CHAPTER I

INTRODUCTION

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1.0 Introduction

Learning is an emotional process. If one doubts this, one should recall the excitement felt when one is finally succeeded in working a really difficult problem or finished a major study. Remember the dread of entering an exam room when one is not sure about the study. If there is no emotion, there probably is not much learning going on. Consider the nodding heads in the typical large lecture; if learning is under the control of the emotions, then it should be unsatisfactory to understand as to how one can use them to enhance learning in students.

It is also important to help students know how their "emotional intelligence" works to help or hinder their success as a college student. Fortunately, in the past fifteen years, significant new insights as to how the brain produces emotions have been discovered and the way in which they affect performance in all aspects of life has begun to emerge.

The National Philosophy of Education (1987) outlined a number of key factors that need to be implemented in the
education field in order to produce individuals that are intellectually, spiritually, emotionally and physically balanced. Emotional intelligence is deemed as one of the important aspects in educating a person to be balanced as a whole.

Through emotional intelligence, one can become more successful in life as compared to individuals that gain solely high levels of intellectual intelligence (Intelligence Quotient) Goleman (1998). Emotional intelligence also provides liberty for individuals to explore self potentials, as well as providing opportunities for individuals to harmonize themselves with their self emotion.

In other words, individuals with high levels of emotional intelligence are those that are able to manage their emotions well, Hamid (2006). The awareness towards the importance of the role of emotional intelligence sparked numerous studies, which are interconnected with human emotions in various perspectives of life. Every effort in accommodating towards an adjustment can create several problems. The way to solve problems is mainly based on the experience, which is already gained by individuals through the process of interaction with their surroundings. In the process of development in today's modern era, individuals can then encounter several situations, which later on result with them creating various
problems. The problems of adjustment occur because of the existence of conflict towards humans themselves, in order to fulfill the need of their surroundings.

Hurlock (1973) suggests that the problem of emotion also needs to be looked from the aspect of its impact towards the individual, society, as well as the state. Highly emotional disturbances are not only influencing the behavior, but also attitude, psychological conditions, as well as their abilities. The authority should be given to the teenagers as youth age is known as a phase of 'storm and stress'; where emotional disturbances frequently occur, accompanied by rapid physical growth and the varied levels of psychological growth. The difficulty at teenage phase especially at the stage of puberty (11 years old to 16 years old) may cause teenagers to face difficulties in coping with the next stages of growth.

Peter Salovey from University of Yale and John Mayer from University of New Hampshire first coined the term 'emotional intelligence' in the year 1990. According to Salovey and Mayer (1990), "Emotional intelligence is the ability to manage individual self and other people from the aspect of feeling and emotion, able to distinguish the two terms apart and able to use the information to
guide one’s thinking and act”. “Emotional intelligence also depicts an amount of competence, which relates with the ability to control emotion in order to motivate, to feature and to gain purpose in life”, Yahaya, Suboh and et. al. (2005).

According to Goleman (1998), emotional intelligence is an ability to understand the self-emotion and applies the talent to make effective decisions in life. With emotional intelligence, an individual is able to contain disappointments, sadness and other negative feelings in a positive manner. Emotional intelligence also enables an individual to control self-impetus. Furthermore, according to Goleman (1998) the level of Intelligence Quotient contributes only about 20% towards one's accomplishment, while the rest are determined by emotional intelligence.

Emotional intelligence is also deemed as a group of several factors of one's social and cognitive aspects and the connection within the description of emotion, according to Schutte et. al. (1998).

Anxiety on the contrary, is defined as the strength of the feeling of disturbances, subjectivity, uncertainty, nervousness endured by individuals in one time and the increase of automatic neuron activity, as a result of this feeling. The condition of anxiety
is different from its strength and the duration is based on the strain that has been endured by the individual according to self-interpretation whether the situation is hazardous and threatening to the self or not. Anxiety is part and parcel of life and one of the psychological conditions of uncertainty, which happens frequently. It also refers to the obscure feeling and uncomfortable state of fearing that something terrible would happen, as per Marof and Abdullah (2001). Concisely, anxiety is pictured as self-perception, which is connected with uncertainty towards the ability to overcome the needs of a situation, according to Hardy and Partiff (1991).

