CHAPTER-1
INTRODUCTION

1.0 INTRODUCTION

Education is as old as human race. Its period stretches from ‘cradle to grave’. Man learns something everyday and every moment. Hence, education is a continuous and dynamic process. It is continuous organization and integration of activities and experiences. Education in real sense is to humanize humanity and to make life progressive, cultural and civilized. It is very important for the progress of individual and society. Education is the entire process of learning that broadens a person’s cognitive horizons. It provides knowledge to the person by the experiences he gains. Education does not mean simply dissemination of existing stock of experience and knowledge but generation of new knowledge also. Knowledge is power. As supported by SOCRATES, “knowledge is power by which the things are done.” Education is the key to national prosperity and welfare. It plays a vital role in building a society.

As the famous education commission of 1964-66 Kothari commission, observed; “for achieving change on a grand scale the only effective instrument is education. It does initiate changes in social institutions and sub-systems, and this affects the social situation of the country. In a developing society like India, each one adopted a planned approach towards development.”

Education plays an important role in the development of human civilization. In India, there was Gurukul system in ancient days. There was change in Buddhist period, then medieval period and in present age, education aims at all round development of human beings. Education instills in the child a sense of maturity and responsibility by bringing in him the desired changes.

The concept of education is like a diamond, which appears to be of different colors when seen from different angles. While education develops personality of an individual in all fields and aspects making him intelligent, learned, bold, and courageous and possessing strong good character on the other hand, it contributes to growth and development of
society. It is through education that moral ideas and spiritual values, the aspirations of
nation and its cultural heritage is transferred from one generation to another for
preservation, purification and sublimation into higher and higher achievements.
Education is the process which goes on throughout the life and it helps the human being
in developing their personalities according to tradition of society, country and the time.
With growth and development of an individual, the society also develops to higher and
higher levels of attainments. Thus education is essential for the growth and development
of individuals as well as society.

Our education is passing through a phase of transition. We have seen various changes in
our education system from pre-independence to post-independence period. Though
education has been recognized as an antecedent variable for the development of
individuals, communities and nations, it is dependent on many other phenomena or
factors which affect its development, positively or negatively. After independence, there
has been a great progress in various sectors like agriculture, industries, technology,
information communication, etc. in the country. India is trying to expand its fields in
important sectors so that it may soon become a powerful nation- indeed a super-power.

In the field of education, India’s technical and professional manpower bank is the second
largest one in the world. But with all this visible material progress, India has been losing
sight of things on the ethical front. Despite being proud of its culture, saints, ethics,
values, honesty, truth and generosity as hallmarks of its heritage, it has turned to be a
nation ranking fourth amongst the dishonest people of the world. Violence, frustration,
immorality, self-centeredness’ and egoism are increasing in the present social set up.

As per paper, “The progress of a country depends upon the quality of its teachers and for
this reason teaching is the noblest amongst all professions. The irony of fate, however, is
that teaching is deemed to be the most unattractive profession and the teacher no longer
occupies an honourable position in the society. Teaching can regain its earlier noble
status in case the quality of teacher education in our country is improved.” It is probably
for this reason that the Education Commission (1964-66) recommended the introduction
of “ a sound programme of professional education of teachers”. In order to face the
challenges of this dynamic world, restructuring of teacher preparation process is highly
essential for professionalization and empowerment of the teachers. Teachers should be prepared to meet the challenges of local, nation and global demands because, “the quality of education depends to a great extent on the quality of teachers, teacher is the most important pillar of the education system that develops the learner as well as the society, as torch bearers in creating social cohesion, national integration and a learning society, teachers are capable of generating and imparting knowledge as per commands and demands of the society.” Ours is a rich country of cultural heritage known for the gentleness of mature mind and for reconciling the irreconcilable. It is none the less a fact that our country has fallen prey to all kinds of destructive forces. Resurgence of a country could come not through the channels of science and technology alone but also through the flood gates of value-oriented education. Only well-trained teachers will be able to implement value education programmes. If values are imbibed with a purpose, they will go a long way in moulding citizens of tomorrow and realizing the dream of an egalitarian society as envisaged in our constitution.

1.1 SYSTEM OF EDUCATION

According to Aurobindo (1910), “During the past several decades, sustained efforts have been made to evolve a viable system of education. Visualized a national system of education, it must be an education that for the individual will make its one central, object the growth of soul and its powers and possibilities, for the nation will keep first in view, the preservation, strengthening and enrichment of the national soul and its Dharma and raise both the power of life and ascending mind and soul of humanity. And no time will it lose sight of man’s highest object, the awakening and development of spiritual being.” According to national system of education, “main emphasis was on the nature and power of the human mind, the nature of simultaneous and successive teaching and training of mental and logical faculty.”

As per Gandhian philosophy, “a constructive program, the most important element is Nai Talim or the new education, which in the words of Acharya Kripalani, …is the coping stone of Gandhi’s social and political edifice. Gandhiji regarded his scheme of education as spearheading the silent social revolution and expected it to provide a healthy relationship between the city and the village, which would go a long way in eradicating
the poisoned relationship between the classes. This view was affirmed by various other scholars and thinkers in the field of education. Zakir Hussain once commented on Gandhi’s view on education. He wrote, …Gandhi socially considered the introduction of such practical productive work in education to be participated in by all. The children of the nation will tend to break down the existing barriers of prejudice between manual and intellectual workers and harmful elites to both.

Such is the social significance of the so-called new educational concept of Gandhi, but it does not entail any sacrifice of the individual goal of Basic education stands for a new outlook, a new approach. The fountain head of all conflicts in the world is that knowledge has been separated from work. They have been separated in thoughts by a faulty psychology. They have been separated in life by a faulty sociology. They have been assigned different market values by faulty economics. One of the basic principles of education is that work and knowledge must never be separated. Separation of learning from labour results in social injustices. In Dynamic societies. Education has to equip individual with the skills and attitudes necessary for them to adapt to changing conditions, and for constructive participation in the task of social change.

Now a days, the concept of education is purposive, conscious or unconscious, psychological, sociological, scientific and philosophical process which brings about the development of the individual to the fullest and also the maximum development of society in such a way that both enjoy maximum happiness and prosperity. In short, education is the development of an individual as per his needs demands.” Raymont has rightly marked, “Education is that process of development which consists of the process by which he adopts himself gradually in various ways to his physical, social and spiritual environment.” In India there has been a greater emphasis on quantitative expansion than on quality of education. According to D’Souza (1969), “Educational salvation lies not in a streamlined system of educational organization, tricked out with all the modern paraphernalia of learning, but in the personal human factor which underlines a modern educational system and makes it lick. It is a mainly this human factor in education which is neglected or taken too much for granted, that the rapid increase in number of school and the noticeable improvement in buildings, equipment, and text book have not been
accompanied by a commensurate improvement in quality of the education imparted to them.”

The system of education depends upon various factors. The teacher is however, the most important factor for quality improvement. He/She not only impart knowledge to his/her students, but also acts as an agent of social change and moulds the character of students. He is the backbone of the society. The place of the teacher in the society, “is of vital importance and acts as the pivot for the transmission of intellectual and technical skills from generation to generation.” He/She is the destiny of the nation. This place a special responsibility on the teachers at all levels of education. In fact, on him/her depends the future of mankind? The teacher plays an important role in shaping and molding the character of students. The personality of the teacher is a significant variable in the classroom. The impact of a teacher is surely not due to what he/she knows or even what he/she does, but in a very real sense to what he/she is. That is why the question that how he/she would teach has always been a matter of major concern. Thus the role of schools and teachers in shaping the future of nation is very important. Morrison (1972) have expressed that; “we are all the teachers a considerable part of our lives is spent in influencing the thought, feeling and behavior of other in raising our children, in our work and in our social activities. Professional teaching then is not clearly distinguished from a number of other activities in many of its objectives and techniques but does have particular priorities among its purpose and distinctive problems arising from the contexts in which it is done. However, for all our general of professional involvement as teachers we still have difficulty in describing and analysis what it is we are doing and influences we are having”.

School and teachers are the crucial agents for bringing out the desirable changes in the system. Therefore, teachers have the fundamental concerns and moral responsibilities to gear all the activities of the school in positive direction.

1.2  TEACHER’S ROLE IN EDUCATION

Teachers are the key factors in an education system. It is a well-known fact that their subject knowledge has an influence on students’ learning in the classroom settings. In addition to the subject knowledge of the teachers’ personality and behavior are also
significant contributors to the teaching and learning process for any discipline. The strength of an educational system largely depends upon the quality of its teachers. When one considers the large community of students to whom teachers impart knowledge and make skilled individuals to become good professionals and citizens of the nation, one would find that teaching emerges as the most important function of an institution. So, the process of any progressive reform in education should begin with the qualitative improvement of teachers and their professional development. In educational institutes teachers are expected to motivate, inspire, explain, understand and guide the students for their all round development. They are expected to attract students towards content, concepts, attitudes, values, knowledge and skills, under the set framework of predetermined goals. Guiding and nurturing students’ talents, abilities and values through predetermined content’s transmission are the assigned responsibility of teachers. As emphasized by Shah (1981), “Teaching is the principal avenue through which formal education takes place in any institution. Hence, administration needs to give major attention to attaining and maintaining high quality instruction. It is therefore, no exaggeration to say that the most critical problem confronted in the social organization of any school is the proper evaluation of instructors. In fact, schools have many responsibilities. But there is one which they all share helping students to learn.”

As per internet, “In ancient times, the teacher had the main role to play while the learner’s role was subsidiary. In modern times, the role has been reversed. Though the place of teacher has now become secondary yet his responsibility has increased because teacher is not only an important factor in the education environment of a learner, he is also a builder of the whole educational environment, which is very comprehensive and all inclusive. Role of a teacher is two folds in an educational system. Firstly, being the important factor of educational environment, he influences the personality of the learner. Secondly, as the builder of educational environment, he provides the suitable experiences to the learner to develop and use his skills and capacities, so that he can be an asset for himself and society. Besides, by his own attitude and behavior the teacher instills the moral and spiritual values in the learner. This is possible only when teacher is strong by character and is well aware of the modern strategies, tactics and techniques of teaching. He must be capable of using all this to make teaching-learning process more effective.
Thus teacher is an important in the development of learner as well as society and is important factor in the educational process.

All committees and commissions on education have emphasized the importance of the role of the teacher in education. According to the commonwealth Report (1974) says, the teacher has a major role in educational development whether he approaches his work actively or passively. He can influence development adversely by opposing innovation or merely remaining mute in the face of a growing need for reform; on the other hand; he can participate actively as an initiator himself or an interpreter of the plans devised by others. Similarly, the research done by Harris (1960) supports that learning is related to the kind of human relationship found in the classroom.

Teacher is a person who provides education for pupils. The role of teacher is often formal and ongoing, carried out in a school or other place of formal education. A teacher’s role may vary among cultures and regions. Teachers may provide instruction in literacy and vocational training, art, religion, civics, community role, or life skills (Wikipedia).

The relationship is of two dimensions; one is related with the interaction between the teachers and taught, the other is related with the theories of education give more stress on ‘child-centered’ education. The role of the teacher cannot be regarded as passive. The teacher has to play an active role of congenial interaction between the teacher and the taught. The education commission (1964-66) in India has emphasized the importance and role of the teacher in following words: “of all the different factors which influence the quality of education and its contribution to national development, the quality, competence an character of teachers are undoubtedly the most significant. Nothing is more important than securing a sufficient supply of high quality recruits to the teaching profession, providing them with the best possible professional preparation and creating satisfactory conditions of work in which they can be fully effective”. The quality of teaching depends on a great deal on the level of teachers involvement in relation to the professional commitment exerted, to the organization. So professional commitment should be a passion for the teacher.

If this is the position of a teacher in social matrix it is essential, indeed for a nation the carefully choose persons for teaching profession. They should be persons enable them to
deliver the goods desired by the nation. Whitehead wrote, “Everything depends on a
teacher.” So, in order to have a strong educational system we need to have teachers who
can use innovative ideas and latest tools to impart education and thereby making teaching
learning process more effective and efficient.

According to Dr. S. Radha Krishnan, “the teachers place in society is of vital importance.
He acts as the pivot for the transmission of intellectual traditions to keep the lamp of
civilization burning. He not only guides the individual but also the destiny of the nation.
It is generally believed that society and education stand in relation of reciprocal cause and
effect. The character of a given society determines the character of its education system
and the character of this system, in turn, determines the character of the society.”

