It promotes success in managing relationships with other people. Its two central skills, the ability to notice and make distinctions among other individuals and the ability to
recognize the emotions, moods, perspectives, and motivations of people, are known to be critical factors in successful employment. The ability to manage groups of people is required for managerial or leadership positions. Good teachers, counselors, and psychologists need to be adept at understanding a specific individual and then managing that relationship. This intelligence operates primarily through person-to-person relationships and communication. Interpersonal intelligence is activated by person-to-person encounters in which such things as effective communication, working together with others for a common goal, and noticing distinctions among persons are necessary and important. Interpersonal Intelligence includes effective verbal/non-verbal communication, sensitivity to other’s moods, temperaments, motivations and feelings, working cooperatively in a group, ability to discern other’s underlying intentions and behavior and passing over” into the perspective of another so as to create and maintain synergy.

8. **Naturalistic Intelligence.** In 1996, Gardner detailed an eighth intelligence which focused on sensitivity to the environment. This intelligence has been labeled the Naturalistic Intelligence. A person strong in the Naturalist intelligence displays empathy, recognition, and understanding for living and natural things (e.g., plants, animals, geology). Careers requiring strong Naturalist skills include farmer, scientist, and animal behaviorist. Skilled scientists use pattern recognition to identify an individual’s species classification, create taxonomies, and understand ecological systems. Empathic understanding is a related ability that allows people to care for and manage the behavior of living entities.

9. **Existential Intelligence.** In 1999, Gardner proposed one more type of intelligence – Existential Intelligence. While it’s inclusion in the list of Multiple Intelligence is yet not wholly confirmed, Gardner
defined it as exhibiting the proclivity to pose and ponder questions about life, death and ultimate realities. He described it as "Capturing and pondering the fundamental questions of existence." Capacities include thinking and questioning about life and its purpose, meditating on the ultimate realities of life, thinking about death and life after death, possessing a strong sense of ethics and values.

Gardner is careful to explain that intelligence should not be limited to the ones he has identified. He believes that the intelligences identified, however, provide a far more accurate picture of human capacities than do previous unitary theories. Gardner and his associates have been working on the Theory of Multiple Intelligence. Some of their latest views on the same are discussed below as they have implications with respect to Human Resource Development.

1.4.3 Recent Developments in the Multiple Intelligence Theory:

Gardner\textsuperscript{41} in 2004 has proposed two additional intelligences: the mental searchlight, and the laser intelligence. The laser intelligence is characterized by a disciplined mind exhibiting a particular way of thinking—a navigational system for understanding information. Whereas the searchlight intelligence is the synthesizing mind that is able to take the onslaught of information bombarding it, prune away that which is unnecessary, and hone in on what truly matters. It takes data from disparate sources and connects the dots. It ignores the static and hears the music.

According to Gardner, it will be the mind that will be of most consequence in the future. While the laser intelligence probes deeply into a specific area and largely ignores opportunities for cross-pollination, the searchlight intelligence covers broader ground, brings together ideas from disparate
sources and integrates them into a cohesive whole. In his book "Five Minds of the Future", Gardener outlines five mental abilities that he says leaders need to cultivate to create a better future:

- The disciplined mind, which has mastered at least one major school of academic thought (e.g., mathematics) and one professional craft (e.g., marketing);
- The synthesizing mind, which brings disparate information into a cohesive whole that can be understood by others;
- The creating mind, which breaks new ground and discovers new phenomena;
- The respectful mind, which appreciates differences among individuals and groups;
- The ethical mind, which enables one to fulfill one's responsibilities, irrespective of self-interest.

Considering the teacher as a leader the above five types of mind described by Gardener can be linked to various Multiple Intelligences e.g. the respectful mind can be developed by enhancing level of Interpersonal Intelligence or the ethical mind will be dependent upon the person's Existential Intelligence.

