Chapter-3

Conceptual Frame Work
CHAPTER -3
CONCEPTUAL FRAMEWORK

3.0 INTRODUCTION

Teachers play a pivot role in the education of primary school children. A competent teacher is one with good communication skills, abundant knowledge and can inculcate good values and positive attitudes among children by developing good rapport with them.

Medely (1977) recognized teaching competency as “effective performance of all observable teacher behavior that brings about desirable pupil outcomes”. It is important for a student teacher to possess good language proficiency, reasoning ability and emotional intelligence in order to bring out expected behavior from pupils. Language proficiency is the single most important moderator of test performance and it reflects familiarity with concepts and access to language medium through which knowledge had been gained. Peter Solovey and Mayer (1997) defined emotional intelligence as ability to monitor one’s own and others feelings and emotions and discriminate among them and to use this information to guide ones own thinking and actions”. Reasoning has been defined very differently depending on the context of the understanding of reason as a form of knowledge. The three independent variables are discussed more in detail in the preset chapter.

3.1 LANGUAGE PROFICIENCY

3.1.1 Concept of Language Proficiency

Language proficiency comprises both oral and a written component which are interrelated. Language proficiency is the single most important moderators of test performance and it reflects similarity with concepts and
access to the language medium through which knowledge had been gained. Student with poor language skills invariably have a weak understanding of the concept to the subject. It is important for a student teacher to possess' good language proficiency to understand the content and express them clearly and effectively in the class rooms.

Language proficiency refers to the degree to which the student exhibits control over the use of language including the measurement of expressive and receptive language skills in the areas of phonology syntax, vocabulary and semantics and including the areas of pragmatic or language use within various domains or social circumstances. Proficiency in a language is judged independently and does not imply a lack of proficiency in another language.

A language is a code where by ideas about the words are represented through a conventional system of arbitrary signals for communication (Lahees and Bloom 1988). Language is a system in which sounds combine to form words and words combine to form sentences for representing knowledge and determined by a system of rules.

Language is often described along five dimensions, phonology, morphology, syntax, semantics and pragmatics. The three areas of language emphasized in education area speech, reading and writing. Speech is the actual behavior of producing a language code by making appropriate vocal sound patterns (Hubbell 1985). Reading is a process of recognizing words and understanding words and ideas. According to Mercer and Mercer (1989) reading is defined as a visual auditory task that involves obtaining meaning from symbols (letters and words). Reading and writing are the two aspects of whole language communication process. Writing is organization of words in a systematic manner that say clearly and precisely what is meant, should be grammatically correct and should be well constructed.
Educators involved in language teaching and those who train teachers to teach English recognize the inextricable bond between teaching and listening. However learners, parents, teachers and administrators all have their own unique perspectives of the importance and use of these assessments. Hence it is important for English language teachers to understand the objectives and principles of assessment.

Before setting a test to measure performance, teachers and testers need to be aware of certain fundamental issues.

a) What to assess  

b) How to assess  

c) Why the assessment is being undertaken  

d) What the assessment should contain  

e) The backwash: Effects of the assessment on teaching & learning  

Measuring pupil performance in English necessarily involves assessing language skills level. The focus is not on the masters of language skills and its use in fulfilling communication goals. Language skills are broadly categorized into productive skills and respective skills. Productive skills require language production either in the form of speech or writing whereas receptive skills refer to reading and listening. The four skill areas of listening, speaking, reading and writing have a number of sub skills.

The sub skills of listening include.

a) Listening for understanding  

b) Listening for main ideas  

c) Listening for supporting details  

d) Listening for specific information  

The sub skills of speaking include

a) Language related  

• Fluency  

• Grammatical Accuracy  

49
• Standard Pronunciation
• Appropriate vocabulary
• Contextual Appropriateness
• Comprehension
• Communicative competence

b) Function Related
• Making introductions
• Describing
• Narrating
• Instructing
• Informing etc.

The sub skills of reading include
a) Skimming
b) Scanning
c) Recognizing non-verbal signals
d) Recognizing structure of texts
e) Recognizing structure of paragraphs
f) Effective interpretation of punctuation
g) Inference
h) Determining the meaning of words from context
i) Summarizing

The sub skills of writing include:

a) Language related
• Appropriate sentence structure
• Accurate subject verb agreement
• Verb sense conciseness
• Accuracy in spelling
• Appropriate capitalization
• Accuracy in punctuation
b) Text related

- Organization of content
- Coherence and use of transitions
- Building up thesis statement
- Relevant topic sentences
- Convincing supporting details
- Way the conclusion takes place

c). Function related

- Note taking
- Narrative essays
- Persuasive essays
- Expository essays

Each skill and sub skill will require specific assessment procedures and tools. Assessment techniques to test speaking skills would include face to face interviews, question and answer sessions, discussions, interaction with peers describing an object or picture, role plays, verbal presentations, telephone conversation etc. Listening skills would be measured by using multiple choice, short answer, information transfer, note taking, partial dictation, following certain instructions, etc. The measurement of writing skills would require exercises such as close, close elide (words that do not belong or inserted) editing, guided essays, unguided essays, short answers, description of a process, writing instructions, etc. Reading skills could be assessed using multiple choices, gap filling exercises, short answers, short essays etc.

An important aspect on the measurement of pupil performance is determining what specific qualities will be measured. These would be the evaluation parameters for the assessment of the skills and sub skills. For example, evaluation parameters in the measurement of writing skills would include
Language proficiency develops across three major language use domains namely a) conversational domain which includes interactive uses b) literary uses that include reading & writing and c) meta Linguistic tastes that include activities which forth analyzed knowledge and cognitive control. Proficiency in each domain requires certain skills and the skills of all the domains put together are called language skills. Each language skills have two dimensions namely analyzed knowledge & cognitive control which are considered to develop along a continuum form low to high.

Goldstein (1979) contended that between language proficiency and meta cognitive awareness there is a bi-directional relationship in which an
advance in any of these has an effect on the advancement of other. It is necessary while teaching a lesson in English to break free from the dominance of common & explanation and to explore alternative ways of using literary texts (Madley, 1977)

A teacher’s aim should be to provide students abilities to read a text and not to teach specific texts. Since literature is language in use, teaching language through literature develops a better feel of language. Also, because a literary text creates a human /emotive situation, students can easily relate themselves to the text.

All developing nations are aware of the fact that learning a foreign language is of vital importance in order to adopt the latest scientific and technological innovations in the world, and are determined to establish a system in which while evaluating the human resources available in their countries, those who have a good command a foreign language have great advantage over the ones who do not.

The phrases “English language proficiency and English language competence” have been used interchangeably, as they are in university admission offices to describe in general and generic terms for non-linguistics. It is now widely acknowledged that English language proficiency, English competence or academic literacy are variously described in the literature produced by the university guides to entry requirement is a process rather a facility, that it is developmental and its continuous all the time a student is at university and beyond’ (Catterall & Martins 1997).

Language proficiency refers to the degree to which the student exhibits control over the use of language including the measurement of expressive and respective language skills in the area of phonology, syntax, vocabulary and semantics including the areas of pragmatics or language use within various
domains or social circumstances. Proficiency in a language is judged independently and does not imply a lack of proficiency in another language.

The degree to which an individual is skilled in a language when students speak languages other than English, proficiency is assessed to determine the primary language. The level of competence at which an individual is able to use language both for basic communicative tasks and academic purpose. From the pedestrian grammar translation, methodology of grammar & linguistics oriented pedagogy has swing to the other extreme of imparting skills of speaking in real life situations and writing for a whole range of purpose and functions. This trend clearly indicates that the emphasis is on the functionality of English rather than its nature & genesis.

3.1.2 Reading skill

“Every examination of the problem of our school or poverty, every question raised by our troubled parents about or schools, every learning disorder, seems to show some association with reading difficulty” (The US ECR 1964).