In fact, real education develops the individual like a flower, which spreads its fragrance
all over the environment. It contributes to the growth and development of the individual
in all the fields, on the one hand, and on the other, it also contributes to the growth and
development of the society. The teacher has been recognized as the key person in the
preservation, progression and projection of a nation’s cultural heritage. The teacher is
supposed to be the role model for the wards put to his charge as also the society as a
whole. Teacher is one through whom the new generation is prepared to lead a good life in
the society and the environment to which it belongs. Teachers have a great role to play in
shaping the mind and heart of the youth so that they may prepare themselves as an
upcoming generation of good citizens of a democracy. The profession of the teacher
should not be reduced to a trade; it should be confined to keep burning the lamp of the
civilization. The teachers have to play a very vital role in the overall social development
as well as wholesome individual uplift through the process of schooling that aims at all-
round growth.

**Teaching as a profession**

A profession may be defined as an occupation, which requires specialized knowledge or
advanced learning. The functionalist theory of profession holds that the professions are
those occupations whose members bring a high degree of knowledge and skills to those
social functions which are most central to the well-being of the society. A professional is
one who is able to acquire a fund of knowledge, range of skills and their application in
the service of humanity. The dictionary meanings of professionals are, “belonging to a profession; showing the skill of a trained person; doing specified work etc. for payment and not as a pastime.” The criteria for an occupation to be recognized as a profession includes, the following considerations:

- A profession is an occupation, performing a crucial social function.
- It requires considerable degree of skill.
- It involves a concept of social service, though the person earns his living by virtue of one’s profession.
- A profession has a clearly defined membership of a professional group.
- Every profession has its own code of ethics. This emerges through the thinking and consideration of service by the professionals themselves. This code is self-imposed.
- A professional group has its own organisation that exerts influence own its members to observe the code of ethics in their work and also safeguards the interest of the professional itself.

The teacher is considered a professional because he is trained to teach and has acquired the teaching skills. It is through the help of the teacher that learning takes place. The teacher does not force learning; he simply provides such conditions that learning is facilitated. The teacher is the most important pillar of the education system. He is the nation builder and the architect of the students future. In order to facilitate learning, the teacher has to assume a number of roles like acting as guide, helper, supervisor, friend, manager, philosopher and leader. Definitely, the task of the teacher is quite challenging and difficult which requires dedication and professionalism on the part of the teacher. For developing professionalism among teachers, a specialized teacher training programme is essential to make them competent enough to shoulder their responsibilities. Thus, there needs to be provision of professional training of teachers for different levels of education. The education of the teacher is indeed expected to be an integral part of the educational system as such, which in itself is closely linked with the social system of any country.
In conformity with the changing educational and social needs of a given society. The teacher can improve his professional in the following ways:

Through participation in-

- Pre-service and induction programmes;
- Courses and workshops on teaching techniques;
- Workshops on assessment techniques;
- Consultancy services to individual staff;
- Identifying effective classroom teachers; and
- Providing opportunity for other teachers to observe them in action.

Teacher’s duties are endless. They owe the duty not only to their classroom but also to the society and the nation as such. So, for the best performance, they should constantly adjust their methods and approaches that are suitable to the changing times and demands. Apart from this, the Academic Staff Colleges (ASCs) should take seriously the implementation of their programmes. The course coordinators or Departmental Heads should ensure that their programme is well planned and a proper evaluation of the participants is done on the basis of their performance. The UGC should ensure regular implementation of the Refresher programmes when the department concerned is not capable of implementing them satisfactorily.

The profession of teaching enjoins up on the teacher to be an idealist in thinking, to possess professional morality and conscience and have a high standard of behaviour. The teacher must:

- Transmit all his learning to the pupils without bothering about emoluments;
- Have refined professional personality. His lifestyle must be worthy of his responsibility and dignity as an inspirer and as a designer of human destiny;
- Have academic freedom to interpret culture. In the pursuit of knowledge he should not be cowed down by the authority or power without fear and malice, he
should express his opinion and ideas, encouraging the students to be critical, constructive and free in their search for truth; and

Be humble. A learned teacher should be aware that knowledge has no boundaries and the process of learning starts from birth and continues till death. Hence, he must involve himself in self-examination and self-determination.

1.3 APTITUDE

Webster's Medical Dictionary (2002), “Aptitude refers to a natural or acquired capacity or ability especially a tendency, capacity or inclination to learn or understand. It refers to part of a person's mental equipment, which gives him a special fitness for any kind of endeavour. Such an aptitude may be the result of either an innate endowment or of special training or both. The mental and physical qualities giving rise to differences in aptitude are difficult to distinguish”.

As per internet source, “It is an observable fact that people differ from one another and with themselves in their performance in one or the other field of human activity such as leadership music, art, mechanical work, teaching etc. Ramesh goes to a commercial institute in order to learn typing and shorthand. He progresses rapidly with his typing and shorthand and gets a diploma in due course. Later on, when he is offered a stenographer cum typist’s job he carries it out satisfactorily. Suresh, although not in any way inferior to the former in general intelligence takes admission to this institute but progresses very slowly and even after getting diploma proves an inefficient typist as well as stenographer. Similarly, Radha gains from musical training while Sunita despite similar training makes little or no progress. So, in many spheres of everyday life, we come across individuals who under similar circumstances outperform other in acquiring certain knowledge or skills and prove more suitable and efficient in certain job. Such person are said to possess certain specific abilities other than intelligence, which help them in achieving success in some specific occupations or activities. Therefore in a simple way, aptitude may be considered a special ability or a specific capacity besides the general intellectual ability, which helps an individual to acquire a required degree of proficiency or achievement in a specific field. However, for having a clear understanding of the term aptitude, let us consider the following definitions given by different scholars: Traxler, Aptitude is a
condition, a quality or a set of qualities in an individual which is indicative of the probable extent to which he will be able to acquire under suitable training, some knowledge, skill or composite of knowledge, understanding and skill, such as ability to contribute to art or music mechanical ability mathematical ability or to read and speak a foreign language. **Freeman,** An aptitude is a combination of characteristic indicative of an individual’s capacity to acquire some specific knowledge, skill, or set of organized responses, such as the ability to speak a language, to become a musician to do mechanical work. **Warren's Dictionary** says, aptitude is a condition or a set of characteristics regarded as symptomatic of an individual's ability to acquire with some training, some knowledge, skills or set of responses such as ability to speak a language. When we refer to a person's aptitude for mathematics or music we are referring to his future too. But his aptitude, however, is a present condition having something to do with the future. Bingham makes a careful analysis of the term aptitude and confines its use to prognosis. According to **Bingham,** an aptitude involves: 1. Ability to acquire skills, knowledge, attitudes, etc. 2. Readiness to acquire. 3. Satisfaction in the job. Bingham again explains, aptitude is a measure of the probability of success of an individual with training in a certain type of situation. He points out that aptitude is abstract in nature. It can be further explained: – It is symptomatic or indicative of one's ability for particular work or job. – It has predictive value. – Training facilitates this capacity to become the actual ability. – This is not a single factor, but a composite of several elements. According to **Thorndike,** there are three types of aptitudes, viz., abstract or mechanical, concrete and social. Aptitude is further classified as verbal, numerical, spatial, motor, musical, social, intelligence, natural, mechanical, teaching, academic, learning, etc. Aptitudes stabilise in the early years of life, but there is no time of demarcation after which there is no effect on the formation of aptitudes. Generally it is considered that aptitudes are formed up to puberty. Aptitude is thus a present condition with a forward reference. It is a condition or set of characteristics regarded as indication of potentialities, but we can't be very sure that a person possessing a particular aptitude is going to succeed later in a job or occupation calling for the use of aptitude, because, aptitude as stated is a present condition and it may be influenced by other factors. **Webster Encyclopedia Dictionary,** Aptitude is defined as, innate or acquired for something readiness state or quality of being aptitude.
All these definition reveal the predictive nature of aptitudes. When we say that Ram or Radha has an aptitude for teaching, we mean that he or she has the capacity or ability to acquire proficiency in teaching under appropriate conditions.

Similarly, when we say Mohan has an aptitude for music we mean that his present condition or ability reveals that if he is to learn music, he will succeed in this line. In this way the knowledge of aptitude helps us in predicting the future success of an individual, under suitable training or experience, in a particular area of activity. Here we see that definition does not differentiate in aptitude and capacity. The other thing to be noted is that it specifies that aptitudes can be innate or acquired. So one thing that we can see even from this non-technical definition, for sure, that aptitude indicates potentialities. The other most common definition of aptitude accepted by professionals in the field is the one given in the warren’s dictionary is a condition or set of characteristics regarded as symptomatic of an individual’s ability to acquire with training some knowledge or skill or set of response such as the ability to speak a language, to produce music etc. it is defined as a condition or set of characteristics indicative of ability to learn. This implies that any aptitude is not necessarily an entity but rather a constellation of entities, the set of characteristics which enables one person to learn something, may even be different from that which enables another person learn something.”

As per drdo.gov.in, “It implies fitness, suitability for the activities in question. When appraising aptitudes, we are on the alert for symptoms of ability to acquire a genuine absorption in the work, as well as satisfactory level of competence. Indeed, a person who cannot properly be said to have an aptitude for it because he lacks the necessary drive.”

As per an psychologist, “Aptitude is a condition symptomatic of a person’s relative fitness of which one essential aspect is his readiness to acquire proficiency- his potential ability and another is his readiness to develop an interest in exercising that ability. Anyone who has come clear realization of his capacities, has informed interests and the nature of the occupations he is consideration, has achieved some basis for appraising, the relative strength of this aptitude. Aptitude is of course, not the name of an object. It is an abstract noun that points to a quality or characteristics of a person. Aptitude refers to the qualities characterizing a person’s ways of behavior. Which serve to indicate how well he
can learn to meet and solve certain specified kinds of problems. Aptitudes are the aspects of personality. Aptitude is a condition indicative of a person’s power to acquire specified behavioral patterns of interest, knowledge and skills. Any brief formulation, however, facts to do full justice to the meaning carried by such a term. It must be still more closely scrutinized.

Aptitude is a present condition but with a forward reference. It is a condition but or a set of characteristics regarded as symptomatic, indicative of potentialities. It should nevertheless be apparent that in measuring person aptitudes, we do not understand to place a yardstick against some mysterious intangibles. Neither do we attempt to measure something, which does not yet exist, namely future accomplishments. A test of aptitude samples certain abilities and characteristics of an individual as he is today. It helps to find out what he/she can do now and how well he/she can do it.”

As per www.genrica.com, “Are aptitudes inherited or acquired? Like so many other personality traits or characteristics, it is difficult to say that aptitude is an absolute product of heredity or environment. Certain aspects of many aptitudes may be inborn. For example, a person showing musical aptitude may have a musical throat and a person showing aptitude for typing or watch repairing may have long and dexterous hands. But this is one side of the picture. It is also equally possible that the person’s aptitude for music is the result of his living in the company of good musicians or his aptitude for typing work may be due to his father or mother who happens to be a typist.

Therefore, it is safer to conclude that the aptitude of an individual at particular moment is in all probability dependent upon both heredity and environment.

**How Aptitude differs from ability and achievement?**

Aptitude and present ability do not mean the same thing. You may have no present to drive a car but you may have a high aptitude for driving, which means that your chances of becoming a successful driver are good provided you receive proper training. So while aptitude has future reference and tries to predict the degree of attainment or success of an individual in an area or activity after adequate training; ability concerns itself only with the present condition, the potentiality or capability which one possesses at the present
moment irrespective of his past and does not try to make any estimate of one’s future success or failure.

Contrary to the forward-looking nature of aptitude and present-oriented characteristic of ability, achievement is past-oriented. It looks at the past and indicates what an individual has learned or acquired in a particular field.

But by this differentiation it should not be concluded that we can measure an individual’s future accomplishment in any area of activity with the help of aptitude measurements. Aptitude tests, in all their forms, measure only the present ability or capacity of an individual which can be exploited for making prediction about his future attainments.

**Difference between Intelligence and Aptitudes**

Intelligence test as they exist usually tests the general mental ability of an individual but aptitudes, as we have discussed, are concerned with specific abilities. Therefore, while with the knowledge of intelligence of an individual we can predict his success in a number of situations involving mental function or activity, the knowledge of aptitudes, acquaints us with those specific abilities and capacities of an individual which give an indication of his ability or capacity to succeed in a special field or activity. Therefore, in predicting achievement in some particular job, training, course or specialized instruction we need to know more about one’s aptitude rather than of his intelligence or general ability.