1.4.4 Implications of the Multiple Intelligence Theory:

Given the fact that the normal human brain consists of approximately 100 billion neurons and each individual is exposed to an infinite variety of environmental stimuli influencing the course of intellectual growth, each person possesses his / her unique profile of strengths and limitations. People have a unique blend of intelligences. Gardner argues that the big challenge facing the deployment of human resources 'is how to best take advantage of the uniqueness conferred on us as a species exhibiting several intelligences'. Each of these intelligences has its own memory
system with cerebral structures dedicated to processing its specific contents. These play a vital role in how we act and react in and to situations. Research is on to find new ways to structure post-compulsory education and training, new roles and partnerships for business and community stakeholders and specifically, new opportunities for young people and the communities in which they live. To really want to educate every person, it is essential to know much more about his or her intellectual configurations and how to teach and assess in ways that are friendly to that person. The Theory of Multiple Intelligence does not attribute importance to the general intelligence factor or I.Q per se. Rather it stresses on the presence of varied intelligences that are necessary to be successful. The Multiple Intelligences Theory represents a definition of human nature, from a cognitive perspective, i.e., how one perceives and how one is aware of things. This perspective has enhanced the understanding of how learning takes place. The unique combination of one’s Multiple Intelligences determines one’s Learning Style. Learning Styles play an important role on how one relates to his/ her learning environment.

1.4.4.1 Multiple Intelligence and Learning Styles:

A learning style is a student's consistent way of responding to and using stimuli in the context of learning. Keefe\(^{42}\) (1979) defines learning styles as the "composite of characteristic cognitive, affective, and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment." Stewart and Felicetti\(^{43}\) (1992) define learning styles as those "educational conditions under which a student is most likely to learn." Thus, learning styles are not really concerned with "what" learners learn, but rather "how" they prefer to learn. Multiple Intelligence profiles provide an absolutely pivotal and inescapable indication as to people’s preferred learning styles, as well as their behavioral and working styles, and their natural strengths.
The types of intelligence that a person possesses (Gardner suggests most people are strong in three types) indicates not only a person’s capabilities, but also the manner or method in which they prefer to learn and develop their strengths – and also to develop their weaknesses.

For example a person who is strong musically and weak numerically will be more likely to develop numerical and logical skills through music and not by being bombarded by numbers alone. A person, who is weak spatially and strong numerically, will be more likely to develop spatial ability if it is explained and developed by using numbers and logic, and not by asking them to design a craft piece in front of an audience. A person who is weak bodily and physically and strong numerically might best be encouraged to increase their physical activity by encouraging them to learn about the mathematical and scientific relationships between exercise, diet and health, rather than forcing them to box or play football. The pressure of possible failure and being forced to act and think unnaturally, have a significant negative influence on learning effectiveness. Happy relaxed people learn more readily than unhappy stressful people. A person’s strength is also a learning channel. A person’s weakness is not a great learning channel. When one adds in what one knows about personal belief and confidence it all begins to make even more sense. Developing people through their strengths not only stimulates their development but also makes them happy because everyone enjoys working in their strength areas. They also grow their confidence and lift their belief because they see they are doing well, and they get told they are doing well too. It is this confidence that helps people choose a career and excel in the same.

1.4.4.2 Multiple Intelligences, Career Choice and Career Development:

The Theory of Multiple Intelligences is closely linked to career choice and career development. The theory is finding popularity among career
counselors. Another theory that has been quite accepted by career counselors is John Holland's Theory of Career Choice.44 Holland's theory can be summarized in six statements:

1. Most persons are one of six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional.

2. People of the same personality tend to "flock together." For example, Artistic people are attracted to making friends and working with Artistic people.

3. People of the same personality type working together in a job create a work environment that fits their type. For example, when Artistic persons are together on a job, they create a work environment that rewards creative thinking and behavior -- an Artistic environment.

4. There are six basic types of work environments: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional.

5. People who choose to work in an environment similar to their personality type are more likely to be successful and satisfied: For example, Artistic persons are more likely to be successful and satisfied if they choose a job that has an Artistic environment, like choosing to be a dance teacher in a dancing school -- an environment "dominated" by Artistic type people where creative abilities and expression are highly valued.