A language teacher is primarily concerned with helping learners master the basic skill of language learning namely listening, speaking, reading, writing, and reference work of these five. The ability to read is of paramount importance for the following reasons:

• Where there is little reading there is little learning.
• Only by mastering the skill of reading can learners acquire the speed and other skills in reading needed in real life situations when they leave school. In our literate society it is hard to imagine any skilled work that does not require the ability to read. Professional competence depends upon it.
• Success in further education depends upon the quantity & qualities of reading.
• In this words in which we see phenomenal growth in scientific knowledge and advancement in technological skills, one’s success in life depends upon reading.
• We live in an age in which the world is fast shrinking in space and time. No country can afford to live in isolation. A sound and systematic understanding of the lives of people living in various parts of the world and their culture is essential for peaceful coexistence & progress. One may think that this is not necessary from the literacy point of view, particularly if one’s languages has rich literature and the culture a rich heritage, but non can deny that it is a useful and indispensable luxury and a pleasant route to better understanding of the lives and aspiration of the people living in other countries.
• It is not restricted to the school life of the children but extends even after schooling also.
• It is a life long activity of man which widens his general knowledge sharpens his sight widens his sympathies and offers occasions for the exercise of judgment.
• Even further education depends on the quality and quantity of reading.
• It promotes the cultivation of good habits which in turn promotes self education in the modification of personality.

Reading meets the needs which other modern media cannot fully satisfy. It is an indispensable factor in modern life and it is interwoven with the life, recreation and other activities of young people and adults. Therefore this all important learning skill has got to be taught in our schools. Policy makers’ educational administrators and teachers have to think about the aspect seriously and take suitable measures in this regard.

Williams S Gray in his book history and philosophy of reading instruction has defined reading is the process of recognizing printed or written
symbols involving such habits as accuracy in recognizing the words that make up passage, span of recognition, rate at which words and phrases are recognized rhythmical progress of perception along the lines and accurate returns sweep of the eye from the end of one line to the beginning of the next”.

Reading is an exercise which our eyes do while scanning every written paper. Reading is an integral part of our every day activity. We continually come across various hand written or printed words through various medias.

Reading is a process through which mind reels to understand and churn the words, their meanings, their usage in different conditions. Therefore process of reading involves following steps:

➢ To look out for unfamiliar words.
➢ To understand those words.
➢ To recognize & remember their shape, shade & usage.
➢ To break words into different symbols & sound them
➢ To associate the symbols with sound
➢ To understand phrases & sentences.
➢ To understand overall contents.

Reading involves the recognition of the important elements of meaning and their relationship that contributes the accuracy and thoroughness in comprehension. It is more than seeing words or pronouncing them or recognizing their meaning in isolation. It requires one to think feel and imagine. It is an activity which involves the interpretation of ideas symbolized by written or printed language.
There are two types of reading, oral reading and silent reading.

**Oral reading:** In oral reading a person reads out every word. As he does so he has to get the sounds their combinations, stress, intonation and pitch patterns correctly. The major objective of oral reading is conveying meaning. As such oral reading is much more difficult than silent reading.

**In silent reading,** reading instruction in most of our primary and secondary schools has been instruction in oral reading in spite of the fact that reading in oral life is mostly silent reading. Attention to reading as an academic exercise is under related as communication is given a lot of importance. Silent reading is the art of thought getting.

Reading is considered as one of the most effective means of learning English language. But in our country proper attention is not paid to this important skill of learning both in mother tongue and in English. Reading is sadly neglected. That is why we do find a lot of defects in the reading activities of our pupils.

English language not only have to give much importance to the skill of reading but also to improve the defects that have crept into the searching and learning of these skills.

The famous essayist Lord Bacon has beautifully explained the importance of reading in a nutshell as “Reading makes a full man. In this regard the statement made by Aldous Huxley is worth quoting. He says “Every man who knows how to read has it in his power to magnify, to multiply the ways in which he exists to make his life full significant and interesting”. According to Gary “Reading is a form of experience.
The importances of English language reading ability are

1. Reading serves as a tool and the most useful skill while learning a foreign language.
2. It involves recognition of sounds and written symbols. It makes the best use of our leisure time.
3. It opens the vast vista of knowledge to the readers.
4. It not only trains the mind of the learners but also broadens their outlook.

Reading is about understanding written texts. It is a complex activity that involves both reception and thought. Reading consists of two related process, word recognition and comprehension. Word recognition refers to the process of perceiving how written symbols correspond to one’s spoken language. Comprehension is the process of making sense of words, sentences and connected text. Readers typically make use of background knowledge, vocabulary, grammatical knowledge, experience with text and other strategies to help them understand written text. Much of what we know about reading is based on studies conducted in English & other alphabetic languages. The principles we dealt in the booklet are derived from them, but most also apply to non-alphabetic languages. They will have to be modified to account for the specific language. Learning to read is an important educational goal.

It enables us to gain new knowledge, enjoy literature, and do everyday things that are a part and parcel of modern life, such as, reading the newspapers, job listings, instruction manuals, maps and so on. Reading construction needs to take into account different types of learners and their needs.

Both research & classroom practices support the use of a balanced approach in instruction. Because reading depends on efficient word recognition and comprehension, instruction should develop reading skills and
strategies as well as build on learner’s knowledge through the use of authentic tests.

In short, reading activity is undertaken for these purposes

a) To get information.
b) To obtain knowledge.
c) To understand (Comprehension)
d) To express appreciation.
e) To get profit and pleasure.
f) It is a meaningful process.
g) When a lot of practice has been provided it certainly results in good reading.

3.1.2.1 Aims and objectives of reading

The aims and objectives of reading may be listed as under:

1. To enable the learners to understand the language and to gain more experience in the language.
2. To process the ability to read well and fluently.
3. To help them to improve their oral & salient reading.
4. To assist them to recognize words & to understand their meanings.
5. To enable them to read English with correct pronunciation, articulation, rhythm intonation and stress.
6. To develop proper attitude for learning.
7. To motivate them to cultivate proper reading habit.
8. To help them to acquire the necessary skills of reading and to get enjoyment from reading.
9. To provide them full control over the words and patterns during the process of reading.
10. To enable them to obtain more information and knowledge about the world.

11. To provide them to gain profit and pleasure from the printed pages and materials.

12. To enable them to acquire the technique of understating the correct sound.

13. To assist them to develop the activity to read the different types of literature, news papers, magazines and journals.

3.1.3 Writing skills

“Writing makes an exact man” Bacon said. Language learning, as has already been stated is a process of mastering various skills such as listening, speaking, reading, writing and reference work. The last three are called literary skills each of these skills has been divided into a number of sub skills. Unless these are systematically taught, learners may find it difficult to master them especially in an ESL situation.

Writing tasks should relate appropriately to the ultimate goal of learners who need to write English in their social, educational or professional lives. Therefore classroom writing tasks should reflect the ultimate goal of enabling students to write texts which form connected contextualized and meaningful pieces of communication.

There is no meaningful and purposeful learning without writing. Writing is a regular and common feature of pupil’s day to day work. “Writing” bears the same relationship to reading as speaking does to listening. However, just as speaking differs from listening in that it necessitates the articulation of sounds, writing demands the production of orthographic symbols, not just the interpretation of the message. The term writing is ambiguous since it is used to refer both the mechanical act of penmanship and
to the complex process of composition. According to Prof. Baruah, writing is regarded as the visual representation of speech.

The importance of writing skill of all the aspects of language teaching is one of the important skill. Bacon, the famous essayist, has beautifully summed up the importance of writing as “Reading makes a full man conference a ready man and writing an exact man”. The significance and the value of writing in language learning may be explained as follows:

- Writing is a mental activity. It is a thinking process.
- It is an important tool that is used in the language teaching.
- It enables man to communicate with other people in many different ways.
- It makes our ability in writing most perfect.
- It is an exercise in transcription or copying.
- It involves both accuracy and speed.
- It is also an art through which the acquired skills in language are made manifest.
- It not only trains our ears but also our eyes.
- It fixes vocabulary spelling and patterns in the mind of the pupils.

To improve writing and speaking skills

When you come to know various shades of words conveying same meaning you will be tempted to use these words while you speak or write. Whether, you are planning to write a formal speech, report or essay it is advisable to write the first draft. Review your draft and underline the words which are repeated inappropriate or dull and the words you wish to replace. Now consult a dictionary and find out suitable words and replace them with the words underlined in your draft. This Practice will improve your skills in expressing your words more effectively in vocal as well as written language.
3.1.2.1 Essay Writing

As per 'The excise 'Oxford Dictionary' the word essay is defined as “a library composition on any subject”. In simple words “essay is a written composition expressing one’s opinions on a topic.