**Difference between Aptitude and Interest**

To get desirable success in a given activity, a person must have both an aptitude for activity and an interest in it. Therefore, interest and aptitude usually go hand in hand. But by this co-ordination, we should never mean that interests and aptitudes are one and the same thing. A person may be interested in a particular activity, job or training but may or may not have aptitude for that. In such cases, the interest shown in a particular occupation or course of study is often the result of some other temptation or persuasion like ambition of the parents, probability of getting a job, provision of stipend or financial help, the prestige associated with the work rather than the personal aptitude. Similarly, a person may have long and dexterous fingers and can show a good performance on a
mechanical aptitude test. Yet he may show little or no interest in becoming a watch maker. Therefore, a guidance or selection programme must give due weightage to the measurement of aptitude as well as of interest. Both are essential for the prediction of the success of an individual in a given activity- job or course of instruction.”

1.3.1 Classification of Aptitudes

Any manifestation of life is activity. We can manifest ourselves in too many ways and forms. Therefore, there is no end for our manifestation and as a result, the list of the activities which may be undertaken by the human beings is limitless. One may have aptitude for one activity and the other may demonstrate an aptitude in something else. In order words, we can say as the number of activities that can be undertaken by the human beings are limitless, so is the number aptitudes. In this sense, it is quite impossible to have a fixed classification of human aptitudes. However, for the sake of their measurement and application and application in the field of education and professions, we have made an attempt to classify them as under:

Sensory Aptitudes

In this category, we can include all those aptitudes that are related to the sensory capacities and abilities of children. One may have aptitude in the tasks involving the use of his sense of hearing, other may have aptitude in the tasks using the use of the sight, smell taste or touch. Here depending upon their present ability regarding a particular sensory capacity, we can have an idea of their future success in the area of professions where the use of such sensory ability or capacity is most demanded. Thus, in this category of sensory aptitudes, we can include the aptitudes related to the sensory abilities of the children.

Mechanical Aptitudes

Some persons have a specific bent of mind for the tasks related to the use of mechanical abilities and thus demonstrate aptitudes for all task and jobs that require the use of mechanical abilities. When we test their present abilities we can easily infer that a particular individual will be successful as a carpenter (provided he is given due opportunities, training etc). In other case, we find that one can be a good mechanic
looking after the repair of vehicles, engines and machines etc. Someone may have aptitude for the use and innovations in instrumentization and other sophisticated appliances etc. In this way, human beings can have different mechanical aptitudes varying in their nature and sophistication. All such aptitudes are grouped in the category of mechanical aptitude. The range of such mechanical aptitude may extend from the manipulation and use of needles to the know how of repairing and flying an aeroplane.

**Professional Aptitudes**

The aptitudes related to the activities of various professions and occupations are included in the category. These aptitudes are able to help in predicting the future success of an individual in the field or profession related to these aptitudes. For example, if one has the aptitude for teaching, we can say that he or she will be a successful teacher provided he or she gets appropriate opportunities and training for doing so. The examples of the aptitudes included in this category are as under:

1. Clerical Aptitude
2. Legal Aptitude
3. Teaching Aptitude
4. Pilot Aptitude
5. Navigation Aptitude
6. Banking Aptitude
7. Military Aptitude

**Creative Aptitudes**

This is an area of intense current interest in creativity. Some interest has been generated because of the importance of creativity in certain occupations. There is a general agreement that in order for behavior to be in indicative of creativity or a test classed as measure of creativity, responses must be produced rather that selected among available alternatives. Operationally, the subject is required to think divergently or produce a number of responses to specified situation. For example, someone might be asked to
indicative all the possible uses of a brick. A second essential element of creative behavior is that the responses produce be, in some sense original.

**Scholastic aptitude**

This type of aptitude can be used to predict performance in academic situations. They differ from general intelligence primarily by having a more limited focus, concerning academic performance. However, both general intelligence and multiple aptitudes tests predict academic success and as basic intellectual skills are important determiners of success in most educational settings. It would be surprising if the contents of scholastic tests differed markedly from that of general intelligence and multiple aptitudes tests. Yet because of their distinctive features scholastic tests can be considered as a category of their own. The examples of such aptitudes are as under:

1) Scientific Aptitude
2) Engineering Aptitude
3) Medical Aptitude
4) Commercial Aptitude
5) Sports Aptitude
6) Linguistic Aptitude

**Vocational aptitude**

The concept of vocational aptitude is much broader, covering vocational and occupational aptitudes. Certainly intellectual aptitudes, such as verbal and numerical reasoning are important determiners of vocational success, especially in the professions and occupation requiring extensive academic preparation. Yet there is another class of aptitude measure, which focuses on vocational skills and emphasis prediction of vocational rather than academic criteria. Based on this we can divide the vocational aptitude into three broad categories that are :-

Aptitude for skilled trades, such as carpenter, painter, weaver, electrician, molders, watch maker, baker, tool maker, and like the clerical aptitude though this comes across as one professional, but due to the large numbers of the people employed in this (it is estimated
that in our country 5.4% men and 18.5% women are engaged in clerical jobs at different level), it becomes imperative that it is equal importance as a separate aptitude.

The items in vocational aptitude represent job components more closely than do items of academic aptitude tests. For example, while vocabulary may be a good sign of academic aptitude, rarely does actual course work include vocabulary exercise. The tests frequently approximate job samples, as occupational performance and even component element of jobs may be highly complex. Any single test designed to predict job performance will necessarily be technically complex.

While scholastic aptitude tests measure mental and conceptual skills, vocational aptitude includes both conceptual and motor manipulative abilities consequently. Although a large number of vocational aptitude tests retain a paper and pencil format for administrative and scoring ease, they are not restricted to this format. The examples of the vocational aptitude tests are numerous, but most of them are not available to outsiders as they are constructed by a company or firm for the selection of their own staff only.

**Musical and artistic abilities**

These seemingly disparate types can be considered together because many of the same problems encountered in both areas. For example, in both music and artistic abilities, one can clearly distinguish between appreciations and performance. It is one thing to be able to paint a picture, cast a statue or sing a classical raga, it is another to be able to understand and appreciate a work of art. The two skills are not necessarily intercorrelated many people can evaluate the merit of a work of art but are themselves able to produce only stereotype or mediocre work (if at all). Consequently tests of the two skills must be quite different. A second common element is the difficulty in predicting successful performance in the musical and artistic activities. These difficulties take several forms for one even expert often disagree dramatically. When rating the quality of a given performance or the merit of a particular musical or artistic work then ‘success’ seems to be a function particularly fortuitous combination of abilities, training hard work, personality breaks, the availability of opportunities to perform and ‘breaks’. Tests of both musical and artistic performance skills generally assess component skills rather than
attempting to measure complex skills. Generally the following types of aptitudes are kept in the artistic aptitudes.

1) Musical aptitude
2) Aptitude for dance
3) Aptitude for graphic art
4) Aptitude for photography
5) Poetic aptitude
6) Aptitude for acting
7) Debating aptitude
8) Writing aptitude
9) Aptitude for designing, etc.

1.3.2 Measurement of Aptitudes

As per record, “Like intelligence tests, various aptitude tests have been devised to measure aptitudes of the individuals in various specific fields or activities. Generally, these tests can be classified into the following types according to the specific nature of the aptitude tested by them:

1. Mechanical Aptitude tests.
2. Musical Aptitude tests.
3. Art Judgment test.
4. Professional Aptitudes tests, i.e. tests to measure the aptitudes for professions like teaching, clerical, medical, legal, engineering, salesmanship, research work, etc.
5. Scholastic aptitude tests, i.e. tests to measure the aptitudes for different courses of instruction.

In the following pages we will throw light on some of these above mentioned aptitude tests.
Mechanical Aptitude Tests

Like intelligence, mechanical aptitude is also made up of many components. Freeman explains it as –

‘The capacity designed by the term ‘mechanical aptitude’ is not a single, unitary function. It is a combination of sensory and motor capacities plus perception of spatial relations, the capacity to acquire information about mechanical matters and the capacity to comprehend mechanical relationships.

Therefore, mechanical aptitude tests try to test the above mentioned qualities and capacities of an individual in order to know his mechanical aptitude. Some of the well-known mechanical aptitude tests are –

1. Minnesota Mechanical Assembly Test.
2. Minnesota Spatial Relations Test.
3. The Revised Minnesota Power Form Board (1948)
4. Stenquist Mechanical Aptitude Tests (Part I and Part II)
5. L.J.O.s’ Rourke’s Mechanical Aptitude Test (Part I and Part II)
7. S.R.A. Mechanical Aptitude Test.
8. A battery of Mechanical Aptitude Tests (Hindi) prepared by Mano –Vigyanshala, Allahabad.

Usually these tests contain the items of the following nature:

a. Asking the subject to put together the parts of mechanical devices.

b. Asking to replace cut-outs of various shapes in their correct holes in the board.

c. Requiring the ability to solve problems in geometric terms.

d. Asking questions concerning the basic information about tools and their uses.

e. Questions relating to the comprehension of physical and mechanical principles.
As an illustration, Bennet Mechanical Comprehension test Form AA has 60 items in pictorial form. They present mechanical problems arranged in order of difficulty and involve comprehension of mechanical principles found in ordinary situations.”

**Clerical Aptitude Tests**

As per ckbooks.com, “Like mechanical, clerical aptitude is also a composite function. According to Bingham (1973), it involves several specific abilities like –

a) **Perceptual ability.** Ability to perceive word and numbers with speed and accuracy.

b) **Intellectual ability.** Ability to grasp the meaning of words and symbols.

c) **Motor ability.** Ability to use various types of machines and tools like typewriter, duplicator, cyclostyle machine; punching machine etc.

Some of the popular clerical aptitude tests are –

i. Detroit Clerical Aptitude Examination.

ii. Minnesota Vocational test for clerical workers.

iii. The Clerical ability Test prepared by the deptt. of psychology, University of Mysore, Mysore.


v. Test of Clerical Aptitude prepared by the Parsee Panchayat Guidance Bureau 209, Hornyby Road, Bombay -1.

**Musical Aptitude Tests**

These tests have been devised to discover musical talents. One of the important musical aptitude tests is described below:

**SEASHORE MEASURE OF MUSICAL TALENT**

It takes into consideration the following musical components:

a) discrimination of pitch.
b) discrimination intensity or loudness

c) discrimination of time interval.

d) discrimination of timbre.

e) Judgement of rhythm.

f) Tonal memory.

Test items in this battery are presented on phonograph records. The subject sits, listens and attempts to discriminate. He is required to mark his responses on an answer form supplied by the examiner. The instructions in these tests are of the following nature, you will hear two tones which differ in pitch. You are to judge whether the second is higher or lower than the first. If the second is higher, record H: If lower, record L.

APTITUDE FOR GRAPHIC ART

These tests are devised to discover the talent for graphic art. The two important tests of this nature-

1. The Meier Art Judgement Test.

2. Horne Art Aptitude Inventory.

In Meier Art Judgement Test, there are 100 pairs of representational pictures in black and white. One such pairs have been illustrated below.

One member of each pair is an acknowledged art master piece while the other is a slight distortion of the master piece. It is usually altered from the original so as to violate some important principles of art. Testees are informed about the aspect that has been altered and are asked to choose from each pair the one that is better – more pleasing, more artistic, more satisfying. For example, in the above given illustration, the examinees are required to select the original and aesthetically superior work on the basis of the shapes of the pots. The number of correct responses is taken as a measure of art judgement or aptitude for graphic art.

Another important test of measuring aptitude for graphic art is the Horne Art Aptitude Inventory. It required from the subject to produce sketches from given patterns of lines
Tests of Scholastic and professional Attitudes

For helping in the proper selection of students for the studies of specific courses or professions like engineering, medicine, laws business management, Teaching etc., various specific aptitude tests have been designed. Some of these tests are-

III. Moss Scholastic Aptitude Test for Medical Students.
IV. Ferguson and Stoddard’s Las Aptitude Examination.
V. Tale Legal Aptitude Test.
VI. Pre-Engineering Ability Test. (Education Testing Services, U.S.A)
VII. Minnesota Engineering Analogical Test.
VIII. Coxe-Orleans Prognosis Test of Teaching ability
IX. Teaching Aptitude Test by Jai Prakash and R.P. Shrivastava, University of Saugar (M.P)
X. Shah’s Teaching Aptitude Test.