6. How one acts and feels at work depends to a large extent on the workplace environment. If one is working with people who have a personality type like his own, he will be able to do many of the things they can do, and will feel most comfortable with them. It means that one probably should choose an occupation whose type is the same as, or similar to, one's personality type.
The above table shows that personality types are closely related to the kind of work environment one is most likely to be satisfied in. Choice of career is dependent on one’s personality type. Similarly, success in a career is seen to be associated with one’s unique personality type. Thus a good fit between personality and career is likely to be an indicator of job satisfaction. The person becomes an asset to the institution he or she works in. Each of the six personality types that have been discussed above is best associated with one of the six work environments. This particular environment may be considered as the most compatible of all six work environments. However for each personality type, there are two more work environments that could be considered as compatible environments.
<table>
<thead>
<tr>
<th>Personality Type</th>
<th>Most Compatible</th>
<th>Compatible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>Realistic</td>
<td>Investigative &amp; Conventional</td>
</tr>
<tr>
<td>Investigative</td>
<td>Investigative</td>
<td>Realistic &amp; Artistic</td>
</tr>
<tr>
<td>Artistic</td>
<td>Artistic</td>
<td>Investigative &amp; Social</td>
</tr>
<tr>
<td>Social</td>
<td>Social</td>
<td>Artistic &amp; Enterprising</td>
</tr>
<tr>
<td>Enterprising</td>
<td>Enterprising</td>
<td>Social &amp; Conventional</td>
</tr>
<tr>
<td>Conventional</td>
<td>Conventional</td>
<td>Enterprising &amp; Realistic</td>
</tr>
</tbody>
</table>

Most people, in reality, are a combination of types -- like Realistic-Investigative, or Artistic-Social. One therefore is likely to be satisfied in a job that fits his/ her personality type.

Comparing MI Theory with Holland’s Theory, one is able to draw a few parallels. Job effectiveness is a match between one’s innate capacities or capabilities and the demands of the job, the environment of the job. Therefore developing a person’s strengths will increase his/ her response to the job requirements, which in turn will help to minimize their weaknesses and develop their strengths.

Martin (2001) turned Howard Gardner’s theory of Multiple Intelligences into user-friendly tools. Her work provides a complete system for examining staff needs, matching applicants to jobs, and supervising and training effectively. The results allow the identification of individual skills and uncovering the mosaic of skills needed for multi-skilling, multi-tasking and efficient teamwork. Freund and Piotrowski found that many traditional job-profiles do not characterize the “real” job. The use of multiple intelligences in the workplace will increase creativity and
productivity by enabling workers to use their strengths. More than 80% of British workers lack any real commitment to their jobs, and a quarter of those are "actively disengaged," or truly disaffected with their workplaces. Management is the problem, according to the Employee Engagement Index survey. Workers say they don't know what is expected of them, their managers don't care about them as people, their jobs aren't a good fit for their talents, and their views count for little. The survey also found that employees feel they are far more productive if their supervisor focuses on their strengths and positive characteristics rather than their weaknesses. In view of the above discussion, the theory of mass customization in league with Multiple Intelligences makes sense when analyzed from the perspective of pre service and in service training.

1.4.4.3 Mass Customization, Multi Skilling and Multiple Intelligences:

Stan Davis⁴⁷, who coined the phrase in 1987, refers to mass customization as when "the same large number of customers can be reached as in mass markets and simultaneously they can be treated individually". Tseng and Jiao⁴⁸ refer to the objective of mass customization as "delivery of goods and services that meet individual customers' needs with near mass production efficiency". The idea of mass customization is based on the observation that there is a customer interest in products that are adapted to his/her individual needs and preferences, since the adaptation will increase perceived performance.

Thus if pre service and in service teacher training is customized to match the Multiple Intelligences based effective teacher's profile it will be beneficial to the teacher, students, the institution and society at large. Considering the fact that a teacher's job is not mere teaching but that it involves several other responsibilities as have been described earlier, it is necessary to take into view the fact that teacher training must offer scope
for multi skilling. This multi skilling is best achieved against the background of Multiple Intelligences and therefore a thorough analysis of the Multiple Intelligence profile of an effective teacher forms the rationale for the study.