Every essay has three parts:
   i) Paragraphs
   ii) Structure of the essay.
       a) Introductory part
       b) Body (main part)
       c) Concluding part
   iii) Style of writing.

3.1.4 Speaking skills

Speech is the basis of learning language. We have already read in the previous section that language consist of sounds, words, grammar and a number of extra linguistic features. We use all these when we speak. We communicate when we speak. If we want to communicate i.e., if we desire to be intelligible to the listeners we have to:

- Use proper sounds and sound combinations.
- Speak with proper pronunciation, accent, intonation and other extra linguistic features and body language.
- Speak reasonably fluently.
- Use appropriate words & patterns
- Speak varied sentence patterns in order to be effective communicators
- Present ideas in a proper sequence
- Use proper emphasis
- Avoid necessary repetition.
- Use appropriate body language.
Speaking follows listening. Systematic practice forms the basis for effective speaking. Practice should always be meaningful. It should not be mechanical or parrot like. English is a rhythmic language and for the sake of clarity rhythm should not be lost.

It is said to be an active and productive skill. It is called an encoding skill. Speech is said to be the first and the foremost part of a language. In this regard B. Ballard writes we are ever liable to forget that language is first and foremost a spoken thing not a written thing. It is basically a communicative and social art. Speaking does not mean free speech. It only means controlled speech restricted to the sentence patterns already heard and understood.

The main reason for the disqualification of the majority is poverty of speech. Spoken communication is essential to every modern young man and women who needs a decent employment. But it is quite unfortunate that this vital skill is not given due importance in the colleges and in universities too. In fact personality development cannot be complete without fluency and reinforcement of speech. In the present day job market, it is only with English speech, one can facilitate global & national mobility. As such teachers must aim at providing holistic learning to the students to open up new vistas to the budding new generation.

Spoken English did not find a place on the curriculum and this has led to the unsuccessful attempts of the teacher in teaching the language to the students.

One must remember the fact that English is not a library language like Sanskrit, Latin and Arabic. It is a popular and living language with all vibrations of life. Even in India, it has become the hallmark of high class education. If teachers say that English language has become the language of
business of the world today, it won’t be an exaggeration. It is also the language of international contacts. Indians abroad have high acceptability mainly because of their fluency & accuracy in English language. Hence spoken English must become a part of the curriculum to equip our students with the necessary confidence to use English language for their success in their career.

As language is human in nature, the aural & oral skills should also be developed in the students in a natural way. But reading and writing are the manifestations of the aural, oral skill and it has to be given secondary place inside the classrooms. Some claim that writing is an important skill required to record the thoughts of human beings in a permanent way and speech is purely as temporary one. Though we must accept the fact to an extent, teachers must also realize that it is the speech that communicates our ideas effectively and instantly.

The real problem with the teaching of English language is that most of the teachers teach about the language and not the language. Language should be taught as a skill and not as an intellectual task or subject and it should be served among varied and interesting situations. Maximum exposure should be provided and proper regard should be given to the application of the language in the daily life that is to say, using the language in the day to day conversation.

**Aims of speaking**

The main aims of speaking may be explained as follows:

- To enable the pupils to speak correctly & properly.
- To enable them how to use words, Phrases & idioms already learnt.
- To reinforce in the memory the sentence pattern already heard & understood.
To attain fluency & accuracy while speaking.

To assist them to make a good conversation.

To help them to know the basic rules of grammar.

To enable them to get the mastery of English stress & information.

To enable them to gain mastery of sentence structure.

To acquire the mastery of vocabulary.

To instruct them how to ask questions and to answer questions.

To advice them how to use greeting and curtsey formulas.

In the skills of speaking English, a person must be able to

- Produce speech sounds.

- Use appropriate words and structures.

- Recall words and structures quickly

- Use appropriate stress & information patterns

- Organize the thoughts and ideas logically

- Adjust speech according to the subject matter.

**The importance of correct speech habits**

Good oral expression is the hallmark of a cultured and an educated person. Hence good speech habits play a very important role in development of one’s own personality. The importance of correct speech habit is highlighted through the following points.

- Correct speech habit promotes intelligibility.

- It promotes healthy, harmonious human relationship and socializations.

- It breaks mental blocks of an individual and also between or among the individuals.

- It facilitates good leadership qualities

- It promotes good decision making abilities.

- It prevents verbal conflicts
• It serves as a basis for the development of listening comprehension and reading comprehension and written expression

• It reflects inner core of the personality of a speaker

• It promotes oratorship.

• It provides scope for ability to argue on certain topics politely and convince others.

• It sets models for others to communicate effectively.

• It promotes self confidence.

The different ways of developing correct speech habits are

1. Speech habits can be developed through class room conversation exercises peaking and giving information
2. Topic based simple discussions can be organized e.g. curriculum activities in the class like conducting an experiment in science.
3. Fluency based practice tasks can be organized in the class.
4. Practice in speech sounds.
5. Practice in speech, stress and intonation.
7. Making telephone calls asking for information.
8. Open house discussions on familiar topics.
9. Participating in debates and discussions.
10. Responding to simple questions.
11. Expressing reactions orally on T.V. Video programmes.
12. Taking part in plays and role plays.
13. Dramatization activities.
14. Conversing with friends, teachers, relatives on events of day to day life
15. Giving a report on event/events orally to the teacher.
16. Tele conferencing.
17. Encourage the pupils to engage in useful interactions with teachers and friends.
18. Encourage the students to make simple presentations e.g. visit to zoo or museum.
19. Story Telling.
20. Theme picture exercises/select any pictures with a theme arrange them in a sequence and describe them in their own words.
21. The learner to complete the outline story orally.
22. Using sound sequences and describing a sequence.
23. Teacher tells anecdotes.
24. Picture composition: A set of pictures of a story can be organized/displayed in a sequence and ask the students to give the different interpretations of the story.
25. The pupils to listen to a sound sequence and prepare a set of pictures and complete the exercise.
26. Pupils to participate in a radio show. It provides as a good model interaction in English for the younger learners.

3.2 EMOTIONAL INTELLIGENCE

3.2.1 Concept of Emotional Intelligence

Emotional intelligence is a type of social intelligence, which refers to the ability to set a goal in life, work towards achieving it, negotiates it and feels empathetic towards others. Emotional intelligence is defined as "the ability to know, manage one's own emotions, recognize them in others and to handle relationships (Goleman 1995). Peter Salovey and Mayer (1997) defined emotional intelligence as "ability to monitor one's own and others feelings and emotions to discriminate among them and to use this information to guide one's thinking and actions".

Our emotional intelligence determines our potential for learning the practical skills that are based on its five elements; self awareness, motivations, self regulation, empathy and adeptness in relationships. Our
emotional competence shows how much of that potential we have translated into on the job capabilities. The emotional competence framework includes personal and social competence.

I. Personal competence determines how we manage ourselves.
   1. Self awareness: knowing ones internal states, preferences resources and intuitions
   2. Self regulation: managing ones internal states impulses and resources.
   3. Motivation: emotional tendencies that guide or facilitate teaching goals

II. Social competence determines how we handle relationships.
   1. Empathy: awareness of others feelings needs and concerns.
   2. Social skills: adeptness at including desirable responses in others.

Emotional intelligence has been conceptualized in a very comprehensive and lucid manner by two British Psychologists Cooper and Sawaf (1997) who defined emotional intelligence as "the ability to sense, understand the value and effectively apply the power and acumen of emotions as a source of human energy information, trust, creativity and influence."

On the other hand Baron defined [1996] emotional intelligence as "an array of non cognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures". He proposed the following major areas of skills to evaluate emotional intelligence.
   a) Intra-personal skills
   b) Inter-personal skills
   c) Adaptability skills
   d) Stress-management skills
   e) General mood.
Historically, emotions have been largely viewed as disorganizing forces that disrupt one's ability to reason and think. Emotions are held as interfering with attempts to function rationally in the world.