Now we should lay a little more emphasis on the teaching Aptitude test as it is directly concerned with Teacher Training Programme. Such tests can prove very useful in the selection of trainees for a professional course of teacher-training. There is a great dearth of some reliable and valid measure of teaching aptitude. The attempt made by Mr. Shah is a good beginning in this direction.

Utility of Aptitude Tests

As per adn.teaching.ro, “Aptitude tests have a wide area of application. Firstly, they are the backbone of the guidance services. The result of these tests enable us to locate, with a
reasonable degree of certainty, the fields of activity in which an individual is most or least likely to be successful. Therefore, these tests are found to be very useful in guiding the youngsters in the selection of special courses of instruction, field of activities and vocation.

Secondly, they can safely used for the purpose of educational and vocational selection. They help us in making scientific selection of the candidates for the various educational and professional courses as well as for the specialized jobs as Munn puts it, *the chief value of aptitude testing is, in fact, that it enables us to pick out from those who do not yet have the ability to perform certain skills, those who with a reasonable amount of training, will be most likely to acquire the skills in question and acquire them to desirable level of proficiency.*

Therefore, aptitude tests properly anticipate the future potentialities or capacities of an individual (irrespective of the fact whether he possesses those future capacities before the training or not) and thereby, help us in making selection of those individuals who are best fitted for a particular profession and course of instruction or those who are likely to be more benefited by pre-professional training or experiences.

In this way any reasonable guidance and counseling programme or the entrance examination to specialized, academic and professional courses or the selection procedure for specialized jobs is required to give a proper weight age to Aptitude testing. Aptitude testing, when combined with the other information received through Interest Inventory, Personality tests, Intelligence tests and cumulative record etc. can greatly help in avoiding the huge wastage of human as well as material resources by placing the individuals to their proper places and lines of work.”

As per aijcnet.com, “Aptitude test attempts to predict the capacities or the degree of achievement that may be expected from individuals in a particular activity. Aptitude tests measure and describe special abilities, capacities or talents, which are supposed to determine the level of achievement that can be expected from individuals in specific fields of study and activity. Aptitude, like intelligence fall under the domain of mental measurement, but it is less confused and more specific in its nature.
The most common forms of aptitude tests are those used to judge scholastic promise and these are used in employment and educational counselling. The content of an aptitude test, however, need not be bound to a particular domain because the user will not want to make inferences about that domain. Aptitude tests are measures of potential abilities that foreshadow success on related task of some future time. The purpose is predictive and their focus often is narrowed to a single ability or small collection of related abilities. Aptitude tests, like intelligence tests, are not always easy to distinguish from achievement tests, because on the surface the content seems interchangeable. There are differences – sometimes subtle and sometimes gross – that help developers of aptitude tests accomplish purposes that achievement tests ordinarily are not intended to serve.

Aptitude tests measure ability to succeed in a particular kind of training. Scholastic aptitude tests measure ability to succeed in college or school. Vocational aptitude tests measure the likelihood of success in vocational training or in an occupation. For constructing an aptitude test in music, for e.g., one has to consider the factors, which enter into good musical performance, like, ability to remember between differences in pitch, rhythm, pattern, intensity, etc. Present level of achievement in these tasks must provide a predictive index. Someone who has the aptitude to do clerical work has the prerequisite skills in manual dexterity, attention to detail and speed with repetitive tasks to complete many types of clerical work effectively and efficiently. In most walks of life, past performance is the best predictor of future performance in the same realm of activity.

For measuring aptitude, we can use the following methods: Method I says, measuring unitary factor and its comparison as an index of aptitude. Method II – the aptitude of a candidate is known on the basis of his success or failure in an initial period. Method III – includes Aptitude tests. These are three types. (i) Factorial tests. (ii) Differential tests for measuring general aptitudes. (iii) Aptitude test for broad areas such as mechanical, musical, vocational, etc. Aptitude tests have proved useful in selecting individuals for particular courses of study. For research, in selection of candidates for particular profession, aptitude tests can be used.”
1.4 TEACHING APTITUDE

As per adn.teaching.ro and aijcnet.com, “A variety of factors seem to go along with teacher aptitude and is depended upon certain personal traits, intellectual and temperamental and these often will enable the teacher to get over even drastic constraints imposed on his performance. Related studies also revealed that, there are so many factors, which have dominant roles on teaching aptitude. Dushyant Kaur, in a study established that Academic Achievement, Teaching Aptitude and the personality traits as the predictors of success in Elementary Teacher training. William Cooley and Paul Lohnes, argued that yesterday's achievement is today's ability and tomorrow's aptitude. Teaching needs three qualities. Knowledge is the first, communication skill is the second, aptitude is the third (The Hindu, 2002, Sept. 3). A poor teacher tells; a good teacher teaches; an excellent teacher demonstrates; an outstanding teacher motivates. Time and again we hear these proverbial sayings from various sources at different occasions.

The ability of a teacher is decided in classrooms while presentation. Sitting in a good teacher's class those with aptitude, always probe whether they can teach like this and then believe they can. Students' aptitude is well influenced by the classes they sit in and the teachers who teach them in their student days from primary to college. How teachers can be identified as teachers with teacher aptitude? Good teaching looks effortless because a teacher's knowledge and experience are invisible. Teaching is a tricky blend of action, a way of contextualising knowledge. Good teaching is, in fact, complex and challenging, and even the best teachers face difficulties translating formal knowledge into effective practice (Blase, 2006). Teaching has to be a dialogue, not a monologue. Teachers have to find innovative and effective technologies to present new concepts for motivating children. The classes have to be interactive with dialogue and sufficient learning materials. A teacher with good teacher aptitude must be aware of the following essentials of teaching viz., plan a lesson, motivate students, curricular statements related, learning materials, teaching-learning strategies, essentials of the content, consolidation, elaborations, group activity, continuous and comprehensive evaluation, discipline, multi-level and multi grade activities, effective communication and interaction, etc. From the past to this technological era itself, a teacher has to face so many problems inside or
outside classrooms. They are related to cognitive, methodological, parental, societal, administrative, managerial, communicative, interactive and student-based. A creative teacher can solve problems, which are new to him, in a divergent manner. A teacher with creativity can arranged and implemented new ideas and technologies in the teaching-learning process in a different way. According to Hadfield, mental ability is the full and harmonious functioning of the whole personality. A mentally able teacher can teach, guide and inspire his students properly to attain the goals of life. Each generation of pupils grow up in a new context of patterns of interactive with others and in dealing with information technology. The learning experiences set up by teachers now must be tailored to the needs of pupils as they exist now; otherwise school will be experienced as an unreal world with outdated activities and knowledge. Teaching aptitude is not something a teacher acquire at one moment in his professional development and then maintains in that same form thereafter. Rather it is an ever-changing requirement based on continuing professional development and critical reflection about one's own teaching.”

1.5 TEACHING COMPETENCY

As per educationists, “Many researchers, trainers and associations, currently working on proposing standards for teachers’ education and profession, have tried to analyse the new role characterising the teacher by focusing on the involved competencies. This concept is considered relevant in education research, given the fact that these processes are based on interactions amongst human beings.

But firstly, it is essential to know the meaning of competency. Competency is a term used extensively by different people in different contexts. So it is defined in many different ways. This term is mainly used in the contexts of Teacher education and job performance of a teacher. Competencies are the basic requirements of a competency based teacher education, which includes knowledge, skills and values the trainee teacher must demonstrate for successful completion of the teacher training programme.”

A definition given by De Ketele (1996) is the following, “A competence is a set of organized capacities (activities), which act on contents in a given category of situations in order to solve a problem. According to this definition a competence is described as an ability to carry out a specified task or activity to predetermined standards of attainment.”
Further according to De Bueger-Vander Borght C. (1996), “Competence refers to a state of being well-qualified to perform an activity, task or job function. When a person is competent to do something, he or she has achieved a state of competence that is recognizable and verifiable to a particular community of persons. A competency, then, refers to the way that a state of competence can be performed to the relevant community.

In above mentioned all such definitions the notion of competency is confined to the ability to perform a discrete task or discrete workplace requirement. The main point to note that tasks and workplace requirements can be discrete from knowledge, skills, values, attitudes and context is problematic.

A similar evolution of a more complex view of competency from many researchers in the last decade found a concept, which incorporates the ability to transfer skills and knowledge to new situations and environments as well as the performance of tasks expected in the workplace. This broader concept can include among others: the performance of tasks, the management of a series of tasks, the ability to respond to irregularities and contingencies, the capacity to deal with the complexities of the workplace including taking responsibility and working with others, the ability to put one’s knowledge, skills and attitudes to new tasks and to new situations, not putting aside respect of others human beings or tolerance of other values.”

“A competence has been defined as a collection of resources (knowledge, know-how, knowledge to be) mobilized to solve problems in a particular context”, according to Roegiers (1997) and Jonnaert & Vander Borght (1999).

Pellerey (2001) has reconstructed, “the evolution of the competency concept during the last years; now it means not only the mastery of knowledge and methods, or the ability to manage them, but also the ability to integrate different kinds of knowledge, and to use them synergically. Therefore to be competent in a certain area indicates the ability to mobilize one’s own knowledge and to transform it into concrete doing: competency is an individual characteristic and is built (through self-experience and formation) in a given field and in a given area of problems. It includes the content of the learning process as well as the context where it happens and the ability to apply the grasped content (Coggi, 2002).”
Thus from above all definitions characteristic of a competency are as follows:

1. “Competencies are specific and demonstrable characteristics or attributes inevitable for teachers to create a convincing and learner friendly environment.

2. Competencies being concerned with three domains of learner’s behaviour are imperative for teacher to bear prime responsibilities.

3. A competency has its linkage with all the three domains under which performance can be covered the domains of knowledge, skill and attitude.

4. Competencies, since have a performance dimension of them, are observable and demonstrable.

5. Because the competencies are observable, they are also measurable. It is possible to assess a competency from the performance of a teacher. It is not necessary that all competencies of a teacher have the same extent of knowledge, skill and attitude. There may be some competencies of a teacher, which have the same extent of knowledge, skill and attitude. There may be some competencies involving more of knowledge than skill and attitude, whereas, same competencies may be skill/performance loaded.

6. A competency consists of one or more skills whose mastery would influence the attainment of the competency.”

“Who is a competent teacher? Mere possession of knowledge and certified qualification gives no assurance to meet the aforesaid objectives. For this, it is obligatory for a teacher to have appropriate comprehension of human nature, its needs, and developmental principles in light of urbanisation, technology advancements and industrialisation locally as well as globally. Due to huge extension in roles and responsibilities, a teacher has to display high order of professionalism inside and outside the classroom. It is impossible for a teacher to possess all competencies in perfect amalgam though training and experience lead teacher towards proficiency. A competent teacher is temperamentally warm and cordial. She/he has clear vision of the set objectives. She executes meticulously whatever is planned. Management of affairs is done effectively by her
inside and outside the classroom. Her/his skill of presentation of subject matter is able to seek attention of students. She is capable of motivating the back benchers.”

In previous studies, “the term Teaching Competency was used to designate the researches which were aimed to identify and define teacher efficiency. Later on specific dimensions of competencies were formulated and explained studies were conducted, which owe its roots to earlier studies. These all dimensions are such as competency in activity based teaching, competency in adopting learner center practices, competency in teaching learning material and display, competency in evaluation strategies and competency in adopting novel techniques.”

**Teaching competency and quality of education**

“Quality school education may be defined as education that enables students learn what they could learn or should be able to learn in school. It helps them to know themselves for their hidden talents and aptitudes. They should know themselves and also know how to work upon them in their own interest and in the interest of the society. There are many factors that account for what the students learn in schools. The home has a role in it. The society plays its very important role. In a school there are many things that matter. Above all, there are teachers in schools who are held accountable for it. No system of education could be better in quality standards than the quality of its teachers who educate the children. The quality of education automatically goes with quality of teachers. They need competent and efficient teachers. Their commitment for quality school education is must.” In the words of Education Commission (1964-66), “of all the factor which influence the quality of education and its contribution to national development, the quality, competence and character of teachers are undoubtedly the most significant. Nothing is more important than securing a satisfactory supply of high quality recruits to teaching profession, providing them with the best possible professional preparation and creating satisfactory conditions of work in which they can be fully effective.”

Thus, for quality school education the following is required:

1. Securing the sufficient supply of high quality recruits to the teaching profession.
2. Providing them with the best possible professional preparation.
3. Creation of satisfactory conditions in which the teachers can be fully effective.