Goleman (1995) presents convincing evidence that the emotional intelligence quotient (EQ) is just as important in academic success as cognitive intelligence, as measured by Intelligence Quotient scores. A person with a low Intelligence Quotient may never be able to understand an abstract concept, but there are numerous examples of people with high Intelligence Quotient who never finish high school. A study of high school valedictorians and salutatorians found that only one in four made it to the "top" of their profession in their professional lives. As Goleman (1995) states, "The Intelligence Quotient may primarily be
a good measure of a person's aptitude for being a college professor."
Emotional Quotient, on the other hand, seems to be a good indicator for success in a variety of endeavors and, with a reasonable Intelligence Quotient, is a good measure of success in college. The good news is that, while Intelligence Quotient seems to be genetically endowed, there is evidence that Emotional Quotient can be enhanced with proper training and learning environment.

Essentially Intelligence Quotient means the fundamental intelligence that can possess with which one carries out day-to-day work. Human beings possess an innately high level of intelligence compared to most of the lower forms of life. Human intelligence is also holistic or all-round compared to animals.

The interpersonal and intra-personal intelligence in day-to-day dealings as proposed by Howard Gardner in his history of multiple intelligence. The interpersonal and intrapersonal domains of intelligence put forth the theory of multiple intelligence that acted as a precursor to the concept of Emotional Intelligence. In 1990, the phrase Emotional Intelligence (EI) was defined as "ability to perceive accurately appraise and express emotions, generate feelings that facilitate thoughts and an ability to regulate emotions to promote growth."
Goleman (1995) argued that Emotional Intelligence was a basic achievement for success in life. If the areas of our brain that feel are damaged our ability to think effectively is diminished. Research shows that the more complex the task, the more important is one's Emotional Quotient, which is a measure of one's emotional intelligence, was coined by Reuven Bar-On.

A new yardstick of emotional intelligence has come to be regarded as a new measure of success in our professional and personal life. Emotional Quotient takes for granted having enough intellectual ability and technical know-how to do our jobs; it focuses instead on personal qualities such as initiative and empathy, adaptability and persuasiveness, motivation and awareness, all of which constitute Emotional Quotient.

Intelligence Quotient takes second position to emotional in determining outstanding job performance. But unlike intelligence quotient, which changes little, after out teen years, Emotional Quotient seems to be largely learned and it contributes to develop as one goes through life and learn from experience.

Emotional Intelligence entails the appropriate awareness, management, and expression of the range of these emotions. To be emotionally intelligence is to have the personal skills that
characterize a rich and balanced personality. Emotional intelligence includes, the rare ability "to be angry with the right person, to the right degree, at the right time, for the right purpose, and in the right way". Emotional intelligence is distinct from Intelligent Quotient (I.Q), which is the ability to perform cognitive tasks adeptly; each of these kinds of intelligence is based in differing but interlinked neural circuitry, with emotional intelligence largely mediated by limbic and prefrontal areas and Intelligence Quotient by neo-cortical zones alone. Emotional intelligence and Intelligent Quotient are not opposing competencies, but discrete and synergistic ones.

The theory of emotional intelligence offers a new psychological framework for primary prevention in psychiatry that integrates recent discoveries in cognitive science, neurological science, and child development. The competencies of emotional intelligence are crucial for the self-management of emotion and for the skillful handling of relationship. These abilities are learned throughout life, with primary learning occurring during childhood. Such learning shapes the underlying neurological circuitry, which continues to mature into adolescence. Emotional intelligence can
be enhanced through the systematic offering of beneficial learning
expired through remedial learning and coaching.

Those who fail to master the competencies of emotional intelligence face a spectrum of heightened psychiatric risk, such as mood and anxiety disorders, eating disorders, and substance abuse. Because these skills of emotional intelligence are teachable, offering children and adolescents opportunities to strengthen these competencies can act an inoculation against a spectrum of social and psychiatric risks.