Yale University Psychologists Peter Salovey and John Mayer coined the very term "Emotional Intelligence" in 1990 in the Journal "Imagination, Cognition and Personality". However, the concept gained popularity through Goleman's (1995) bestseller book titled *Emotional Intelligence*.

Another popular approach to measure emotional intelligence is Bar-On's (1997) Eq-iq which defines emotional intelligence as "an array of non-cognitive capabilities, competencies and skills that influence one's abilities to success in coping with emotional demands and pressures".

Goleman *et al* (2000) suggested that Emotional Intelligence is a convenient phrase with which it is easier to focus attention on human talent. Even though it is a simple phrase, it incorporates the complexity of a person's capability.

Based on extensive research Goleman (1995, 1998) has proposed five dimensions of Emotional Intelligence consisting of 25 competencies namely

1. **Self-awareness**: Emotional self awareness, accurate self assessment and self confidence.
2. **Self-regulation**: Self control, trustworthiness, conscientiousness, adaptability and innovation.
3. **Self-motivation**: Achievement drive, commitment, initiative and optimism
4. **Social-awareness**: Understanding others, developing others, service orientation, language diversity and political awareness.
5. Social Skills: Influence, communication, conflict management, leadership, change catalyst, building bond, collaboration and cooperation and team capabilities.

During difficult and stressful times, "emotionally intelligent people manage their emotions better and react with clearer, more rational minds and make better decisions. Today's children lack life skills because the society has not bothered to teach the child the basic essentials of handling anger or resolving them in a proper way. So, it is indispensable for the student teachers to have emotional intelligence not only to handle the children with wide variety of individual differences but also to develop necessary life skills among them.

Emotional Intelligence is a type of social intelligence which refers to the ability to set a goal in life, work towards achieving it, negotiate it and feel empathetic towards others. A key set of characteristics make up emotional intelligence, such as self awareness, self regulations, empathy, motivation and social skills. Emotional intelligence is more important than intelligent quotient (IQ). IQ contributes about 20% to the fact that determines success in life. The remaining 80% is contributed by the emotional intelligence. Studies have proved that IQ is inherent but emotional intelligence can be developed and nurtured even in adulthood and prove beneficial to one's health, relationships and performance. In order to survive in a fast-changing and competitive world, every person needs to develop and nurture emotional intelligence.

The new term was coined in 1990 by Peter Salovey, a Yale psychologist and John Mayer of University of New Hampshire. It is regarded as the prime parameter to measure an individual’s chance of success in life.
Goleman (1995) described emotional intelligence as an ability that includes self awareness, impulse control, persistence, zeal, self motivation, empathy and social adeptness.

According to a well known psychologist Daniel Goleman, who is an authority in research related to emotional intelligence said people who have control over their lives can manage and know their feelings well and read and deal effectively with other people's feelings. While people who do not have control over their emotional life fights inner battles that sabotage their ability to focus their work and think clearly.

In a descriptive study of Hatzes (1996) found emotional intelligence to be critical factor contributing to the academic and employment outcomes of this group of individuals. Emotional intelligence in Hatze's study was once pluralized to include ability to manage emotions, persistence, interpersonal skills, empathy, positive reframing and explanatory style. Knowledge of a person's own emotions is basic element of emotional intelligence. If people cannot recognize their own emotions it leaves them at other people’s mercy and creates feelings of distress.

Knowing one's emotions and more of others is not sufficient to become emotionally intelligent; managing emotions appropriately is necessary, people who know how to manage their emotions can also channel them in useful ways. It is an important aspect for leadership qualities. People who excel in managing emotions bounce back for more quickly from life's setbacks.

Emotional intelligence is not based on logic or reason; it is a structure of system. It is a skill set developed by experience. The emotional experience of an individual can be developed through trial and error.
Social skills are the ability to handle the emotions of other people. It is an essential aspect of emotional intelligence. Much of the art of relationship is emotional interactivity. It is skill to interact with other people effectively. People who excel in such type of skills do well in anything that depends on interaction with others. Emotional intelligence yields potential for learning practical skills.

Emotional intelligence refers to an ability to recognize the meanings of emotions and their relationships and to reason and problem solve on the basis of them. Emotional intelligence is involved in the capacity to perceive emotions, assimilate emotion related feelings understand the information of those emotions & manage them (Salvoey & Mayer, 1990, Mayer and Salovey, 1997).

The influence of emotional intelligence on popular culture and the academic community has been rapid and widespread. Emotional intelligence is a better predictor of any work performance than the traditional measures of intelligence. Interest in emotional intelligence has enjoyed a robust resurgence across a wide range of such disciplines with in psychology, neuroscience and organizational theories and now the emphasis is in the educational scenario.

Emotional Intelligence enables a teacher to tune the students, to communicate clearly with them to inspire and motivate them. In fact, emotional intelligence is a valuable tool for various activities in the classroom. Emotional intelligence helps reverse a tide of educational ineffectiveness and thus strengthen the whole process. Nurturance of emotional intelligence among the teachers therefore becomes a prime concern. An emotionally intelligent teacher is multi-talented. Emotional intelligent led to outstanding performance in classroom activities. The emotionally intelligent person is skilled in four areas viz. identifying, using, understanding & regulating emotions (Salovey & Mayer, 1993).
Teaching emotional and social skills are very important at school, it can affect academic achievement positively not only during the year they are taught, but during the years that follow as well teaching these skills has a long-term effect on achievement Elias et al (1991)

Richardson and Evans (1997) explored some methods for teaching social & emotional competence within a culturally diverse society. Their purpose was to help students connect with each other, in order to assist them in developing interpersonal, intrapersonal and emotional intelligences, arguing that these intelligences are essential for personal accomplishment.

Finnegan (1998) argues that schools should help students learn the abilities underlying emotional intelligence. Possessing those abilities or even some of them can lead to achievement from the formal education years of the child and adolescent to the adult’s competency in being effective in the workplace & in society.

3.2.2 Components of Emotional Intelligence

The emotional competence framework Goleman (1999).

I Personal Competence
These competences determine how we manage ourselves. Components of emotional intelligence are as follows

i. Self-Awareness.
It is known as one's internal state, preferences, resources and intuitions. Some of the sub skills are

- **Emotional self awareness**: Recognizing one's emotional and their effects.
- **Accurate self assessment**: Knowing one's strengths and limits.
- **Self-confidence**: A strong sense of one's self-worth and capabilities.
ii. Self-regulation

It is known as managing one's internal states impulses and resources.

- **Self control:** Keeping disruptive emotions and impulses in check.
- **Trust worthiness:** Maintaining standards of honesty and integrity.
- **Consciousness:** Taking responsibility for personnel preference.
- **Adaptability:** Flexibility in handling change.
- **Innovation:** Being comfortable with novel idea, approaches and new information.

iii. Motivation

Emotional tendencies that guide or facilitate reaching goals.

- **Achievement drive:** Striving to improve or meet a standard of excellence
- **Commitment:** Aligning with the goals of the group or organization.
- **Initiative:** Readiness to act on opportunities.
- **Optimism:** Persistence in pursuing goals despite obstacle and setbacks.

II Social competence

These competencies determine how we handle relationships

iv. Empathy

Empathy is awareness of other's feeling, needs and concerns.

- **Understanding others:** Sensing others feelings and perspectives and faking an active interest in their concerns.
- **Developing others:** Sensing others developmental needs and bolstering their abilities.
- **Service orientations:** Anticipating, recognizing and meeting customer's needs.
- **Language diversity:** Cultivating opportunities through different kinds of people.
• Political Awareness: Reading a group's emotional currents and power relationships

v. Social Skills

It is the adeptness at inducing desirable responses in others.

• Influence: Wielding effective tactics for persuasion.
• Communications: Listening openly and sending convincing message.
• Conflict management: Negotiating and reasoning disarrangement.
• Leadership: Inspiring and guiding individual and groups.
• Building bonds: Nurturing instrumental relationships.
• Co-operation: Working with others towards shared goals.
• Team capabilities: Creating group synergy in pursuing collective goals.