1.5 Conceptual Framework for the Present Study:

A conceptual framework is described as a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation. A conceptual framework has potential usefulness as a tool to scaffold research and, therefore, to assist a researcher to make meaning of subsequent findings. It is a set of coherent ideas or concepts organized in a manner that makes them easy to communicate to others. It involves the basis for thinking about what one does and about what it means, influenced by the ideas and research of others.

Thus a conceptual framework is a model of reality that helps to understand the key concepts and the relation between its components. It is like a lens that helps to clarify a concept. In this case the conceptual framework is a sort of an answer to the research question: "What could possibly determine the connection between Teacher Effectiveness and Multiple Intelligence?"

The diagram that follows highlights the interrelationship between Teacher effectiveness and Human Resource development to serve as a conceptual framework for the present study.
Teacher Effectiveness is a product of several factors. Government policies, the organizational climate of the school, teacher's personal characteristics and the characteristics of the learners all influence Teacher Effectiveness. How one deals with these factors is possibly determined by one's Multiple Intelligences. Optimal utilization of Multiple Intelligence will ensure that the teacher is effective in achievement of pre-determined objectives, thus leading Human Resource Development. Multiple Intelligence plays a vital role in deciding how an individual views challenges in a situation and how he reacts to the same. Vast syllabi, large numbers, escalating student problems, evaluation patterns, cognitive overload, increasing spirit of competition, change in traditional roles of the teacher are challenges that loom large before the teacher of the third millennium. Teacher Effectiveness, therefore, has to be viewed against the background of not simply effective teaching. Therefore for the purpose of this research, a Model of Teacher Effectiveness has been devised.
Three models for Teacher Effectiveness namely Hay McBer Report, Cripps and Walsh Model and Dunklin and Biddle Model were used to develop the components of Teacher Effectiveness used in this study. These components were Presage Effectiveness, Process Effectiveness, Product Effectiveness and Contextual Effectiveness. A brief description of each of these as integrated in the study is given below.

Presage variables are those variables associated with the teacher’s out of class behaviour. These include planning, preparation, and zeal for professional development. They also include the teacher’s beliefs, value system and training received. Process variables of teaching refer to those components that are a part of actual class room teaching and are directly involved with the interaction in a classroom. Product variables of teaching are those components that are the effect of class room interaction on pupil’s learning. Contextual variables of teaching refer to those components that whilst not a part of actual classroom teaching are yet an integral part of the teacher’s role and they include interaction with students and their parents outside class, the rapport shared by the teacher with students and parents that contributes towards the achievement of the teacher’s objectives of all round development of the student.

**Fig1.13: Components of Teacher Effectiveness**

<table>
<thead>
<tr>
<th>Presage Variables</th>
<th>Process Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher qualifications</td>
<td>Teacher Pupil Interaction</td>
</tr>
<tr>
<td>Teacher Preparation</td>
<td>Learning Techniques used</td>
</tr>
<tr>
<td>Professional Growth</td>
<td>Teacher enthusiasm</td>
</tr>
<tr>
<td>Planning</td>
<td>Involvement of thinking skills</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Variables</th>
<th>Contextual Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact on Student Learning</td>
<td>Quest for Life long learning</td>
</tr>
<tr>
<td>Building self esteem</td>
<td>Inculcation of Values</td>
</tr>
<tr>
<td>Timely Evaluation</td>
<td>Interaction with parents</td>
</tr>
<tr>
<td>Counseling</td>
<td>Supportive learning climate</td>
</tr>
</tbody>
</table>
This study is an attempt to find if the above mentioned variables of Teacher Effectiveness can be a projection of one’s unique Multiple Intelligence profile.

Evidence has been offered by several researchers to prove that occupational efficiency is a function of personal qualities. Multiple Intelligence affects the way we learn, interact and respond to different situations. Since a teacher’s job involves several roles, it can be expected that more than one area of Multiple Intelligence will have a crucial role in determining Teacher Effectiveness. After a careful scrutiny of the Multiple Intelligence Theory, the nine areas of Multiple Intelligence were selected for the study. Presently there is some degree of ambiguity regarding the inclusion of Existential or Spiritual Intelligence as an area of MI. All the same, considering the effect of personal value system on one’s profession, this area was retained for the study. Review and reflection helped build the above conceptual framework and from this emerged the need for the study.