1.1 What is Emotion?

An emotion is a physiological response to a situation that is too important to leave to intellect alone, such as danger, painful loss, persisting toward a goal despite frustrations, bonding with a mate and building a family. In effect, human has two minds, one that thinks and one that feels. The brain evolved over a million years to deal with the major challenges of survival - whether to fight or flee, ignore, or embrace the approaching challenge. Although our day-to-day challenges seldom relate to those faced by the caveman, social problems such as road rage, drive-by
shootings, and in-your face taunts on the sports field give evidence to emotions out of the control of rational thought, Goleman (1995)

While everyone uses hundreds of words to describe emotions, they are commonly related to about eight basic emotions: anger, fear, happiness, sadness, love, surprise, disgust, and shame. Paul Eckman, head of the Human Interaction Laboratory at the University of California, has found that there are characteristic facial expressions to describe the first four of these, which have been found to be consistent in all cultures, including primitive ones with no access to the outside world, Ekman (1994)

Properly used, the emotions are an essential tool for successful and fulfilling life. But out of control, emotions can result in disaster. In our day to-day life, they affect our relations with other people, our self-identity, and our ability to complete a task.

To be effective, cognitive processes must be in control of our emotions, so that they work for us rather than against us. Salovey Peter, and Mayer (1990) combined the work of several researchers to define the following measures of effective use of emotion, that is Emotional Intelligence (Goleman, 1998):

1. **Knowing one's emotions: Self-awareness** – recognizing a feeling as it happens – is the keystone of Emotional Quotient.
The ability to monitor feelings from moment to moment, cognitively as well as effectively, is crucial to psychological insight and self understanding. An inability to read our true feelings leaves us at their mercy.

2. **Managing emotions**: Handling feelings so they are appropriate are an ability that builds self-awareness. Having the capacity to soothe oneself, shake off rampant anxiety, gloom or irritability is critical to recovery from life's setbacks and upsets.

3. **Motivating Oneself**: Marshaling emotions in the service of a goal is essential for paying attention, for self-motivation and mastery, and for creativity. Emotional self-control – delaying gratification and stifling impulsiveness – underlies accomplishment of every sort. And being able to get into the "flow state" enables outstanding performance of all kinds. People with this skill are more highly productive and effective at whatever they undertake.

4. **Recognizing emotions in others**: Empathy, another ability that builds on emotional self-awareness, is the fundamental "people skill." People who are empathic are attuned to the subtle social signals that indicate what others need or want.
Empathy kindles altruism, which is the basis for social morality.

5. Handling Relationships: The art of relationships is, in large part, skill in managing emotions in others. This ability undergirds leadership and interpersonal effectiveness.

A view of human nature that ignores the power of emotions is sadly shortsighted. The very name *Homo sapiens*, the thinking species, is misleading in light of the new appreciation and vision of the place of emotions in our lives that science now offers. From experience, when it comes to shaping decisions and actions, feeling counts every bit as much – and often more – than thought. One has gone too far in emphasizing the value and import of the purely rational – of what Intelligence Quotient measures – in human life. For better or worse, intelligence can come to nothing when the emotions hold sway.

1.1.1 Role of Emotions in Education

A growing concern on the vital role of the emotions in education is evident from the works of academics as diverse as
Claxton (1989), Day and Leitch, (2001), Hargreaves (1998), McCarthy (2000, Taylor, (2001), Weare (2000) and Yorks and Kasl (2002). This concept may have some bearing on the most recent findings from the field of neuroscience – the interconnectedness between emotion and cognition (Le Doux, 1996). In the book Descartes’ Error for example, Antonio Damasio (1994) articulated how emotions and feelings are interwoven with the networks of reason as opposed to the ideology that cognition is a completely separate entity from emotion.

These scientific studies of emotions in the last two decades seem to begin to recognise the essential role of feeling in thinking (Goleman, 1995). Experts in the field of emotions concede to the emotional/rational dichotomy (Damasio, 1994; Le Doux, 1996) and yet their findings lead to the conclusion that feelings are indispensable for making rational decisions (Damasio, 1994). This paved the way for more scientific studies to examine the relationship between emotion and cognition and to deepen understanding concerning rationality in emotion as well as emotionality in rational behaviour. Finally, a resolution was made – that two brains, two minds and two different kinds of intelligence –
rational and emotional – simultaneously operate, (Damasio, 1994; Goleman, 1995; Parkins, 2002) and that both thinking brain and emotional brain are involved in reasoning (Damasio, 1994; Gardner, 1993).