3.2.3 Characteristics of People with High Emotional Intelligence

Peter Salvey (1990) has identified five characteristics of people with high emotional intelligence. They are:

a) Knowing one’s emotions
b) Managing emotions
c) Motivating oneself
d) Recognizing emotions in others
e) Holding relationships

According to many psychologists, following characteristics are related with high emotional intelligent people.

a) Emotional self-awareness, which includes

• Improved recognition and naming one’s own emotions
• Better able to understand the cause of feeling
• Recognizing the difference between feelings & actions
b). Managing emotions, which includes

- Better frustration tolerance and anger management
- Better ability to express anger appropriately without fighting
- Less aggressive or self destructive behavior
- More positive feelings about self school and family
- Better at handling stress
- Less loneliness & social anxiety

c). Harnessing emotions productively, which includes

- More responsible
- Better able to focus on the task at hand and pay attention
- Less impulsive more self control
- Improved score on achievement tests

d) Empathy- Reading emotions, which includes

- Better able to see another persons perspective
- Improved empathy and sensitivity to others feelings
- Better at listening to other

e). Handling relationships, which includes

- Increased ability to analyze and understand relationship
- Better at solving problems in relationships
- More assertive and skilled at communicating
- More popular and outgoing, friendly and involved with peers.
- More pro-social and harmonious in groups
- More sharing, cooperative and helpful
- More democratic in dealing with others

3.2.4 Developing Emotional Intelligence

Can emotional intelligence be developed? Yes, emotional intelligence can be developed, say many child psychologists. A child in its early ages needs a role model, be it a parent or a teacher, to set good example. Yoga is another
means of achieving emotion stability that many schools introduced in their curriculum.

Psychologists suggest the following are the ways to develop emotional intelligence.

1. Good role models-teachers, parents etc. By observing these role models children gradually learn how to analyze cope with life
2. Direct reading classes on personality development, value education etc
3. Reading personality improvement books and articles
4. One can learn from his/her own life experience, if he/she is introspective
5. Media programmers can be very informative and educative
6. Attending workshops and seminars on personality development
7. The positive aspects of religion can offer a lot of solace and guidance

According to Store and Harold (1978) emotional intelligence can be enhanced by developing the following components

1. **Self awareness:** Observing yourself and recognizing your feelings, building a vocabulary for feelings, knowing the relationship among thoughts, feelings and reactions.
2. **Personnel decision-making:** Examining your actions and knowing their consequences. Knowing, of thought or feeling is ruling a decision applying these insights to issue such as sex and drugs
3. **Managing feelings:** Maintaining self task to catch negative messages such as internal put-downs, realizing what is behind a feeling, finding ways to handle fears & anxieties, anger and sadness
4. **Handling stress:** Learning the value of exercise guided imagery relaxation methods.
5. **Empathy:** Understanding others feelings, concerns & perspectives, appreciating the difference in how people feel about things
6. **Communications:** Talking about feelings effectively listening well and asking questions distinguishing between what some one does or says and their very own reactions or judgment

7. **Insight:** identifying patterns in your emotional life and reactions recognizing similar patterns in others.

8. **Self acceptance:** Feeling pride and seeing yourself in a positive light, recognizing your strengths and weaknesses: being able to laugh at yourself.

9. **Personal responsibility:** Taking responsibility, recognizing the self-consequences of your decisions and actions, accepting your feelings and moods.

10. **Assertiveness:** Stating your concerns and feelings without anger of passivity.

11. **Group dynamics:** Co-operation, knowing when and how to lead, when to follow.

12. **Conflict Resolution:** How to fight fair with other children, with parents, with teachers, the win/win model for negotiating compromise.

It is a well accepted fact that the quality of the nation depends upon the quality of the education imparted to its citizen's which in turn depends upon the quality of its teachers. The term quality of teachers includes all the personality dimensions of a teacher it span of knowledge teaching skills and teacher behavior comprising his/her emotional intelligence.

We may visualize the significance of the emotional competency of a teacher from a different angle released to a paradigm [faced by the children of the present generation] briefly summarized as below.

- Emphasis on rote learning
- Less consideration to logic and rationality
- Neglecting emotions and relationships
- Too much stress on achievement of marks
• Encouragement to individual competition rather than group collaboration and solidarity

According to a report from the national center for clinical infants programs, the most critical element for a student's success in school is an understanding of how to teach the key ingredients. Such as

• Confidence
• Curiosity
• Intention
• Self control
• Relatedness
• Capacity to communicate
• Ability to cooperate

These traits are all aspects of emotional intelligence. Basically students who learn are much more likely to succeed than the ones who lack that understanding (Goleman 1998).

3.2.5 Emotional Intelligence and Intelligence

In 1985, Bar-on invented the term "EQ" to describe his approach to evaluating general intelligence. He explained emotional intelligence saying that it reflects our ability to deal successfully with other people and with our feelings. He developed the Bar-on EQ-1 after 17 years of research and this inventory is the first scientifically developed & validated measure of emotional intelligence that reflects one's ability to deal with daily environmental challenges and helps to predict one's success in life including professional & personal pursuits.
Emotional Intelligence or competence is a crucial dimension of human personality which gives a person a competitive edge over others to be successful in any organizations; it is not enough if a person has technical or knowledge skills but to be a "top person", one must be emotionally smart. The later is the new yardstick to judge the likely candidate to be selected, recruited prompted & identified for organizational effectiveness.

Emotional management or awareness is the key factor in emotional intelligence but it doesn’t mean emotional suppression or sensitivity. How a person accepts criticisms, feed back, hurts, failures or success, etc are all important aspects, which determine the competence. It is not merely cynicism or cautiousness. A truly competent person expresses feelings appropriately & adequately. Adaptabilities, empathy, skills in solving disagreements, ability to take initiative, sustain interest and enthusiasms are all sought after skills by the corporate while firing people. Effective performance in one’s career is directly linked to the emotional competence. Emotional intelligence is a type of social intelligence that involves ability to monitor ones own & others emotions, to discriminate between emotions & use information effectively to guide one’s thinking and actions.

Emotional intelligence allows us to think more creatively and use our emotions to solve problems. Daniel Goleman believes that emotional intelligence appears to be an important set of psychological abilities that relate to life success. It is empathy & communication skills as well as social & leadership skills that will control our success in life & personal relationship.

Emotional intelligence probably overlaps to some extent with general intelligence. The emotionally intelligent person is skilled in four areas i.e. identifying emotions, using emotions, understanding emotions & regulating emotions.
The present education system does not give any guarantee for the successful life. Many people try to fill up the gap between the success & failure caused by mind & heart. Recent findings have identified emotional intelligence as the single most important factor predicting success & happiness in life.

To active and maintain a feeling of adequacy the individual has to acquire a few workable assumptions about the world. The need for competence emerges as most of the fundamental motives of life, because we survive through competence, grow through competence & actualize through competence.

Emotional intelligence as "the ability to perceive accurately, appraise and express emotions generate feelings that facilitates thoughts & an ability to regulate emotions to promote growth" (Mayer & Salovey 1997)

Emotional competence is an efficiency to deal effectively with several dissociable but released purposes, is a blending of five competencies. These are adequate depth of feeling, adequate expression & control of emotions, ability to function with emotions, ability to cope with problem emotions, encouragement of positive emotions (Goleman, 1970).

Emotional intelligence in school

School as living organism these is currently a tendency to consider schools as organic wholes that grow and develop, and within which all the actors their actions and their knowledge are interrelated and interact with the surrounding environment. This organic metaphor for institutions is taken up by those who seek to increase the efficiency of school or places of learning. Amongst other things in drawing a parallel with the functioning of living organisms they stress internal communication and in particular the impact of
daily negotiations between the actors concerning ways & means of running the school. They argue that only far greater collaborations between all the actors can lead to real improvement of school as a place where pupils can learn something of their future social behavior from these exchanges. Yet they stop short of pointing to the need for a more systematic approach to certain skills related to understanding emotions in oneself & in ones relationship with others.

Should skills related to "emotional intelligence find their way into school curricula? Given the current educational paradigm can such skills be effectively developed in schools? would the introduction of skills related to emotional intelligence radically modify schools or would schools transfer such skill are yet to be answered.