In the words of Education Commission (1964-66), “The conditions in which teachers could give quality school education need to be analysed. It is not possible to teach every person efficiently. All are not teachers by birth. We only betray our ignorance about what teaching is. This kind of our thinking is based upon some logic that every one of us is not fit for becoming what we want, it is all about perfection. The same logic holds good for the teaching job in schools. It can be open for all to contest for but entry to it cannot be given to everyone. Obviously, all are not to be taken to be fit for it. Teaching is not the easy task of every person. In this complex and complicated information society, there are persons who could become efficient and responsible teachers and there are, of course, people for whom teaching is not meant for. It is all the more true none can teach without knowing how to teach. Teaching is an art as well as science. It is the quality teacher education that is needed for quality school education to maintain the dignity of this profession. The essence of programmers of teacher education is quality and in its absence, teacher education becomes not only a financial waste but a source of overall degradation in educational standards. It is grounded in belief that teachers, not assessments, must be the cornerstone of any systematic reform directed at improving our school…. The teacher is the mediator between the learner and the subject to be learned. A teacher, not some (test), is the living link in the epistemological chain. (Madaus, cited in Darling -Hammond, 1997, pg. 293). National studies and reports have confined the strong relationship between teacher quality and student performance.

Teaching when properly with systematic way performed is a professional activity. It does require the use of specialized knowledge and skill on behalf of other people. In defining the teacher’s role, it should be stated that the function of the teacher is to help his pupils to acquire skills in different subject- area. The teacher’s task at this stage is two – fold: to offer skills in his subject discipline and also to use various ways and means to aid his pupils to learn how to employ their own talents to acquire the skills that the teacher wishes them to acquire. Education for the 21st century needs to enhance an individual’s ability to assimilate, evaluate and apply the available information. The globalization is affecting the economy, culture and information, internationalization of relations, mobility of individual communications, and media. This is a challenge to the system of education
as well as the teachers. Thus, globalization in the 21st century calls upon the teachers to change their roles to meet the future demands of the society.

Educators and researchers have debated which school variables influence student achievement for many years. As policymakers become more involved in school reform, this question task on new importance since their many initiatives rely on presumed relationship between various education-related factors and learning outcome. Despite conventional wisdom that school input makes little difference in student learning, a growing body or research in India and abroad suggests that schools can make a difference and a substantial portion of that difference is attributable to teachers. Despite the educational growth, competent teachers are still a need, though teachers are being appointed every year. Competent teachers create an effective learning environment which is very much in need for the students’ outcome/achievement. Just as a quality course is important, quality instruction is important too. Most of the instructors currently teaching do not apply the skills needed to be effective in classroom. Thus, quality faculty is needed to the quality training to the teachers. The production of quality and competent teachers are required to give quality education to students resulting in maximum students’ benefit. Thus, the first step is to define what a quality instructor is or what are the competencies required or at least recommended for a quality and competent teacher to teach effectively. Teacher education and job performance of a teacher are the contexts in which this term is used. Competencies are the requirements of a competency-based teacher education, which includes knowledge, skills and values that trainee teacher, must demonstrate for successful completion of the teacher education program (Houston, 1987). To competent is not the awareness, the attainment or even the knowledge of various attributes although all of this plays a part. To be competent is the juxtaposition of this knowledge with the application of that knowledge in a teaching practical. In other words, a competent individual is one who effectively and efficiently accomplishes a task (instructs) in a given context using appropriate knowledge, skills, attitude and abilities with time and needs. These individuals are who are sought after for instruction. In some way, the knowledge, skills, attitude and abilities etc that comprise a competent instructor need to be articulated in order to access one’s competence in the given context. Thus, it can be said that to make classroom teaching more effective so that the learning outcome
of students is better, good competent teachers are required. These teachers make the students learn on their own and thus help to develop their creative thinking. The students’ achievement thus can judge how good the teaching is and thus the teacher.

In all, we can say that if the teachers are trained properly in developing their skills/competencies, she/ he can deliver effective teaching which facilitates the learning outcome of students, make them think independently and develop their creativity. These achievements can be measured by different modes of evaluation to assess the students’ learning outcome. In all, good teaching competencies make effective teaching in classroom, which has impact on students’ learning outcome. Thus, a teacher needs to scrutinize her /his teaching performance regularly to be competent which is very much required. Teaching effectiveness is another variable that is likely to have great impact upon students’ learning. Although there is a close relationship between teaching effectiveness, yet those are different. Competence has do with how a teacher teaches as is measured in terms of the teacher’s behavior; on the other hand, how effective a teacher is, is measured in terms of pupils’ learning. In other words, an effective teacher is always competent, but a competent teacher may not be effective, for a multitude of reasons. Darling- Hammond’s (2000) findings indicate a consistent and significant positive relationship between the proportion of well-qualified teachers and students’ achievement on the National Assessment of Educational Progress (NAEP) in Reading and Mathematics.

Without competent and effective teachers, education in any branch of science is likely to remain incomplete. Proper assimilation of knowledge, development of skills, inculcation of values and attitudes- nothing is perhaps possible without the help and guidance of competent teachers. All these are reflected in the learners’ achievement scores (these are the products or outcomes of students’ learning). For knowing the outcome of students’ learning, evaluation must be done with as much care as possible. Without solid evaluation we really don’t know how much the students have learned. Some people may argue that teacher competence and teaching effectiveness are not such important factors in students’ learning if students are serious and sincere, or if other congenial factors like parental guidance are there, then they may fare well in their examinations even if their subject teachers lack in competency and effectiveness.”
Competencies for the teacher

In an educational organization, teaching competency is the key to ensure that all teachers are working to a certain standard. Teaching competency also ensures that the performance of the teacher is also being reflected through the performance of their own students. For this piece, we are going to look at what teaching competencies are and their definitions. Let’s now have a look-see into what competency / competencies are involved in the field of teaching. We may not be able to identify them all, but we can enumerate which ones are the most important. An important note, please make sure to take into consideration that we are giving very basic definitions to these teaching competencies. The competencies that you have in your organization will be more complex and much more specific.

In an educational institution, each teacher has his or her own field of expertise. For example, we have teachers who specialize in the sciences like physics, chemistry, and biology. We also have teachers who specialize in mathematics like geometry, trigonometry, and calculus. The same goes for the social sciences and the languages. Hence, what this means is that it is expected for an teacher to be subject matter experts on their selected field. Moreover, teachers should be able to properly deliver the subject matter to their audience in a manner that is clear, and concise.

Various Types of Teaching Competency

As per youremployment.biz and aijcrnet.com, “There are a large number of instructional and related activities to be performed by the teacher inside and outside the classroom. These activities are of varied types. The effective organization of these activities would require that a teacher possesses a certain amount of knowledge and also certain attitudes and skills. This is known as teaching competence. In other words, teacher competence refers to the right way of conveying units of knowledge, application and skills to students. The right way here includes knowledge of content, processes, methods and means of conveying content. Any definition of teaching competence depends on teaching in a particular setting, the culture and values held in the community. It also depends on the innumerable teacher and student characteristics and the classroom context. The effectiveness or ineffectiveness of teaching is closely linked to teaching competence.
Competent teacher would also create classroom conditions and climate, which are conducive for student learning. Teaching competency has various dimensions such as content knowledge, instructional planning, student motivation, presentation and communication skills, evaluation competencies and classroom management skills. While the teacher would require all these dimensions to a reasonable extent, it is in the manifestation of these in an integrated manner that makes him effective in the classroom context.

**Common Teaching Competencies**

1) **Competency I: Subject Matter Knowledge- The effective early childhood, elementary, middle/secondary school teacher demonstrates knowledge of:**

   a) The subject matter of Early Childhood, Elementary, Reading, Middle, or Secondary School education, including literature and the language arts, mathematics, science, social studies, the arts, health and physical education

   b) The physical, social emotional, intellectual and moral development of adolescents, both with and without special needs;

   c) Multidisciplinary structures, teaming and interdisciplinary planning;

   d) The relationships among the disciplines taught in the middle/secondary school.

2) **Competency II: Communication Skills. The effective teacher-**

   a) Communicates sensitively with language appropriate to students’ ages, levels of development, gender, race, and ethnic, linguistic and socioeconomic backgrounds, as well as individual learning styles and needs;

   b) Interacts with students, families, and colleagues.

3) **Competency III: Instructional Practice. The effective teacher-**

   a) Understands typical and atypical human development and is familiar with principles of curriculum and instruction, including strategies for integrating special education students into regular classroom settings and developing and implementing individualized Educational Plans (IEPs);
b) Teaches through diverse modes, including new technologies, reading and language arts as appropriate to age, learning style and developmental stage of the learner;
c) makes curricular content relevant to the experiences of students from diverse racial, socioeconomic, linguistic and cultural backgrounds;
c) Organizes and manages a classroom to support the growth and learning of diverse students;
d) Uses methods that develop students’ academic and social skills;
e) Works effectively with families and community sources.

4) Competency IV: Evaluation. The effective teacher-

a) Designs and uses various evaluative procedures to assess student learning;
b) Evaluates his or her own teaching behavior, and uses the results to improve student learning.

5) Competency V: Problem Solving. The effective teacher-

a) Thinks critically about teaching and learning;
b) Fosters students’ creative and analytical thinking skills.

6) Competency VI: Equity. The effective teacher-

a) Deals equitably and responsibly with all learners;
b) Understands the impact of western and non-western civilizations on contemporary American culture and uses this knowledge to develop appropriate strategies.

7) Competency VII: Professionalism. The effective teacher-

a) Understands his or her legal and moral responsibilities;
b) Learns from experience and supervision;
c) Understands the impact of societal problems that can affect student learning negatively and uses appropriate strategies to address such issues.
Analyzing Teaching Competency

Analyzing competencies in employees is critical to the success of any work environment. Human Resources professionals must partner with management to ensure that employees are placed into the right roles based on their overall competencies combined with the ultimate goal of the position.

One obvious benefit of a thorough competency analysis is that the person chosen to carry out specific responsibilities has been carefully selected based on their demonstrated abilities to meet the needs of the position.

Another benefit is the overall happiness of employees. When employees are happy and feel fulfilled in their roles, they are likely to operate at peak performance and deliver high quality results. Content employees are engaged in their responsibilities and are proactive in reaching their goals and therefore those of the employer.

Also, a feeling of being competent and well-qualified for their job brings a feeling of value. The feeling of being a valued employee is its own reward and therefore reduces the need to continually offer increased monetary compensation to employees. This, in turn, keeps company expenses low and increases profit potential.

Failure to go through the process of a competency analysis may have high opportunity costs. When employees are not competent in their roles, they do not perform well. They can feel overwhelmed and therefore are not able to deliver high quality results. Work output will be slow. These employees are not fully engaged due to lack of understanding which therefore results in subpar quality. Another concern is that companies risk losing incompetent employees as the employees themselves will feel enormous pressure to succeed in a role for which they are ill-qualified. When employees leave, it requires that the company rehire and retrain, therefore losing productive time. The new employee may also feel required to attempt to make up for that lost time.

Competencies are the combination of knowledge, skills, traits and experiences that prepare a person to be responsible for specific tasks. These characteristics can be divided into broad categories such as Behavioral (actions) or Tangible (measurable) and become
ever-more detailed. Possible competencies might include such skills as listening, problem-solving, writing or accounting.

To process a competency analysis, you must determine the competency model. A competency model categorizes which core skills are needed to be successful in a particular position. The more detailed the model is, the better chance there is of finding someone who will be able to best carry out the requirements of the position.

Once a clear competency model has been identified, ideal candidates can be identified by matching them against the identified criteria. Because positions are designed to play a specific role in meeting Company objectives, matching competencies to job responsibilities is an overall benefit to the overall company as a whole.

**Assessing Teaching Competency**

Assessing the level of improvement of an executive’s during a performance year, or quarter is becoming increasingly important for business organizations. So, assessing competency or competency assessment is a continuous process of persistently building knowledge, skills, etc. As sustainability of an organization in a given business has become at stake, for the purpose of dynamism, they are focusing more and more on assessing competencies of their employees.

Assessing competency is a form of assessment that is driven from a specific set of outcomes – general and specific, which is helping employers, employees and stakeholders to make reasonable judgments with respects to employees’ achievements and non-achievements of these outcomes; and certifies or evaluates on the basis of demonstrated achievements of the outcomes.