Acceptance of the stance that emotions are part of the person’s consciousness, part of the mind (Le Doux, 1996) seems to make it imperative to study one in relation to the other in order to procure a fuller picture of the matter.

Taking into account this new finding from neuroscience also poses a strong challenge in education. If cognition is indeed intertwined with emotions, then there may be some value in studying the role of emotions in the educational setting. For example, an explicit recognition of the significance of emotion in addition to cognition may confirm where effectiveness in teaching truly emanates from. Acceptance of this stance seems to have consequential implications in the field of educational reform. For example, it highlights the argument that ‘the quality of teaching and learning’ can be enhanced through ‘the improvement of the quality of the teachers’ (Day and Leitch, 2001).
1.2 Emotional Intelligence

Emotional Intelligence (EI), often measured as an Emotional Intelligence Quotient (EQ), is a term that describes the ability, capacity, skill or (in the case of the trait Emotional Intelligence model) a self-perceived ability, to identify, assess, and manage the emotions of one's self, of others, and of groups Bradberry and Greaves. (2005). Different models have been proposed for the definition of Emotional Intelligence and disagreement exists as to how the term should be used according to Mayer, Salovey, and Caruso (2008)

The most distant roots of emotional intelligence can be traced to Darwin's early work on the importance of emotional expression for survival and second adaptation Bar-On, R. (2006). In the 1900s, even though traditional definitions of intelligence emphasized cognitive aspects such as memory and problem-solving, several influential researchers in the intelligence field of study had begun to recognize the importance of the non-cognitive aspects. For instance, as early as Thorndike (1920) used the term social intelligence to describe the skill of understanding and managing other people.
Similarly, Wechsler (1940) described the influence of non-intellective factors on intelligent behavior, and further argued that our models of intelligence would not be complete until one can adequately describe these factors. Bar-On, R. (2006). In Frames of Mind: The Theory of Multiple Intelligences Gardner (1983) introduced the idea of Multiple Intelligences which included both Interpersonal intelligence (the capacity to understand the intentions, motivations and desires of other people) and Intrapersonal intelligence (the capacity to understand oneself, to appreciate one's feelings, fears and motivations). In Gardner's view, traditional types of intelligence, such as Intelligence Quotient, fail to fully explain cognitive ability, Smith. (2002). Thus, even though the names given to the concept varied, there was a common belief that traditional definitions of intelligence are lacking in ability to fully explain performance outcomes.

The first use of the term "Emotional Intelligence" is usually attributed to Wayne Payne's doctoral thesis, A Study of Emotion: Developing Emotional Intelligence from Payne (1985). However, prior to this, the term "emotional intelligence" had appeared in Leuner in the year 1966. Greenspan in the year 1989 also put
forward an Emotional Intelligence model, followed by Salovey and Mayer (1990), and Goleman (1995).

As a result of the growing acknowledgement by professionals of the importance and relevance of emotions to work outcomes, Salovey (2002) studied the research on the topic continued to gain momentum, but it wasn't until the publication of Daniel Goleman's best seller Emotional Intelligence: Why It Can Matter More Than IQ that the term became widely popularized Goleman, D. (1995). Gibbs (1995) Time magazine article highlighted Goleman's book and was the first in a string of mainstream media interest in Emotional Intelligence. Thereafter, articles on Emotional Intelligence began to appear with increasing frequency across a wide range of academic and popular outlets.

Emotional Intelligence Quotient is defined as a set of competencies demonstrating the ability one has to recognize his or her behaviors, moods, and impulses, and to manage them best according to the situation. Typically, "emotional intelligence" is considered to involve emotional empathy; attention to, and discrimination of one's emotions; accurate recognition of one's own and others' moods; mood management or control over emotions;
response with appropriate (adaptive) emotions and behaviors in various life situations (especially to stress and difficult situations); and balancing of honest expression of emotions against courtesy, consideration, and respect (that is, possession of good social skills and communication skills).