3.3 REASONING ABILITY

3.3.1 Concept of Reasoning Ability

Reasoning ability is very essential for the teachers in this advanced world. It is the ability that the teachers should have to clarify the doubts, making students to understand the concept thoroughly.

Reasoning is the mental process which informs our imagination perceptions, thoughts, and feelings with whatever intelligibility these appear to contain and thus links out experience with universal meaning. Reasoning is defined very differently depending on the context of the understanding of reason as form of knowledge. The logical definition in the act of using reason, to derive a conclusion from certain premises, using a given methodology, and the two most commonly used explicit methods to reach a conclusion are deductive reasoning and inductive reasoning. The third method of reasoning is called abductive reasoning, or inference to the best explanation. This method is more complex in its structure and can involve both inductive and
deductive arguments. The fourth method of reasoning is analogy. Reasoning by analogy goes from a particular to another particular. Analogical reasoning is very frequent in commonsense, science, Philosophy and the humanities. A refined approach in case based reasoning is inferences by analogy.

Reasoning is the ability to explain an act, idea etc to find cause for some action. Reasoning ability is to think in a sensible way, come to conclusion by considering fact. According to the Webster Dictionary, it is the act of coming to a conclusion based on the facts. There are several types of reasoning; of this verbal and numerical are important for elementary school teachers.

Reasoning is defined very differently depending on the context of the understanding of reason as a form of knowledge. The logical definition is the act of using reason, to derive a conclusion from certain premises, using a given methodology and the two most commonly used explicit methods to reach a conclusion are deductive reasoning and inductive reasoning. However, within idealist philosophical contexts, reasoning is the mental process which informs our imagination, perceptions, thoughts, and feelings with whatever intelligibility these appear to contain, and thus links our experience with universal meaning. The specifics of the methods of reasoning are of interest to such disciplines as Philosophy, logic, psychology and artificial intelligence.

The constructivist points that children learn as they attempt to solve meaningful problems. In this view, understanding emerges from reflection catalyzed by questions (Complete & Johnson, 1995). The teachers’ primary role is not to instruct but to pose problems and ask questions that provoke students to reflect on their work and justify their reasoning. In this way, activities such as explaining, justifying and exemplifying not only demonstrate understanding but also help create it.
3.3.2 Verbal Reasoning

It is the ability to understand concept framed in words and is aimed at the evaluation of the student’s ability to abstract or generalize and to think constructively. It may be expressed to predict with reasonable accuracy success in field where complex verbal relationship and concepts are important. Verbal reasoning is the ability to understand concepts framed in words and ability to abstract or generalize and think constructively.

3.3.3 Arithmetic Reasoning

Epistemologically, reasoning is the foundation of mathematics. As science verifies through observation, mathematics, relies on logic. The description of mathematic as the “Science drawing necessary conclusions” is widely accepted among mathematicians of today. “Why is mathematics an integral part of K-12 curriculum.” The answer is self evident and common to teach basic skills to help children learn to think logically to prepare students for productive life and work and to develop quantitatively literate citizens, “The essence of Mathematics lies in proofs (Ross 1977).”

It is the student’s ability to reason with numbers, to manipulate numerical relationships and to deal intelligently with qualitative material

Some ancient writers referred to man as “the reasoning animal”, implying at the same time that other organizations do not reason. Is this true? is man the only reasoning animal? Our discussion serves three purposes:

1. To indicate how we study reasoning
2. To demonstrate how the problems can be used to study human reasoning ability
3. To describe the nature of reasoning itself especially to its elementary stages.

Doing mathematics makes use of nine basic mental abilities that our ancestors developed thousands, and in some cases millions of years ago, to survive in a sometimes hostile world. Those nine mental capabilities are

1. Number sense: This includes, for instance the ability to recognize the difference between one object, a collection of two objects, and a collection of three objects and to recognize that a collection of three objects has more members than a collection of two number senses is not something we learn. Child psychologists have demonstrated conclusively that we are all born with number sense.

2. Numerical ability: This involves counting and understanding numbers as abstract entities. Early methods of counting, by making notches in sticks or bones, go back at least 30,000 years. The Sumerians are the first people we know of who used abstract numbers, between 8000 to 3000 BC they described symbols for numbers on clay labels.

3. Spatial-reasoning ability. This includes the ability in recognize shapes and to judge distance both of which have obvious survival value for many animals.

4. A sense of cause and effect of mathematics depends on “If this, ‘then that’ reasoning on abstract form of thinking about causes and their effect.

5. The ability to construct and follow a casual chain of facts or event. A mathematical proof is a highly abstract version of a casual chain of facts.

6. Algorithmic ability: This is an abstract version of the fifth ability on this list.

7. The ability to handle abstraction: Humans developed the capacity to think about abstract entries along with our acquisition of language between 75,000 and 20,000 years ago.

8. Logical reasoning ability: The ability to construct and follow step by step logical arguments is another abstract version.
9. Relational reasoning ability: This involves recognizing how things are related to each other and being able to reason about those relationships. Much of mathematics deals with relationships among abstract objects.

All nine capacities are basic mental attributes important to our daily lives. The human brain had acquired them all by 75,000 years ago at the latest.

As a result of the validation studies, the authors of DAT George K. Bennet, Harlod G. Seashore and Alexander G. Wesman justifiably conclude that the test of verbal reasoning, numerical ability, arithmetical reasoning measure functions associated with general intelligence and it should be added, they are most useful as measures of scholastic ability.

Yet mathematics today encompasses a vast landscape of methods, procedures and practices in which reasoning is only one among many tools (eg. Mandelbrot, 1994, Thurston, 1994, Denning 1997). Computation and computer graphics have opened new frontiers of both theory and application that could not have been explored by previous generations of mathematicians. This frontier has revealed surprising mathematical insights, for example, that deterministic phenomena can exhibit random behavior that repetition can be source of chaos as well as accuracy and that uncertainty is not entirely haphazard, since regularity always emerges (Steen, 1990).

At work and in the home, sophisticated multi-step calculations based on concrete measurement based mathematics is a more common that are chains of logical reasoning leading to mathematical proof (Forman & Steen, 1995). It is not the methodology of formal deduction that makes mathematics useful for ordinary work so much as the mathematical habits of problem solving and the mathematical skills of calculation (Packer, 1997).
Mathematics teachers often claim that all types of critical thinking and problem solving are really examples of mathematical reasoning. But employers have a different view rooted in a paradox graduates with degrees in mathematics or computer science are often successful than other graduates in solving the kinds of problems that arise in real work settings. Often students trained in mathematics tend to seek precise or rigorous solutions regardless of whether the context warrants such an approach. For employers this distinctively “mathematical” approach is frequently not the preferred means of solving most problems arising in authentic contexts, critical thinking and problem solving in real work situations is often better learned in other subjects or in integrative contexts (Brown, 1995).

The goal of school mathematics seems to shift every decade, from “Conceptual understanding” in the new math 60’s to “basic skills” in the back-to-basic 70’s from “problem solving” in the pragmatic 80s to “Mathematical power” in the standards inspired 90s. In its strict meaning mathematical reasoning is hardly sufficient to support the public purposes of school mathematics. Everyone needs the practice of mathematics.

Many believe that curricular reform based on mathematical reasoning will never succeed since there are far too few teachers preferred to do justice to such a goal. Even if enough willing and able teachers can be sound, will the public allow them to teach mathematical reasoning in school? Might the fear of “Fuzzy mathematics” (Cheney, 1997) constrain even those teachers who might want to stress understanding?

We also know that students differ. No single strategy works for all students, or even for the same student in all circumstances. Howard Gardener’s theory of multiple intelligences (Gardner, 1983 & 1995) supports the practice of experienced teachers who create multiple means for students to approach different topics. Diverse experiences provide implicit contexts in
which mathematical reasoning may emerge. But can we be sure that it will eventually emerge? Are there some types of mathematical reasoning that can only develop through student construction and reflection? If some types of mathematical reasoning cannot be taught explicitly, is it appropriate to require it of all high school graduates?

Although mathematical performance generally involves a blend of skills, knowledge procedures, understanding, reasoning & application, the public mantra for improving mathematics education focuses on skills knowledge and performance what students “Know and are able to do. To this public agenda mathematics educators consistently add reasoning and understanding why & how mathematics works as it does.