The focus of assessing competency is based on actual skills and knowledge that an employee demonstrates at workplace. The purpose of assessing competency is to verify that an employee possess the competency, though doesn’t necessarily means that the competency of that employee is applicable to the specific task.

The process starts when an incumbent makes a self-assessment of his competency by data collection of the performance data based on the competency. Immediate supervisor of the incumbent, who possesses vast experience in that specific task verifies the data and
makes qualitative reviews. Identification of development needs on a specific competency is essential as because based on the development needs training needs is analyzed. Based on the necessity of the skills and knowledge, training can be in both forms – on-the-job and off-the-job. Finally, after a completion time of the training period, that incumbent is re-assessed to find out the competency level has increased or not. And based on the evaluation reward decision is made.

From the organization’s stand point, assessing competency will ensure increase of productivity and thus enhancing profitability as its employees are capable of meeting the organizational objectives. Furthermore, organization will be enabled with adding more objectives carried out throughout the organization. It will significantly reduce training costs as training will only be necessary based on train need analysis. The competency database can be used for succession planning.

Assessing competency not only benefits organizations but it also bears sweet fruits for their employees as they will be more proactive, self-started, and self-motivated on the job. Get recognition of the prior knowledge and existing experiences. Competencies of the employees become demonstrable skills which are useful in their job and future career plans.

In conclusion, it can be said that assessing competency is all about looking at people at their own right. The key to assessing competency is making assessment of individuals using their knowledge and skills on a given job situation.

**Prior research findings related to perception of teaching competencies**

It is established beyond doubt that there lies a strong relationship between teacher competence and effective teaching. Teaching competence also bears the marks of perception, value and beliefs that the individual carries when she enters teacher training programme. This view is supported by Hirst (1990); Koetsier, Wubbles and Korthagen (1997). While echoing similar views, Joram and Gabrielle (1998); Andereon, Bluemenfield, Pintrich, Clark, Marx and Peterson (1995); Wubbles (1992); Zeichner and Gore (1990) stated that most student teachers enter programme with already established set of beliefs. Bodycott, Walker and Lee (2001) advocated similar views by stating that earlier formed beliefs and principles are part and parcel of student teachers’ personality.
Perceptions and expectations of profession form the beliefs. Richardson (1996) highlighted that beliefs are formed due to accumulation of prior experiences in home and at school. Kagan (1992) reiterated that students always bear in memory their days as students and impressions of good teachers.

Powell (1992); Hollingsworth (1989) in their studies revealed that in the perception of pre-service teachers content, knowledge and ability to communicate form the foundation of good teaching. Wade and Moor (1992) stated that teachers need knowledge of pedagogy and training to develop themselves as adept teachers confident of their own ability and with a faith on the potential of the students. Pajares (1992) believed that attitudes, expectations, perceptions of student teachers during training period must be taken into account by teacher educators. This can extend help in inculcating values and desirable competencies among student teachers”.

1.6 INTELLIGENCE

According to educationist, “Intelligence (also called intellect) is an umbrella term used to describe a property of the mind that encompasses many related abilities, such as the capacities to reason, to plan, to solve problems, to think abstractly, to comprehend ideas, to use language, and to learn. There are several ways to define intelligence. In some cases, intelligence may include traits such as creativity, personality, character, knowledge, or wisdom. However, most psychologists prefer not to include these traits in the definition of intelligence.

It is a most complex practical property of mind, integrating numerous mental abilities, such as the capacities to reason, plan, problem solving, abstract thinking, comprehending ideas & learns language.”

Intelligence is not a thing or object, but it is a way of acting in a situation. Intelligence means, the ability to learn which increases steadily as the child grows. It may be looked upon as a composted of many and various capacities to learn. There is an interesting international difference concerning theories of intelligence.

There is no agreement as regards the exact definition and nature of intelligence. Ballard remarked, “While the teacher tried to cultivate intelligence and psychologist tried to
measure intelligence, nobody seemed to know what was intelligence." Let us face this challenge and try to define it.

It is said that intelligence, “is

(a) the ability when we have some aim or question in mind,

(b) to discover relevant qualities and relationship of objects or ideas that are present before us and

(c) to evoke other relevant ideas”.

In other words, “intelligence is the capacity for relational constructive thinking direction to the attainment of some end. In intelligent study of literature, in intelligent running of a house, in intelligent business organization-in all forms of activities, capacity for relational constructive thinking is involved which is directed to the attainment of some end.

Authorities which support our views:

(1) Spearman supports our views when he says that intelligence is comprised of three abilities which are :

(a) Ability to observe one’s own mental processes.

(b) Ability to discover essential relations between items of knowledge whether perceived or thought of.

(c) Ability to enduce correlates.

Suffice to say that all these abilities are nothing but capacities for relational constructive thinking directed to attainment of some end.

(2) Thorndike at later state believed that intelligence consists in capacity of making controlled association. Controlled association requires the capacity for relational and constructive thinking directed to the attainment of some end. Here Thorndike gives views like us.

Some more meanings and definitions of intelligence are given a head:

1. Derivative meaning: The word intelligence comes from a Latin word which means cognitive processes.
2. Dictionary meaning: Intelligence is “the capacity to accumulate knowledge and put it into use.”

3. Vernon’s view: According to Vernon, there are three meanings of intelligence:

   (1) **Biological meaning**: Biological meaning of intelligence emphasises adaptive nature of human beings. So intelligence is the capacity of the individual to adapt or adjust to environmental situations.

   (2) **Psychological meaning**: It emphasises mental efficiency and the capacity for abstract thinking and reasoning. Therefore intelligence is an innate general cognitive ability.

   (3) **Operational meaning**: It emphasises specific characteristics of intelligent behaviour and measurement of these specifications. Hence, intelligence is *what intelligence tests measure.*

**Comprehensive Definitions of Intelligence**

**Binet** presented the pragmatic view of intelligence. He said that intelligence is the resultant of all the higher mental processes in complex interaction. Term an defined it as a capacity to carry an abstract thinking.

**Wechsler (1958)** defined, “intelligence as the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment.” The definition states that an individual’s intelligence is revealed by his behavior as a whole (Global) and that intelligence involves behavior towards a goal, which may be more or less immediate (purposefully).

**S. Jalota (1972)** considered the verbal, reasoning and numerical aspects of general mental ability as intelligence. According to him, “intelligence appears to function through activities in which there is an apprehension of relations among data presented to an individual or the appreciation of subtle relations among a number of related situation or objects. Most experts accept the concept of a single dominant factor of intelligence, general mental ability or G, while others argue that intelligence consists of a set of relatively independent abilities (American Psychological Association Task Force Report, Gottfredson (1998) the evidence for G comes from factor analysis of test of cognitive
abilities. The methods of factor analysis do not guarantee that a single dominant factor will be discovered. Other psychological tests, which do not measure cognitive ability, such as personality tests, generate multiple factors. Proponents of multiple intelligence theories after claim that G is, at best, a measure of academic ability.”

Mainstream Science on Intelligence (1994) viewed, “intelligence as a very general mental capability that, among other things involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning, a narrow academic skill or test making smarts. Rather, it reflects a broader and deeper capability for comprehending our surroundings-catching on, making sense of things or figuring out what to do.”

American Psychological Association (1995) gave the most accepted definition of intelligence “ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought. Although these individual differences can be substantial, then we never entirely consistent: a given persons intellectual performance will vary on different occasions, in different domains, as judged by different criteria. Concepts of intelligence are attempts to clarify and organize this complex set of phenomenon.”

“. . . ability to adapt effectively to the environment, either by making a change in oneself or by changing the environment or finding a new one . . . intelligence is not a single mental process, but rather a combination of many mental processes directed toward effective adaptation to the environment,” Encyclopedia Britannica, 2006.

“... the ability to learn or understand or to deal with new or trying situations, . . . the skilled use of reason (2), the ability to apply knowledge to manipulate one’s environment or to think abstractly as measured by objective criteria (as tests),” Merriam-Webster Online Dictionary, 2006.

CHARACTERISTICS OF INTELLIGENCE

1. Innate : Intelligence is an innate, natural power and not acquired.

2. Varies: Power of intelligence differs from individual to individual.
3. Helpful in learning and adjustment: It helps the individual in learning things and making adjustments.

4. Helpful in solving problems: It helps the man to face and solve the complicated and difficult problems and situations.

5. Influenced by heredity: Heredity exercises a good deal of influence on intelligence.

6. Influenced by environment: Environment, training or education affect intelligence. Studies by Freeman and Holzinger, Freeman and Flory, Terman and Merril, Tudenhem, Kephart and Schmidt illustrate this point.

7. Influenced by socio-economic factors: Socio-economic and cultural factors as well as racial differences affect intelligence tests scores.

8. Not influenced by sex: There is no difference in intelligence due to differences in sex.

9. Average intelligence: Intelligence tests have proved that generally children are of average intelligence and ability.

10. Ceases: Development of intelligence ceases towards the middle of adolescence.

11. Relationship between intelligence and knowledge: There is close relationship between intelligence and knowledge. Knowledge that may be of practical use in life may be termed as intelligence. With the help of intelligence knowledge can be acquired but with knowledge it is not possible to develop greater intelligence. In the words of Ross, Wisdom is the goal and knowledge is only the means of reaching it.”

**TYPES OF INTELLIGENCE**

Until recently, we have been led to believe that a person’s general intelligence measured as intelligent quotient. Intelligent quotient is generally thought of as our analytical or mathematical intelligence and or linguistic intelligence initially it was expected that intelligent quotient would be strong predictor of success in careers.
Intelligence of different types like Emotional intelligence, Social intelligence and Spiritual intelligence.

EMOTIONAL INTELLIGENCE

“It is heart which takes highest plane where intellect can never reach.” (Vivekanand)

Emotions are said to be the springs of actions. Like smell in the flower, emotions are present in every activity of human beings. The word ‘Emotion’ is derived from the Latin word “emovere” which means “to stir up”, “to agitate”, ‘to excite’. The word emotional intelligence is comprised of two words: emotions and intelligence.

Therefore, “the term emotional intelligence refers to the processes involved in the recognition, used to understanding and movement of one’s on and others emotional states to solve emotional problems and to regulate behaviour.”

In mid 1990s, Daniel Goleman, “stressed the importance of Emotional Quotient. Emotional Quotient enables us to be aware of our feelings and those of others. This awareness is vital as we fail to behave rationally when we are overpowered by emotions. It is very important to understand that Emotional Intelligence is not opposite of intelligence it is the triumph of heart. It is the unique intersection of both.”

COMPONENTS OF EMOTIONAL INTELLIGENCE

In 1990 Salovey and Mayer coined the term the emotional intelligence. They divided Emotional Intelligence into five components or abilities. These abilities are:

Self-awareness: Observing one self and recognising feelings as they happen.

Managing emotions: Handling feeling so that they are expressed and appropriately realized. Emotional intelligence is grounded primarily in psychobiology and modern neuroscience. Howard Gardener (1983) was the first one to point out the distinction between intellectual and emotional capacities and introduced his theory of Multiple Intelligence including interpersonal and interpersonal intelligence.

Motivating yourself: Using emotions to help achieve goals, self-control, delaying gratification, overcoming damaging impulses.

Empathy: Sensitivity to other peoples feelings and concerns.
Handling Relationships: Managing emotions in others, social skills, the ability to handle conflicts and difficult issues.

According to Dr. Goleman, “people who have control over their emotional life are able to fight inner battles more successfully and can focus on their work and think clearly. He felt that Emotional Intelligence along with Social Intelligence involves the capacity for recognising not only our own feelings but the feelings of others as well.”

SOCIAL INTELLIGENCE

On record, “Social intelligence is the ability of an individual to deal with social situations of daily life. It is the ability to get along well with others. It includes an awareness of situations and the social dynamics that govern them and knowledge of interaction styles and strategies that can help a person to achieve his objectives in dealing with others. Social intelligence would not include the feelings or emotions aroused in us by other people, but merely our own ability to understand others and to react in such a way towards them that the desired ends could to attained. High social intelligence is possessed by those who are able to handle people well. Adequate adjustment in social situations is the index of social intelligence.” According to Karl Albrech, “More people have lost jobs, friends, marriages and mates because of social incompetence than for all others reasons combined. The simple fact is that people who have a highly developed sense of social intelligence have more friends, better relationship, more successful careers and happier lives than those who lack those skills.”