Additional, though less often mentioned qualities include selection of work that is emotionally rewarding to avoid procrastination, self-doubt, and low achievement (that is, good self-motivation and goal management) and a balance between work, home, and recreational life. In essence, EQ is the pattern of how people's biases in their thinking leads them to think one thing or choice is better than another, as well as their clarity in differentiating within those biases to exercise clear and sound judgment.

1.2.1 Components of Emotional Intelligence:

One commonly used version of Salovey and Mayer (1990) definition of emotional intelligence includes abilities in five main areas:

1. **Self-awareness**: Recognizing one's feelings as they occur is the linchpin of emotional intelligence. The ability to monitor
feeling from moment to moment is key to psychological insight and self-understanding. Being aware of one’s emotions makes one more confident when making important personal decisions such as who to marry or what career path to follow.

2. **Managing Emotions:** Having appropriate emotional reaction is a capacity that builds on self-awareness. The ability to modulate negative effects such as anxiety, anger, and depression is a crucial emotional skill. Emotional resilience helps one to prevail over life’s inevitable setbacks and upsets; those who lack emotional self-regulation are continually besieged by feeling of distress.

3. **Motivating Oneself:** Being able to focus on a goal is essential for a range of accomplishments. Emotional self-control such as delaying gratification or controlling impulsivity is crucial in working towards such life goals. Individuals who can harness their emotions, and maintain hope and optimism despite frustrations, are generally more productive and effective in their undertaking.

4. **Recognizing Emotions in Others:** Empathy, another skill based in emotional self-awareness, is fundamental to
interpersonal effectiveness. Those who are well attuned to subtle social cues that indicate what others feel are more successful in personal and professional relations.

5. Handling Relationship: The art of relationships requires skill in managing others' emotions. Social competence underlines popularity, leadership, and interpersonal effectiveness.

Emotional intelligence is measured using 5-major components and 15-subcomponents:

1. **Intrapersonal Skills** (ability to understand and apply personal emotions)

   - **Self Regard** (ability to accept oneself as basically good)
   - **Emotional Self Awareness** (ability to recognize one's own feelings, which allows us to manage them and make better decisions. It is important to be positive even when challenged because it results in more focused thinking)
   - **Assertiveness** (ability to express feelings, beliefs, and thoughts *without* becoming antagonistic and uncooperative towards others)
o **Independence** (ability to be self-directed and self-controlled in ones thinking and actions and to be free of emotional dependency)

o **Self Actualization** (ability to realize one’s potential)

2. **Interpersonal Skills** (people skills)

- **Empathy** (understanding the feelings of others, which enables us to respond appropriately to changes in the emotional climate of others; *Significant others, take note*)

- **Social Responsibility** (being a cooperative, contributing, and constructive member of various social groups)

- **Interpersonal Relationships** (ability to establish and maintain mutually beneficial relationships noted for their intimacy and by the giving and receiving of affection, whether it be as a lover, friend, family member, or loyal employee)

3. **Stress Management** (ability to handle challenges)

- **Stress Tolerance** (Ability to handle difficult situations without ‘falling apart’)


• **Impulse Control** (ability to resist or delay an impulse, drive, or temptation to act; controlling the need for "instant gratification")

4. **Adaptability** (Ability to react quickly, appropriately, and efficiently to change)

• **Reality Testing** (ability to assess the correspondence between what is experienced and what objectively exists; knowing what you want to do vs. what you actually can do)
• **Flexibility** (ability to adjust one's emotions, thoughts, and behaviors to changing situations and conditions)
• **Problem Solving** (ability to identify and define problems as well as to generate and implement potentially effective solutions)

5. **General Mood**

• **Optimism**
• **Happiness**

Individuals have a profile of differing abilities in each of these areas; for instance, someone masterful at managing anger may be inept at soothing someone else's upsets. Neurological givens
determine initial capacities within each domain of emotional intelligence. Each individual has underlying neurological set points that determine temperament - for example, the ability to control emotional impulse, shyness, or irritability. Although the underlying basis for emotional competences is neural, the brain circuitry involved is malleable. To a great extent, each of the five domains represents sets of habit and responses that are learned, and so can be improved with appropriate effort.