1.6 Need for the study:
The conceptual background highlights the importance of Multiple Intelligences in the success of an individual. An effective teacher is a successful teacher. What traits does a successful teacher possess? What traits does the teacher of the 21st century need to possess? These are some areas that need to be probed. The need for the study is strongly felt to study the effect of Multiple Intelligence on Teacher Effectiveness so as to individualize the Training Programme for teachers according to their strong areas of Multiple Intelligence. The study will help teachers to enhance effectiveness of teaching their special subjects by optimizing their strong areas of Multiple Intelligence. Often candidates for the teaching profession are chosen on the basis of their academic merit or their teaching skills alone. However, given the complexity of a teacher’s tasks, it is necessary for heads of institutions to be aware of the potential
of the prospective teachers. The study will be of assistance to educational managers to choose the right candidate according to his strong areas of Multiple Intelligence. The study will help to prepare a profile of effective teachers on the basis of their Multiple Intelligences. Such a profile can serve as a guideline for teachers to enhance their own intelligences and thus strive to be more effective teachers. The study will also help to find methods of teaching employed by effective teachers. These can be employed by other teachers to increase their own effectiveness. Teacher training institutes arrange several programmes for training prospective teachers. A well grounded knowledge of Multiple Intelligence profile of effective teachers will be of assistance in planning and executing a more need based teacher education programme.

1.7 Statement of problem:

The statement of problem is a declarative statement that gives direction to the research process. In this case the statement of the problem is

“STUDY OF THE RELATIONSHIP BETWEEN MULTIPLE INTELLIGENCE AND TEACHER EFFECTIVENESS OF SCHOOL TEACHER”

1.8 Operational Definitions of terms used:

It is necessary to define terms used in the study to ensure that no ambiguity is there in the interpretation of terms. Terms used in the study are defined below:

Multiple Intelligences:

Howard Gardner’s definition of MI and description of each area of MI is selected for the present study. Hence

Multiple Intelligences refers to the ability in following areas:

1. verbal or linguistic intelligence,
2. logical or mathematical intelligence,
3. visual or spatial intelligence,
4. rhythmic or musical intelligence,
5. bodily or kinesthetic intelligence,
6. intrapersonal intelligence,
7. interpersonal intelligence,
8. natural intelligence and
9. existential intelligence.

The rating of the teachers on the multiple intelligence scale prepared by the researcher based on the above definition and description of each area of MI is considered to represent their multiple intelligences.

**Teacher Effectiveness:**
Teacher Effectiveness, in the study, refers to efficacy displayed by a teacher with relation to process variables, product variables and contextual variables of teaching.

The rating of the students on the scale prepared by the researcher confining to the above definition is considered to represent their teacher effectiveness. This comprises process effectiveness, product effectiveness and contextual effectiveness. As only students' perception of teacher effectiveness is considered, presage effectiveness has not been considered while defining Teacher Effectiveness in the present study.

**School Teacher:**
Teacher in this study refers to a person who is at least a graduate in Arts or Science, professionally trained and teaching Classes VIII to X in schools attached to the Maharashtra S.S.C Board.
Relationship:
Relationship refers to the statistical measure, 'coefficient of correlation' between Multiple Intelligence and Teacher Effectiveness

1.9 Objectives of the Study:
The study is undertaken with the aim to find whether the Multiple Intelligences of a Secondary School Teacher have any relationship with Teacher Effectiveness, and if so, then to find the extent to which such a relationship exists.