People with high social intelligence are often said to have nourishing behaviours which make others around them feel valued, loved, respected and appreciated. These people are very appealing to others and often described as having a “magnetic personality”. Conversely, people who low in social intelligence are often described as “toxic” they cause others to feel angry, devalued, frustrated, inadequate or guilty. They are so preoccupied with personal stress that they fail to see the impact of their behaviour on others.

SPIRITUAL INTELLIGENCE

On record, “The English word spirit (from the Latin word spiritus, which means breath) has many meanings and connotations, all of them relating to a non corporeal substance contrasted with the material body. The term spirit has been defined as, the animating or
vital principle, which gives life to the physical organism, in contrast to its material elements. It is the breath of life (Webster’s Dictionary, 1997). The spirit of a human being is the animating, sensitive or vital principle in that individual, (similar to or same as the soul, *Aatma*), taken to be the seat of the mental, intellectual and emotional powers.”

According to Zohar & Marshall (2000), Spiritual Intelligence is described as, “The intelligence with which we address and solve problems of meaning and value; the intelligence with which we can place our actions and our lives in a wider, richer, meaning giving context; the intelligence with which we can assess that, one course of action or one life-path is more meaningful than another.”

The following are some of the major concepts of SI (Spiritual Intelligence)/ SQ (Social Intelligence) as reflected in the work of Zohar and Marshall (2000):

1. SQ/SI is used to grow our human brains. The spiritual intelligence helps an individual to become transformed for a better life.
2. Spiritual intelligence is used when one need to be flexible, visionary or creatively spontaneous.
3. It helps in dealing with existential problems. It gives an insight of what life’s struggles are about. SQ is our conscience.
4. SQ helps in understanding the meaning and essential motive behind all great religions.
5. Spiritual intelligence helps in the integration of intrapersonal and interpersonal intelligences. So spiritually intelligent individual will be good in management of his own things as well as that of others.
6. Spiritual intelligence helps an individual to go beyond his immediate ego/ self to live a life at a deeper level of meaning.
7. It is through spiritual intelligence that one can fight with the problems of good and bad, and life and death.

Robert Emmons (2000) defines spiritual intelligence as, “the adaptive use of spiritual information to facilitate everyday problems solving and goal attainment. He originally proposed five components of spiritual intelligence which are as follows:
1. The capacity to transcend the physical and material.
2. The ability to experience heightened states of consciousness.
3. The ability to sanctify everyday experience.
4. The ability to utilize spiritual resources to solve problems.
5. The capacity to be virtuous.”

According to Stephen Corey (2004), “Spiritual intelligence is central and most fundamental of all the intelligences, because it becomes the source of guidance for the others.”

Wiggleswoth (2012) defined, “Spiritual intelligence as “the ability to act with wisdom and compassion, while maintain inner and outer peace, regardless of the circumstances. She broke down the competencies that comprise SQ in to 21 skills, arranged into a four quadrant model similar to Daniel Goleman’s widely used model of emotional intelligence or EQ. The four quadrants of spiritual intelligence are defined as:

1. Higher self/ Ego self Awareness
2. Universal Awareness
3. Higher Self/ Ego self Mastery
4. Spiritual Presence/ Social Mastery

The Characteristics of Spiritual Intelligence

1. Self-awareness: knowing ourselves, our beliefs, values and what really motivates us
2. Deep gratitude for everything we have received in life and everyone who has helped us
3. An ability to forgive others who have hurt us and an ability to apologise when we hurt others
4. The ability to be flexible and spontaneous – to adapt and react to a reality which changes from moment to moment
5. The virtue of being inspired by vision and values – letting our vision leads us acting in accordance with our principles and values

6. Holism i.e. being able to see large patterns, relationships and the connections between things. Having a sense of belonging to humanity, the community of life and the entire universe

7. Compassion: deep empathy

8. Celebrating diversity – to respect and value other people and life – forms for their differences.

9. A tendency to Field Independence – standing up for ones on convictions and being able to go against the crowd.”

NATURE OF INTELLIGENCE

According to surveys and synthesis of views of educationist, “The true nature of intelligence can be understood by first defining it to understand its meaning, discussing the various theories explaining its structure in terms of the several constituents and factors, and identifying the numerous other aspects and characteristics related to intelligence and its functioning. We have already covered the first two points in the present chapter, let us now concentrate briefly on last point through the following description.

Distribution of Intelligence

The distribution of intelligence is not equal among all human beings. It resembles the pattern of distribution of health, wealth, beauty and similar other attributes or endowments. It is a normal distribution that is governed by a definite principal which states that the majority of people are at average, a few very bright and a few very dull.

Individual Differences in Intelligence

Wide individual differences exist among individuals with regard to intelligence. Truly speaking, no two individuals, even identical twins or individuals nurtured in identical environments, are endowed with equal mental energy. The assessment of intelligence by various tests has given reasons enough to believe that not only does intelligence vary
from individual to individual but it also tends to vary in the same individual from age to age and situation to situation.

**Intelligence and Changes in Age**

As the child grows in age, so does the intelligence as shown by intelligence tests. The question, which now arises is, at what age does this increase stop? The age at which mental growth ceases, varies from individual to individual. It tends to stabilize after the age of 10 and is fully stabilized during adolescence. The idea that intelligence continues to grow throughout life is not strictly true. Since intelligence is basically a function of neurons and neuroglia, its development or deterioration goes hand in hand with the development or deterioration of the nervous system. However, in the majority of cases, the growth of a persons intelligence reaches its maximum sometime between the age of 16 and 20 years after which the vertical growth of intelligence almost ceases. Horizontal growth i.e. achievement, the realization of the intelligence in terms of accumulation of knowledge and acquisition of skills etc. may continue throughout an individuals life.

**Intelligence and the sexes**

Many studies have been conducted to find out whether men are more intelligence Than women and vice versa but no significant differences has been found. It may, therefore, be stated that differences in sex does not contribute towards difference in intelligence.

**Intelligence and Racial or Cultural Differences**

The hypothesis whether a particular race, caste, or cultural group is superior to another in intelligence has been examined by many research workers. In the U.S.A. it has been a burning problem for centuries. The results of earlier studies which take the whites to be a superior race in comparison to the negroes have been questioned. It has now been established that intelligence is not the birthright of a particular race or group. The bright and the ‘dull’ can be found in any race, caste or cultural group and the differences which are found can be the result of environment factors and influences.

**ASSESSMENT OF INTELLIGENCE**

We can observe the intelligence of an individual only to the extent that it is manifested by him in one or more intelligence tests. Many such tests have been devised by psychologists for the measurement of intelligence. In references to these, however, the
term ‘assessment’ is preferred because, intelligence being only a concept or an abstraction rather than a substance, it cannot be measured in physical units like a length of cloth or temperature of the body.

In this context, Griffiths (1933) observes, the standard of measurement is a group performance. Therefore, when we measure an individual’s intelligence by means of an intelligence tests, we try to interpret his score in terms of the norms set (group performance) by the author of the test. One’s intelligence is thus determined in relation to the classified group to which one belongs. Thus, whereas a piece of cloth may be measured in absolute terms, relative measurement or assessment has to be resorted to in the case of intelligence.

CLASSIFICATION OF INTELLIGENCE TESTS

Intelligence tests may be classified broadly as follow:

1. Individual tests in which only one individual is tested at a time.
2. Group tests in which a group of individuals is tested at the same time.

Intelligence tests may also be classified on the basis of their form as verbal or language tests and non-language tests.

Verbal or language tests- In these the subjects make use of language in which the instructions are given in words, written, oral, or both. The individuals being tested are required to use language, verbal or written, for their responses. The test content is loaded with verbal material which may include varieties of the items listed below:

- **Vocabulary tests** – In these the subject is required to give the meanings of words or phrases. For example, what is the meaning of the word *eventually*? What is the difference between bear, wear and bare? What does the phrase *many roads to Rome* convey?

- **Memory tests** – These are designed to test the subject’s immediate and long-term memory, and include recall and recognition type of items. He may be called upon to tell the full names of teachers who teach him different subjects; his phone number, the number of his vehicle, the dates of birth of his siblings and so on.
• **Comprehension tests** – By means of these, the subject is tested for the ability to grasp, understand and react to a given situation. The questions, for example, may be like: Why do big ships float in the sea while a small needle would sink in it? Why are the nights longer and the days shorter in winter?

• **Information tests** – The subject is tested on his knowledge about the things around him by means of these tests, e.g., Where is the Taj Mahal situated? Name the countries which surround Iraq.

• **Reasoning tests** – In these tests the subject is asked to provide answers which demonstrate his ability to reason- logically, analytically, synthetically, inductively or deductively as outlined below:

  Complete the series: 1, 2, 4, 7, 11, 16, 22, 29, ?, ?, ?

  A picture is to frame as an island is to…

**Non-Verbal and non-language tests** - These tests involve activities in which the use of language is not necessary except for giving directions. Performance tests are a typical example of such tests. The main features of these are:

1. The contents of the tests are in the form of material objects.
2. What is required of the subject is conveyed by the tester through oral instructions, or by pantomime and signs.
3. The subject’s responses are assessed in terms of how he reacts or what he does rather than what he says or writes.
4. Generally these are individual tests. As Pillai (1972) observes: These cannot be used as group tests, chiefly because it is necessary directions”.

**Concept of Mental Age and I.Q**

Intelligence, assessed through the various intelligence tests is expressed in terms of Intelligence Quotient or I.Q. This term was first coined by the German psychologist, William Stern (1914), for the ratio of mental age and chronological age, which was then multiplied by 100 in order to eliminate the decimal point. The formula for calculation of I.Q. was expressed as
Where MA stands for mental age and CA for chronological age of the individual whose intelligence is being tested.

The concept of mental age was earlier introduced by French psychologist Alfred Binet, “It was based on the principal of the normal distribution of intelligence at the majority of children of a particular age are of normal intelligence and that they have a mental level approximating that age, which could be termed as their mental age. If some child excels in the performance of a certain task compared the performance of the majority of the children of his age, he was said to be of a higher mental age. If, for instance, the performance of an eight-years old on certain adequately determined tasks is equal to that of a majority of ten-years olds, then has a mental age (MA) of ten years, whereas another child of eight years showing performance equal to that of the majority of six-years olds, on the same tasks would be said to possess a mental age of six years.”

In any standard test of intelligence, there is provision of a table, which shows the conversion of actual scores obtained on the test into respective mental ages in months. All one has to do is to read the mental age from this table on the basis of the scores earned by the subject on that test. This mental age divided by the chronological age in months (available from the identifying data) and multiplied by 100, then yields the intelligence in terms of I.Q.

As per researchers,

“Values of Intelligence Testing

Use in selection – Results of tests can be properly used for selection of suitable candidates for educational and professional activities such as the following:

1 Admission to a special educational programme or course of instruction.
2 Identification and offer of scholarships to gifted students.
3 Selection of students for assigning specific responsibilities in the schools academic and co-curricular programmes.

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Selection of trainees for a vocational programme or job.

**Use in classification** – Intelligence tests help in classifying individuals according to their mental make-up. In the school, it is possible for the teacher to classify the students in his class as backward, average, bright or gifted and thus arrange for homogeneous grouping to provide them with proper educational opportunities according to their individual capabilities. Enrichment programmes for the gifted and remedial education for the backward and dull can thus be possible with the help of classification done through intelligence testing.

**Use in assessment for promotion** – The results of intelligence tests along with the achievement tests can be successfully used for promotion of students to the next higher grades of classes. Besides this, such tests can also be used in deciding the promotion of people in their chosen profession and social careers.

**Use in provision of guidance** – The results of intelligence tests may be successfully used in providing educational, vocational and personal guidance to students by teachers and guidance personnel. Problems like, what courses or special objects one may study, how one should proceed on one’s course of learning, what profession or occupation should be aimed by at by a particular individual, etc. may be successfully solved on the basis of results of intelligence testing.

**Use for improving the learning process** – Results of the intelligence testing may prove helpful to teachers to plan the teaching-learning activities. In this connection, Crow and Crow (1973) write: Results of intelligence tests can help a teacher to discover what the child can learn and how quickly he can learn, as well as the teaching methods that should be applied and the learning content that should be utilized to guide the learner to use his mental potentialities to their utmost.