Using a related measure, Block found that the hallmarks of emotional intelligence are self-assurance, optimism, and social poise. Emotional intelligence individuals have superior self-control and ability to motivate themselves. Life is meaningful for them; they are principled and responsible. They manage and express emotions appropriately, being assertive but sympathetic and caring in relationships. Their emotional life is rich but balanced; they are comfortable with themselves, others, and the social universe they live in. They manage stress with undue worry or rumination. They tend to be gregarious, spontaneous, playful, and open to sensual experience.
1.2.2 Importance of Emotional Intelligence:

Emotional intelligence allows thinking more creatively and uses our emotional to solve problems. Goleman (1998) believes that emotional intelligence appears to be an important set of psychological abilities that relate to life success. It is empathy and communicational skills as well as social and leadership skills that will be central to our success in life and personal relationships, rather than high Intelligence Quotient. Goleman (1998) purports that if we want to be a valued and productive member of the society it is better to have high Emotional Quotient.

Goleman (1998) argues that men particularly need to develop emotional skills, and gives many examples of men with high intelligence that was not successful because they had problems with their people skills. Goleman (1998) found from his research that people with high emotional intelligence generally have successful relationships with family, friends and fellow workers. They are also successful because they persist in the face of setbacks and channel their emotional energies towards achieving their goals.

Characteristics of people with high emotional intelligence Salivey (1990) have identified five characteristics of person with
high emotional intelligence. They are (i) knowing one's emotions, (ii) managing emotions, (iii) motivating one, (iv) recognizing emotions in others, and (v) holding relationships.

1.2.3 The Concept of Emotional Intelligence:

Emotional Intelligence entails the appropriate awareness, management, and expression of the range of these emotions. In this sense, many psychiatric in the fourth edition of Diagnostic and Statistical Manual of Mental Disorder (ESM – IV) – such as the anxiety and mood disorder – bespeak a deficit in affective self-regulation, which is a key capacity of emotional intelligence. To the extent that emotional intelligence skill like affective self-regulation can be cultivated, particularly in young people, the risk of developing such psychiatric disorder should be diminished.

To be emotionally intelligence is to have the personal skills that characterize a rich and balanced personality. Emotional intelligence is distinct from intelligence quotient (I.Q), which is the ability to perform cognitive tasks adeptly; each of these kinds of intelligence is based in differing but interlinked neutral circuitry, with emotional intelligence largely mediated by limbic and prefrontal areas and intelligence quotient by neo-cortical zones.
alone. Emotional intelligence and intelligence quotient are not opposing competencies, but discrete and synergistic ones.

The theory of emotional intelligence offers a new psychological framework for primary prevention in psychiatry that integrates recent discoveries in cognitive science, neurological science, and child development. The competencies of emotional intelligence are crucial for the self-management of emotion and for the skillful handling of relationship. These abilities are learned throughout life, with primary learning occurring during childhood. Such learning shapes the underlying neurological circuitry, which continues to mature into adolescence. Emotional intelligence can be enhanced through the systematic offering of beneficial learning expired through remedial learning and coaching.

Those who fail to master the competencies of emotional intelligence face a spectrum of heightened psychiatric risk, such as mood and anxiety disorders, eating disorders, and substance abuse. Because these skills of emotional intelligence are teachable, offering children and adolescents opportunities to strengthen these competencies can act an inoculation against a spectrum of social and psychiatric risks.
1.2.4 Models of Emotional Intelligence

Early theorists such as Thorndike (1920) and Gardner (1983) paved the way for the current experts in the field of emotional intelligence. Each theoretical paradigm conceptualizes emotional intelligence from one of two perspectives: ability or mixed model. Ability models regard emotional intelligence as a pure form of mental ability and thus as a pure intelligence. In contrast, mixed models of emotional intelligence combine mental ability with personality characteristics such as optimism and well-being (Mayer, 1993). Currently, the only ability model of emotional intelligence is that proposed by Mayer and Salovey (2001). Two mixed models of emotional intelligence have been proposed, each within a somewhat different conception. Reuven Bar-On has put forth a model based within the context of personality theory, emphasizing the co-dependence of the ability aspects of emotional intelligence with personality traits and their application to personal well-being. In contrast, Goleman (2001) proposed a mixed model in terms of performance, integrating an individual's abilities and personality and applying their corresponding effects on performance in the workplace.
Substantial disagreement exists regarding the definition of Emotional Intelligence, with respect to both terminology and operationalizations. One attempt toward a definition was made by Salovey and Mayer (1994) who defined Emotional Intelligence as “the 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.”