Experienced teachers know that knowledge and performance are not reliable indicators of either reasoning or understanding. Deep understanding must be well connected. In contrast, superficial understanding is inert, useful primarily in carefully prescribed contexts such as those bound in typical mathematics classrooms (Glaser, 1992). Persons with well-connected understanding attaché importance to different levels of skills may be equally able to address tasks requiring more sophisticated mathematical reasoning (Cai, 1996).

Critics of current educational practice indict “drill and kill” method for two crimes against mathematics: disinterest and anxiety. Both cause many students to avoid the subject as soon as they are given a choice. Yet despite the earnest efforts to focus mathematics on reasoning, one out of every two students thinks that learning mathematics is mostly memorization (Kenney & Siheer 1997).
Mathematics is perhaps unique among school subjects in being a major cause of anxiety. Many students believe deeply that they cannot do mathematics and so learn to avoid it; a few are so paralyzed by the prospect that they exhibit physiological evidence of acute anxiety (Buxton, 1991, Tobias, 1993). It may seem obvious that anyone suffering even mildly from “math anxiety” would not engage in much mathematical reasoning. But this is not at all the case. Many students who fear mathematics are in fact quite capable of thinking mathematically, and do so quite often particularly if their attempts to avoid mathematics? What they really fear is not mathematics itself, but school mathematics (Cockcroft, 1982).

Both research and common sense say that anxiety is reduced when individuals can control uncertainties (Bjork & Druckman, 1994). When percentages & ratios appear as impossible riddles, panic ensures. But when self constructed reasoning under the control of the individual takes over, much valid mathematical reasoning may emerge, often in a form not taught in school.

One of the most widely accepted goals of the mathematics community is that students should understand the mathematics they perform. For centuries educators have known that understanding grows only with active learning. This has led, in the argot of mathematics educators, to a widespread belief that students “construct” their own understanding (Davis, Maher & Noddings 1990, Hiebert & Carpenter 1992). In this view understanding cannot be delivered by instructors, no matter how skillful, but must be created by learners in their own minds.

Civilized people have always recognized mathematics as an integral part of their cultural heritage. Mathematics is the oldest and most universal part of our culture, in fact, for we share it with the entire world and it has its roofs in the most ancient of times and the most distant of lands.
The beauty and efficacy of mathematics both derive from a common factor that distinguishes mathematics from the mere accretion of information, or application of practical skills and feats of memory. This distinguishing feature of mathematics is called mathematical reasoning, reasoning that makes use of the structural organization by which the parts of mathematics are connected to each other and not just to the real world objects of our experience as when we employ mathematics to calculate some practical result.

Mathematical reasoning is not found in the connection between mathematics & the real world, but in the logical interconnection within mathematics itself. The kind of reasoning by which some aspects of a real-world situation is translated into mathematical terms is certainly reasoning and by no means easy to come by, and it is the basis of the uses of mathematics in science and daily life as a model for phenomena, thus naturally of extreme importance, but it is not the subject of the present commentary.

Mathematical reasoning more than two thousand years ago established the dependence of these apparent facts, though not always easily. In many of today’s commercial textbooks, and in much official doctrine within the teaching profession, however: mathematical reasoning is either garbled or missing. From about 1970-1990 mathematical reasoning disappeared from school mathematics and even Euclidean geometry gradually evaporated in favor of the treatment of geometry as a sort of empirical science.

So, in school mathematics programs we have to include mathematical reasoning in some form at all levels of instruction, the completeness & rigor of reasoning being adjusted to the age level of the students whatever the level might be, it is essential that students appreciate & make use of the connections of one part of mathematics with another, and never come to
believe that mathematical truths are merely conventional, to be learned singly they must instead be taught how to simplify thought & reduce the burden upon memory by making full use of a gradual increase of deductive skill, in arithmetic, algebra, geometry and their applications.

3.3.4 Scientific Reasoning

Scientific reasoning is used to denote consistent, logical thought patterns which are employed during the process of scientific inquiry that enable individuals to propose relationships between observed phenomena to design experiments with best hypothesis concerning the proposed relationships; to determine all possible alternatives and outcomes; to consider probabilities of occurrences; to predict logical consequences; to weight evidence, or proof and to use a number of instances justify particular conclusion as explained by Steussy (1984).

3.4 TEACHING COMPETENCY

3.4.1 Concept of Teaching Competency

The word Competency is referred to Knowledge attitude, skills and behaviors that facilitate intellectual social emotional and physical growth in children (Weber 1972). "Competency" ordinarily is defined as "adequate for the purpose, suitable, sufficient" or capital in a sense it refers to adequate preparation to begin a professional career.

Medley (1977) perceive teacher competency as teacher behavior that produces intended effects. Thus teaching competency would mean "effective performance of all observable teacher behaviors that brings about desirable pupil outcomes".
Teaching Competency is conceived to constitute various teaching skills. These include objectives of lesson, content selection, content organization, selection of audio visual materials (planning skill) introducing the lesson, fluency of questions, use of probing question, explaining illustrating with examples, stimulus variations, use of silence and non-verbal cues, increasing pupil participation. Pacing, use of blackboards (presentation skills) achieving closure, giving assignment (closing skills) class room evaluation, diagnoses of pupil difficulties (evaluation skills) recognizing attending behavior and maintaining classroom discipline like managerial skills as observed by Passi and Lalitha (1994).

However, the term 'teaching competency' as defined by various authors includes more than mere teachers effects or pupil outcomes. According to some authors it includes knowledge, attitude, skill and other teacher characteristics according to Haskew (1956) Wilson (1973). Some other perceive teacher competency as teacher behaviors that produce intended effects as said by Medley and Mitzel (1973) and Biddle (1964). Arriving at a more comprehensive definition, Rama (1979) defines teacher competency as the ability of a teacher manifested through a set of overt teacher classroom behaviors which is a resultant of the interaction between the presage and the product variables of teaching within a social setting. This lack of consensus of the term teaching 'competency' highlights the difficulty of its measurement. If measurement of teaching competency has to be valid objective and reliable one has to delimit to such variables that can be subjected to scientific study.

'Teaching competency' means an effective performance of all the observable teacher behavior that brings about desired pupil outcomes. Based on the micro-criteria approach to study teaching as Gage (1963) teaching is perceived as a set of teaching skills where in a teaching skill is a set of teaching behaviors that facilitate or bring about a specify instructional
objective. In other words, teaching competency involves effective use of these various teaching skills.

The teaching competence is conceived to constitute various teaching skills. In order to develop those skills various techniques have been developed. Some of them are microteaching, mini courses, interaction analysis, and such other behavior modification techniques. The most popular widely used, and researched among them is microteaching technique. The description principals underlying and the development of the technique and research evidences regarding its effectiveness as compared to traditional practice teaching are discussed.

3.4.2 Classes of Teaching Competencies

3.4.2.1 Five classes of competency

1. Cognitive based competencies: define knowledge and intellectual skills and abilities that are expected of a learner.
2. Performance based competencies: the learner demonstrates that he or she can do something rather than simply know something
3. Consequence Competency: this requires bringing about change in others i.e. teacher competency is assessed by examining the achievement of pupils living taught.
4. Effective Competency: define expected attitudes and values i.e. the prospective teacher values the contribution of all students in the class discussion.
5. Exploratory competency: includes experience of the teacher i.e. discuss schooling with parents, parent teacher communication provides opportunities to students to learn.
3.4.2.2 Core competency strands

Gonczi et al (1990) define competency as “a combination of attributes underlying some aspect of successful professional performance”. In this document, competencies are arranged in nine strands: since being core requirements for effective teaching and four are associated with a leadership role in the area of teaching.