The objectives of the study are as follows:
1. To study the relationship between nine areas of Multiple Intelligence and Teacher Effectiveness of Secondary School teachers
2. To study the relationship between nine areas of Multiple Intelligence and Teacher Effectiveness of teachers from the Humanities faculty
3. To study the relationship between nine areas of Multiple Intelligence and Teacher Effectiveness of teachers from the Science faculty
4. To study the impact of the nine areas of Multiple Intelligence on presage variables of effective teaching
5. To study the impact of the nine areas of Multiple Intelligence on process variables of effective teaching
6. To study the impact of the nine areas of Multiple Intelligence on product variables of effective teaching
7. To study the impact of the nine areas of Multiple Intelligence on contextual variables of effective teaching
8. To compare teachers with high effectiveness and teachers with low effectiveness with respect to preference for using a particular teaching technique
9. To compare teachers with High Intelligence and Low Intelligence in a given area of Multiple Intelligence with respect to preference for using a particular teaching technique
10. To determine an equation to predict Teacher Effectiveness from the Multiple Intelligence scores
11. To develop a profile for an effective teacher against the background of their Multiple Intelligence

1.10 Hypotheses of the study:

It is customary to formulate null hypotheses at the beginning of a study. These after subjection to statistical treatment may be accepted or refuted thus leading to conclusion about the sample.

Following were the null hypotheses formulated for the study:

1. There is no significant relationship between each area of Multiple Intelligence and Teacher Effectiveness.
2. There is no significant relationship between each area of Multiple Intelligence and the presage variables of effective teaching.
3. There is no significant relationship between each area of Multiple Intelligence and the process variables of effective teaching.
4. There is no significant relationship between each area of Multiple Intelligence and the product variables of effective teaching.
5. There is no significant relationship between each area of Multiple Intelligence and the contextual variables of effective teaching.
6. There is no significant relationship between each area of Multiple Intelligence and Teacher Effectiveness of teachers from the Humanities Stream.
7. There is no significant relationship between each area of Multiple Intelligence and Teacher Effectiveness of teachers from the Science stream.
8. There is no significant difference in Multiple Intelligences of teachers with respect to teacher effectiveness.
9. There is no significant difference in each area of Multiple Intelligences of teachers from Humanities faculty with respect to teacher effectiveness.
10. There is no significant difference in each area of Multiple Intelligences of teachers from Science faculty with respect to teacher effectiveness.
11. There is no significant difference between Multiple Intelligence of highly effective teachers and less effective teachers.
12. There is no significant difference between Multiple Intelligence of highly effective teachers and less effective teachers from Humanities stream.
13. There is no significant difference between Multiple Intelligence of highly effective teachers and less effective teachers from Science stream.
14. There is no significant difference between Multiple Intelligence of highly effective teachers and less effective teachers with respect to Presage Effectiveness.
15. There is no significant difference between Multiple Intelligence of highly effective teachers and less effective teachers with respect to Process Effectiveness.
16. There is no significant difference between Multiple Intelligence of highly effective teachers and less effective teachers with respect to Product Effectiveness.
17. There is no significant difference between Multiple Intelligence of highly effective teachers and less effective teachers with respect to Contextual Effectiveness.
18. There is no significant difference in the Classroom teaching techniques used by Teachers with High Effectiveness and Teachers with Low Effectiveness.
19. There is no significant difference in Classroom teaching techniques used by teachers with High Intelligence and teachers with Low Intelligence for different areas of Multiple Intelligence.

1.11 Variables involved in the study:
Teacher Effectiveness and Multiple Intelligence are the two major variables.

Independent Variables:
The independent variables in the study are the nine areas of multiple intelligences of the teachers, viz.
1. verbal intelligence,
2. logical intelligence,
3. visual intelligence,
4. musical intelligence,
5. kinesthetic intelligence,
6. intrapersonal intelligence,
7. interpersonal intelligence,
8. naturalistic intelligence and
9. existential intelligence.

Dependent Variables:
The dependent variable is the Teacher Effectiveness. This variable is divided in four areas viz.
1. presage effectiveness
2. process effectiveness
3. product effectiveness and
4. contextual effectiveness
**Moderator Variables:**

The following moderator variables are taken into consideration in this study.

1. The type of school,
2. Level at which the teacher teaches,
3. Subjects taught,
4. Gender of the teacher
5. Medium of instruction

The job satisfaction of the teacher, working conditions, physical and mental health, motivational levels and aspirations of the teacher are important extraneous factors. It is not possible to eliminate such variables, but choice of sample was done cautiously to minimize the effect of such extraneous variables.