Despite this early definition, there has been confusion regarding the exact meaning of this construct. The definitions are so varied, and the field is growing so rapidly, that researchers are constantly amending even their own definitions of the construct by many researchers. At the present time, there are three main models of Emotional Intelligence:

- Ability Emotional Intelligence models
- Mixed models of Emotional Intelligence
- Trait Emotional Intelligence model

1. **Ability-based Model**: Salovey and Mayer's conception of Emotional Intelligence strives to define Emotional Intelligence within the confines of the standard criteria for a new intelligence. Following their continuing research, their initial
The definition of Emotional Intelligence was revised to: "The ability to perceive emotion, integrate emotion to facilitate thought, understand emotions and to regulate emotions to promote personal growth." The ability based model views emotions as useful sources of information that help one to make sense of and navigate the social environment Salovey and Grewal (2005). The model proposes that individuals vary in their ability to process information of an emotional nature and in their ability to relate emotional processing to a wider cognition. This ability is seen to manifest itself in certain adaptive behaviors.

The model proposes that Emotional Intelligence includes 4 types of abilities:

1. **Perceiving emotions** — the ability to detect and decipher emotions in faces, pictures, voices, and cultural artifacts—including the ability to identify one's own emotions. Perceiving emotions represents a basic aspect of emotional intelligence, as it makes all other processing of emotional information possible.

2. **Using emotions** — the ability to harness emotions to facilitate various cognitive activities, such as thinking and
problem solving. The emotionally intelligent person can capitalize fully upon his or her changing moods in order to best fit the task at hand.

3. **Understanding emotions** — the ability to comprehend emotion language and to appreciate complicated relationships among emotions. For example, understanding emotions encompasses the ability to be sensitive to slight variations between emotions, and the ability to recognize and describe how emotions evolve over time.

4. **Managing emotions** — the ability to regulate emotions in both ourselves and in others. Therefore, the emotionally intelligent person can harness emotions, even negative ones, and manage them to achieve intended goals.

The ability-based model has been criticized in the research for lacking face and predictive validity in the workplace, according to Bradberry and Su (2003):

**Measurement of the Ability-Based model**

Different models of Emotional Intelligence have led to the development of various instruments for the assessment of the construct. While some of these measures may overlap, most
researchers agree that they tap slightly different constructs. The current measure of Mayer and Salovey's model of Emotional Intelligence, the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) is based on a series of emotion-based problem-solving items, Salovey and Grewal (2005). Consistent with the model's claim of Emotional Intelligence as a type of intelligence, the test is modeled on ability-based IQ tests. By testing a person's abilities on each of the four branches of emotional intelligence, it generates scores for each of the branches as well as a total score.

Central to the four-branch model is the idea that Emotional Intelligence requires attunement to social norms. Therefore, the MSCEIT is scored in a consensus fashion, with higher scores indicating higher overlap between an individual's answers and those provided by a worldwide sample of respondents. The MSCEIT can also be expert-scored, so that the amount of overlap is calculated between an individual's answers and those provided by a group of 21 emotion researchers, Salovey and Grewal (2005).

Although promoted as an ability test, the MSCEIT is most unlike standard IQ tests in that its items do not have objectively correct responses. Among other problems, the consensus scoring
criterion means that it is impossible to create items (questions) that only a minority of respondents can solve, because, by definition, responses are deemed emotionally 'intelligent' only if the majority of the sample has endorsed them. This and other similar problems have led cognitive ability experts to question the definition of Emotional Intelligence as a genuine intelligence.