Core Competency strands are

- Effective teachers provide a clear and empathetic learning environment
- Effective teachers provide active student involvement
- Effective teachers cater for students learning
- Effective teachers assist students to identify the outcomes of their learning
- Effective teachers engage in self development

Teacher leadership competency strands are

- Effective teacher leaders develop the ability to model effective teaching
- Effective teacher leaders play a key role in the professional development of colleagues
- Effective teacher leaders take a leadership role in programme and/or unit development
- Effective teacher leaders promote quality in teaching and learning in the university and in the discipline
Table 3.1 Overview of effective teaching competencies

<table>
<thead>
<tr>
<th>Strand</th>
<th>Effective teaching Competencies of Effective Teachers</th>
</tr>
</thead>
</table>
| 1. Provide a clear and empathetic learning environment | a) Knowledge Base  
b) Teaching goals  
c) Organization  
d) Communication  
e) Enthusiasm for the discipline/subject |
| 2. Promote active Student involvement | a) Active learning  
b) Opportunities for proactive  
c) Student Independence |
| 3. Cater for students learning difference | a) Identify learning difference  
b) Cater for learning difference  
c) Diagnose micro conceptions |
| 4. Assist student to identify the outcomes of their learning | a) Intended outcomes  
b) Appropriate tasks  
c) Appropriate feedbacks  
d) Administration |
| 5. Engage in self development | a) Professional development activities  
b) Seeking feedback  
c) Critical reflection |
3.4.2.3 *Teaching competencies listed by British Council*

1. **Subject Knowledge**: This refers to Knowledge of concepts/skills/language systems and the ability to communicate this Knowledge effectively and in ways appropriate to the learners and type of course being delivered.

2. **Course and session preparation and planning**: The ability to prepare courses and individual sessions that fulfill course objective, endplay agreed mythologies and meet learners needs.

3. **Classroom management skills**: The ability to plan, control and facilitate interaction in the classroom that is appropriate to the activity and which takes into account the different needs, abilities, cultures, gender of the learners.

4. **Promoting learner autonomy**: The ability to evaluate learners needs suggest appropriate materials and strategies to help learners achieve their negotiated objectives and become more independent in their learning. The ability to help learners adjust learning styles and strategies in order to become more effective in their learning.

5. **Assessment and Evaluation of learning**: The ability to design, plan and employ appropriate evaluation and assessment tools at various stages in the learning process which includes the teachers ability to reflect on sessions delivered and on his/her personal impact on students learning.

Teaching constitutes one of the major tasks of a teacher competency. Over this task of teaching is the essence of a successful educational system. The development of teaching competency among teachers necessitates a clear understanding of the term as well as the method for its assessment with more than half a century of research in this area. There has been no consensus regarding the meanings of the term teaching, competency and hence teaching competency itself.
3.4.3 Teaching Competencies in Classroom

A teacher who has inculcated the right attitude towards his teaching profession will impart its education invariably in his all acts. Such model teacher can motivate a lot of students to practice and duties of each and every work of life i.e. preparing "SMART" citizen where S= specific, M=motivation E- Educate, evaluate A-Assailed Attainment, R= Result, Right T= Target, total.

In modern high-tech era we understand the word teacher as a person who teaches, especially as a profession. But the word 'teach' has basic sense one to show or help to learn, two to give lessons to guide the students to instruct, three to give lessons in to someone help someone to develop, four to provide with knowledge insights etc to attempt to cause someone to understand or accept especially by ones own example or preaching. five to give lesson or instructions.

According to Edward "teach" is the basic inclusive word for the imparting of knowledge or skills. It usually connotes some individual attention to the learner. Instruct, implies systematized teaching usually in some particular subject. Educate stresses the development of talent faculties and powers by formal systematic teaching especially in institution of higher learning. Training implies the development of a particular faculty or skill or instruction towards a particular occupation as by methodical discipline, exercise etc. School often equivalent to any of the preceding sometimes specially connotes a disciplining to endure something difficult. In short, teaching is a form of interpersonal influence aimed at changing the behavior potential of other person. The teacher is a person who has the supreme art of teaching.
It is important that children are motivated and attentive to succeed. This is positive only if the teaching is active. Researchers recognize three different kinds of time. Allocated time is the allotted time for various subjects, Instructional time is the allocated to lessons. Engaged time is the time students are paying attention or busily involved. Instruction does not automatically translate into learning. Students learn only when they are engaged. Establishing efficient classroom management can increase teaching time but effective instructional strategies increase the time children spend attending to lesson.

Planning a lesson

Planning is the most important aspect. It is essential that teachers set aside a regular time for planning for the actual preparation for teaching academic contents. While planning it is important to use ones professional judgment to match ideas activities and materials with students interest and abilities. Planning is not just deciding what to do, it is deciding when where, why and how a certain written lesson is taught. Plan offers directions; confidence and security, and plans help you use classroom time efficiently by reducing confusion & wasted time.

While Planning, Teachers:

1) Find out what students already know about a particular topic before planning lesson and units. They solicit lesson ideas from students and match their ideas to concepts and skills they want to teach.

2) Plan transitions from one activity to another thereby minimizing wasted time, confusion & behavior problems.

3) Plan for interruptions & unexpected events, thereby maintaining order & minimizing disruptions when they occur. Build a file of emergency activates and turn lost times into learning time
4) Teacher thinks of their plans not as rigid scripts but as flexible framework for action. They are able to adapt their plans to unexpected opportunities & teachable moments that crop up often.

5) They are alert for ways to build on students' interests, needs & moods.

6) The teacher is aware that routines & procedures facilitate teaching & learning & some valuable classroom time. Routines make it easier for students to learn, achieve more. Academic routine such as starting lessons with warm ups & ending lessons with reviews is followed to help children retain the material.

According to the United Kingdom's international organization for educational opportunities and cultural relations, teaching competencies are as follows.

a) Subject knowledge

This refers to knowledge of concepts/skills/language systems and the ability to communicate this knowledge effectively and in ways appropriate to the learners and type of course being delivered.

**Importance:** A sound knowledge of the target subject allows teachers to analyze the issues learners face and anticipate issues. It helps them to select appropriate ways to present and practice/skills/language, and to take a developmental approach to learning. Learners expect the teacher to be an expert and to use this knowledge to help them in this learning.

b) Course and session preparation and planning

The ability to prepare courses and individual sessions that fulfill course objectives, employ agreed methodology and meet learner's needs.

**Importance:** Clear course and session planning are vital to ensuring aims and objectives are met and those learners' needs are catered. For appropriately planning facilitates the selection and development and sequencing of relevant activities. It helps teacher anticipate issues that might arise during the
sessions. It further allows the teacher to respond to class contingencies without losing right of the main thrust of the session.

c) Classroom management skills

The ability to plan, control and facilitate interaction in the classroom that is appropriate to the activity and which takes into account the different needs, abilities, cultures gender of the learners.

**Importance:** It enables the teacher to manage energy levels, ensure appropriate learner participation and create pairs and groups that have a positive impact on learning. It helps to motivate learners and ensures that different styles of learning are catered for and different needs met.

d) Promoting learner autonomy

The ability to evaluate learners needs suggesting appropriate materials and strategies to help learners achieve their negotiated objectives and become more independent in their learning. The ability to help learners adjust their learning styles and strategies in order to become more effective in their learning.

**Importance:** No course is a perfect match with learners needs and they need expert guidance in achieving their objectives. Learners need to develop a range of strategies, styles and resources that will allow them to apply what they have learnt in class with confidence and to become independent in their learning.

e) Assessment and Evaluation of learning

The ability to design, plan and employ appropriate evaluation, and assessment tools at various stages in the learning process. It includes the teacher's ability to reflect on sessions delivered and on his/her personal impact on students learning.

**Importance:** Evaluation and assessment are integral and vital to effective learning. Trainers and learners must be able to assess what has been learned
and how well assessment and evaluation must accurately measure learning that is relevant to the course and/or session objectives. Reporting and next level recommendations are dependent on the learners success in these tasks. Teachers equally need to evaluate their own contributions to the learning process.

f) Team working

Team working is about working co-operatively across cultures and organizational boundaries to achieve shared goals.

**Importance:** The British council works across departments, organizations and cultures, within the council staff must work co-operatively together sharing best practice, breaking down departmental barriers and communicating fully on new initiatives and priorities. The same applies to working with the UK constituencies. Overseas, the ability to build on inter-cultural understanding to create dynamic local partnerships ensures that the council really understands and meets the needs of its target audiences.