**1.12 Significance of the study:**

The results of the study will help prepare an effective teacher profile. This will be important to teachers to determine which areas of Multiple Intelligence influence effectiveness. The results of the study could be of use to Principals and Heads of schools to choose candidates bearing in mind their areas of strength. It will also help Heads of Institutions to formulate professional development programmes for the Staff on an individual basis so that they reach optimum levels in various areas of Multiple Intelligences. The results offer another perspective of determining teacher effectiveness. So far factors as job satisfaction, school climate, gender, locality of school, work load have been extensively researched into to find their bearing on teacher effectiveness. Subjective factors as motivation, intelligence and self concept are more in the control of the teacher. If these affect their teaching effectiveness, something can be done to improve the same. Hence an effective teacher profile based on Multiple Intelligences will be a base for self improvisation. The study will
reveal techniques used by effective teachers to serve as a guideline to teachers.

1.13 Scope and Limitations of the study:
The scope of the study includes the relationship between Teacher effectiveness and Multiple Intelligence. The study has certain limitations due to factors that are beyond the control of the researcher. They are as follows:

- The study covers only Secondary School teachers teaching in schools following the S.S.C pattern of Maharashtra State Board of Education.
- Teachers teaching P.T., drawing, computers or craft only have not been included in the study.
- Privately managed schools, both aided and unaided, have been included. No teachers from Government run schools are included in the study.
- The focus of the study is building a profile of an effective teacher based on Multiple Intelligences. Descriptive Survey Method has been used for a sample of 300 secondary School teachers. Ten students have evaluated each teacher making the student sample size of 3000. No information about teacher’s effectiveness has been collected from any other source as Principals, parents or alumni.
- Data has been collected using Researcher made Tools which were validated and their reliability was determined.

1.14 Delimitations:
Delimitations denote the boundaries of the study. In this study the delimitations are as follows:
1. This study covers Teacher Effectiveness bearing in mind only presage, process, product and contextual effectiveness. It cannot be extended to other parameters of Teacher Effectiveness.

2. It considers following areas of Multiple Intelligence namely Verbal Intelligence, Logical Intelligence, Visual Intelligence, Musical Intelligence, Kinesthetic Intelligence, Intrapersonal Intelligence, Interpersonal Intelligence, Naturalistic Intelligence and Existential Intelligence.

3. The study is delimited to include teachers teaching in English and Marathi medium schools.

**Conclusion:**

Finding the right job and working in the right environs is an important criterion for job satisfaction. The job of a teacher is to be viewed with solemnity as this job is behind the formation of the child's personality. A well balanced individual personality is the key to national progress. A teacher while performing several roles needs to be effective so as to help the learner self actualize to the best of his or her capacities. With so much premium being placed on the teacher's role, it is but necessary to view teacher training with earnest. It is not just the pre service training that counts but also the self growth that the teacher undergoes that makes the teacher effective in his or her dealings. Self growth occurs when one has a clear perception of one's strengths, weaknesses, assets and liabilities. Having this perception, working towards building up of potentials and minimizing of lacunae, will go a long way in becoming effective. This can be achieved through an understanding of one's abilities and hence the Theory of Multiple Intelligences holds much value in Career Development.
References:

   http://education.nic.in/cd50years/12/8l/6A/toc.html


3. Education in Developing Countries of the Commonwealth (Feb., 1974). Reports of Research in Education by Commonwealth Secretariat, British Journal of Educational Studies, Vol. 22, No. 1


5. Recommendations concerning status of teaching personnel
   Retrieved on 17th January 2006 from the World Wide Web:


   http://www.indiana.edu/branteimer.pdf


28. Ibid


34. Ibid

82
35. ibid
   http://www.springerlink.com/content/qt08371806h03480/
40. ibid 38
   http://www.nwlink.com/~donclark/hrd/styles.html
   http://ERIC/AE Digest Series EDO-TM-96-01