**Use in setting proper level of aspiration** – According to Sawrey and Telford (1964): One should aim for what one desires. In other words, one should very carefully set one’s level of aspiration neither too high nor too low, if one ventures to be successful. It is possible only when one’s potentiality can be properly assessed. Intelligence tests can serve this purpose, and hence they are found to assist the individual to establish a level of aspiration that is realistic in terms of intellectual potential.
Use for diagnosis – The other use of the intelligence testing relates with its capacity to diagnose, distinguish and discriminate the differences in the mental functioning of individuals. This potentiality of intelligence testing can be utilized for (a) identifying exceptional children like gifted, backward and the mentally retarded (both on a general or specific dimension); (b) assessing the degree of mental retardation or extent of giftedness; (c) diagnosing the cause of problematic behaviour and suggesting possible remedial action; (d) arranging suitable educational programmes in view of the varied individual differences found in the mental functioning of the learners.

Use in research work – Finally, the results of intelligence tests can be used in carrying out research in the fields of education, psychology and sociology. For example, to ascertain (a) whether individual differences in mental capacities are the result of heredity or environment or both; (b) whether delinquency or problematic behaviour is caused by inferior intelligence; (c) how mental capacities grow with age, experience or training; (d) how far scholastic achievement depends upon the results of intelligence testing or how far the I.Q. tests can predict one’s school performance; (e) what is the interrelationship among mental traits and to discover definite mental or psyche types and; (f) the relationship of intelligence with creativity, anxiety, task performance, job satisfaction, adjustment or a number of other variables.”

Intelligence may be understood to be mental energy available with an individual, which enables him to cope with his environment in terms of adaptation and dealing with novel situations as effectively as possible.

The factor theories of intelligence try to throw light on the structure of intelligence by pointing out the number of factors or constituents, e.g. the unitary theory holds that intelligence consists of only one factor, i.e. a fund of intellectual competence. Quite contrary to this, the multi-factor theory considers intelligence to be a combination of numerous separate elements or factors, each of which is a minute elements of an ability. Spearman’s two-factor theory advocates the presence of the factors – general intelligence ‘g’ and specific intelligence ‘g’. The group factory theory postulates that all intelligence tasks can be categorized in definite groups. Each group has a unique common factor known as the group factor. Thurston and associates has discovered nine such factors.
Vernon’s hierarchical theory suggests a hierarchical structure for the organisation of intelligence in the shape of $G$, an overall factor branching into two major group factors and various specific factors. Guilford’s theory lays down a model of the intellect involving three interrelated interacted basic parameters – operations contents and products for explaining the structure of human intelligence.

Cognitive theories of intelligence try to analysis and describe intelligence in terms of certain fundamental cognitive processes. e.g. Cattell and Horn’s theory of intelligence states that intelligence is made up of two types of intelligence – fluid intelligence (derived more than biological and genetic factors and relatively free from the influences of education and culture) and crystallized intelligence (acquired fund of general information). The other cognitive theory, namely Jensen’s theory of mental functionary, describes one’s intelligence as being composed of two types of ability, i.e. associative abilities (related to biological maturation differing little among social classes and races) and conceptual abilities (dependent on education and culture and responsible for observed differences in conceptual reasoning among social classes and races).

Campion and Brown’s theory of intelligence suggests that intelligence includes a biologically based architectural system and an environmentally influenced executives systems. While the former works as a base for one’s intellectual functioning incorporating such factors as memory capacity, information processing etc. the latter is responsible for the higher order mental functioning. Sternberg’s information processing theory of intelligence makes use of the information processing approach for explaining the individual’s cognitive or problem-solving behaviour. It outlines our mental functioning as definite steps explaining what we do with information from the time we perceive it till the time we finish using it to solve our problem.

Gardner’s theory of multiple intelligence, “challenges the notion of general intelligence, or $g$, on which most current models of intelligence testing are based. It defines intelligence as a set of abilities, talents, or mental skills that permit an individual to solve problems or fashion products that are of consequence in a particular cultural setting. This theory, while providing a comprehensive view of the human cognitive structure, believes that there are seven independent types of intelligence (development different in different
people) ranging from linguistic and logical-mathematical abilities to interpersonal and interpersonal abilities.”

A more comprehensive picture of the concepts of intelligence may emerge if, certain important factory about its nature and known; namely, that intelligence is normally distributed in nature; it is a product of both heredity and environment, it grows with age and its vertical growth ceases at the age of 16 to 20; it shows a wide variety of individual difference but factory like sex, race, culture, caste and colour etc. are not found to influence the degree of intelligence.

Intelligence cannot be measured in the same way as we measure a piece of cloth or the temperature of our body. It can only be assessed. This assessment is carried out through intelligence tests categorized as individual and group tests involving the use of verbal or non-verbal material.

In individual tests, we test one individual at a time whereas in group tests, a group of individuals may be tested at the same time. There are numerous individual and groups tests, some of which are paper and pencil tests and thus essentially require the use of languages, while others are languages free tests. Performance tests are a typical example of such non-languages tests. In such test an assessment of one’s intelligence is made through the evaluation of one’s performance on test involving intelligence abilities. These tests are most useful in cases of individuals who have languages handicaps such as foreign language speaking groups, illiterates, the deaf and dump and mentally retarded or culturally deprived individuals.

The concepts of mental age and I.Q. is used for interpreting the scores earned on intelligence tests. The mental age of a child signifies comparison with a particular mental level, which is normal for the majority of children of his age. In a standardized test of intelligence we can read the mental age of an individual (in months) directly from the table provided in the manual on the basis of the score.

In the present study, intelligence appears to function through activities in which there is an apprehension of relations among data presented to an individual or the appreciation of subtle relations among a number of relates the situations or subjects.
1.7 RATIONALE OF THE PROBLEM

The present study will have educational implications for pupil teachers and all who are interested in improving conditions, which affect teaching aptitude. It will relate the teaching competency and intelligence with the teaching aptitude i.e either one factor or both affect teaching aptitude in positive or negative direction and up to which extent or one variable in one direction and other in opposite direction. By knowing affect of these factors, we can draw conclusion or get information how these factors help in improving teaching aptitude.

Teaching aptitude found as significant predictor of teacher effectiveness. In most of the studies teaching aptitude has been studied in relation to variables like gender, students achievement, teaching behavior, self- esteem and teaching success. Teaching competency found positively correlated with teaching aptitude and intelligence has found as component of teaching aptitude in most of the studies.

Hence, the need for a study like the one in hand will be purported to see the relationship of teaching aptitude with other variables like teaching competency and intelligence of B.Ed pupil teachers.

The problem selected for the study intends to find out the different ways to improve teaching aptitude and its relation with teaching competency and intelligence. Although the independent work on these variables are available but not many co-relational studies on these variables conducted in India as yet. Most of the work has been done in foreign countries and empirical work is still wanted in India.

1.8 STATEMENT OF THE PROBLEM

“A STUDY OF TEACHING APTITUDE OF B.ED PUPIL TEACHERS IN RELATION TO THEIR TEACHING COMPETENCY AND INTELLIGENCE.”

1.9 OPERATIONAL DEFINITION OF KEY TERMS

Conceptual definition of Teaching Aptitude:- Freeman defined “An Aptitude is a combination of characteristics indicative of an individual’s capacity to acquire some specific knowledge , skill or set of organized responses such as the ability to speak a language , to become a musician , to do mechanical work.”
Operational definition of Teaching Aptitude: In the present study teaching aptitude of B.Ed pupil teachers means the total score obtained by B.Ed pupil teachers in the Teaching Aptitude (2002) scale by L.C.Singh and Dahiya.

Conceptual definition of Teaching Competency:- Houston defined “The right way of conveying units of knowledge, application and skill to students.” The right way here includes knowledge of content, processes, methods and means of conveying content.

Operational definition of Teaching Competency: In the present study teaching competency of B.Ed pupil teachers means the total score obtained by B.Ed pupil teachers in the General Teaching Competency scale by B.K.Passi and Mrs. M.S Lalitha.

Conceptual definition of Intelligence:- Wechsler defined “Intelligence is the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment.”

Operational definition of Intelligence: In the present study intelligence of B.Ed pupil teachers means the total score obtained by B.Ed pupil teachers in the Test of General Intelligence (2012) by S.K.Pal and K.S Mishra.

1.10 OBJECTIVES OF THE STUDY

1. To study and compare teaching aptitude of high intelligence and low intelligence of B.Ed pupil teachers.

2. To study and compare teaching aptitude of high intelligence and low intelligence of urban male B.Ed pupil teachers.

3. To study and compare teaching aptitude of high intelligence and low intelligence of urban female B.Ed pupil teachers.

4. To study and compare teaching aptitude of high intelligence and low intelligence of rural male B.Ed pupil teachers.

5. To study and compare teaching aptitude of high intelligence and low intelligence of rural female B.Ed pupil teachers.

6. To study and compare teaching aptitude of high teaching competency and low teaching competency of B.Ed pupil teachers.
7. To study and compare teaching aptitude of high teaching competency and low teaching competency of urban male B.Ed pupil teachers.

8. To study and compare teaching aptitude of high teaching competency and low teaching competency of urban female B.Ed pupil teachers.

9. To study and compare teaching aptitude of high teaching competency and low teaching competency of rural male B.Ed pupil teachers.

10. To study and compare teaching aptitude of high teaching competency and low teaching competency of rural female B.Ed pupil teachers.

11. To study the relationship between teaching aptitude and intelligence of B.Ed pupil teachers.

12. To study the relationship between teaching aptitude and intelligence of urban male B.Ed pupil teachers.

13. To study the relationship between teaching aptitude and intelligence of urban female B.Ed pupil teachers.

14. To study the relationship between teaching aptitude and intelligence of rural male B.Ed pupil teachers.

15. To study the relationship between teaching aptitude and intelligence of rural female B.Ed pupil teachers.

16. To study the relationship between teaching aptitude and teaching competency of B.Ed pupil teachers.

17. To study the relationship between teaching aptitude and teaching competency of urban male B.Ed pupil teachers.

18. To study the relationship between teaching aptitude and teaching competency of urban female B.Ed pupil teachers.

19. To study the relationship between teaching aptitude and teaching competency of rural male B.Ed pupil teachers.
20. To study the relationship between teaching aptitude and teaching competency of rural female B.Ed pupil teachers

1.11 HYPOTHESES OF THE STUDY

1. There is no significant difference between teaching aptitude of high intelligence and low intelligence of B.Ed pupil teachers.

2. There is no significant difference between teaching aptitude of high intelligence and low intelligence of urban male B.Ed pupil teachers.

3. There is no significant difference between teaching aptitude of high intelligence and low intelligence of urban female B.Ed pupil teachers.

4. There is no significant difference between teaching aptitude of high intelligence and low intelligence of rural male B.Ed pupil teachers.

5. There is no significant difference between teaching aptitude of high intelligence and low intelligence of rural female B.Ed pupil teachers.

6. There is no significant difference between teaching aptitude of high teaching competency and low teaching competency of B.Ed pupil teachers.

7. There is no significant difference between teaching aptitude of high teaching competency and low teaching competency of urban male B.Ed pupil teachers.

8. There is no significant difference between teaching aptitude of high teaching competency and low teaching competency of urban female B.Ed pupil teachers.

9. There is no significant difference between teaching aptitude of high teaching competency and low teaching competency of rural male B.Ed pupil teachers.

10. There is no significant difference between teaching aptitude of high teaching competency and low teaching competency of rural female B.Ed pupil teachers.

11. There is no significant relationship between teaching aptitude and intelligence of B.Ed pupil teachers.

12. There is no significant relationship between teaching aptitude and intelligence of urban male B.Ed pupil teachers.
13. There is no significant relationship between teaching aptitude and intelligence of urban female B.Ed pupil teachers.

14. There is no significant relationship between teaching aptitude and intelligence of rural male B.Ed pupil teachers.

15. There is no significant relationship between teaching aptitude and intelligence of rural female B.Ed pupil teachers.

16. There is no significant relationship between teaching aptitude and teaching competency of B.Ed pupil teachers.

17. There is no significant relationship between teaching aptitude and teaching competency of urban male B.Ed pupil teachers.

18. There is no significant relationship between teaching aptitude and teaching competency of urban female B.Ed pupil teachers.

19. There is no significant relationship between teaching aptitude and teaching competency of rural male B.Ed pupil teachers.

20. There is no significant relationship between teaching aptitude and teaching competency of rural female B.Ed pupil teachers.

1.12 DELIMITATIONS OF THE STUDY

1. The study is delimited to B.Ed pupil teachers of Gurgaon, Faridabad, Mewat and Rewari colleges.

2. The study is delimited to teaching aptitude, teaching competency and intelligence of B.Ed pupil teachers.

3. The study is delimited to the B.Ed pupil teachers.