In a study by Føllesdal (2008) the MSCEIT test results of 111 business leaders were compared with how their employees described their leader. It was found that there were no correlations between a leader's test results and how he or she was rated by the employees, with regard to empathy, ability to motivate, and leader effectiveness. Føllesdal also criticized the Canadian company Multi-Health Systems, which administers the MSCEIT test. The test contains 141 questions but it was found after publishing the test that 19 of these did not give the expected answers. This has led Multi-Health Systems to remove answers to these 19 questions before scoring, but without stating this officially.
2. Mixed models of Emotional Intelligence

The Emotional Competencies (Goleman) Model

The model introduced by Daniel Goleman (1998) focuses on Emotional Intelligence as a wide array of competencies and skills that drive leadership performance. As specified earlier, Goleman's model outlines four main Emotional Intelligence constructs:

1. **Self-awareness** — the ability to read one's emotions and recognize their impact while using gut feelings to guide decisions.

2. **Self-management** — involves controlling one's emotions and impulses and adapting to changing circumstances.

3. **Social awareness** — the ability to sense, understand, and react to others' emotions while comprehending social networks.

4. **Relationship management** — the ability to inspire, influence, and develop others while managing conflict.

Goleman (1998) includes a set of emotional competencies within each construct of EI. Emotional competencies are not innate
talents, but rather learned capabilities that must be worked on and developed to achieve outstanding performance. Goleman points (1998) that individuals are born with a general emotional intelligence that determines their potential for learning emotional competencies. Goleman's model of Emotional Intelligence has been criticized in the research literature as mere "pop psychology" (Mayer, Roberts, and Barsade, 2008).

**Measurement of the Emotional Competencies (Goleman) model**

Two measurement tools are based on the Goleman model:

1) The Emotional Competency Inventory (ECI), which was created in 1999 and the Emotional and Social Competency Inventory (ESCI), which was created in 2007.

2) The Emotional Intelligence Appraisal, which was created in 2001 and which can be taken as a self-report or 360-degree assessment Bradberry, Travis and Greaves, Jean. (2005).

**The Bar-On model of Emotional-Social Intelligence (ESI)**

Bar-On (2006) developed one of the first measures of Emotional Intelligence that used the term Emotion Quotient. He defines emotional intelligence as being concerned with effectively
understanding oneself and others, relating well to people, and adapting to and coping with the immediate surroundings to be more successful in dealing with environmental demands Bar-On, R. (1997). Bar-On posits that Emotional Intelligence develops over time and that it can be improved through training, programming, and therapy. Bar-On hypothesizes that those individuals with higher than average E.Q.'s are in general more successful in meeting environmental demands and pressures. He also notes that a deficiency in Emotional Intelligence can mean a lack of success and the existence of emotional problems. Problems in coping with one's environment are thought, by Bar-On, to be especially common among those individuals lacking in the subscales of reality testing, problem solving, stress tolerance, and impulse control. In general, Bar-On considers emotional intelligence and cognitive intelligence to contribute equally to a person's general intelligence, which then offers an indication of one's potential to succeed in life. However, doubts have been expressed about this model in the research literature (in particular about the validity of self-report as an index of emotional intelligence) and in scientific settings (Kluemper, 2008). It is being replaced by the trait Emotional Intelligence model discussed.
Measurement of the ESI Model

The Bar-On Emotion Quotient Inventory (EQ-i), is a self-report measure of Emotional Intelligence developed as a measure of emotionally and socially competent behavior that provides an estimate of one's emotional and social intelligence. The EQ-i is not meant to measure personality traits or cognitive capacity, but rather the mental ability to be successful in dealing with environmental demands and pressures. One hundred and thirty three items (questions or factors) are used to obtain a Total EQ (Total Emotional Quotient) and to produce five composite scale scores, corresponding to the five main components of the Bar-On model. A limitation of this model is that it claims to measure some kind of ability through self-report items (Matthews, Zeidner, and Roberts, 2003). The EQ-i has been found to be highly susceptible to faking (Day and Carroll, 2008; Grubb and McDaniel, 2007)

3. The Trait Emotional Intelligence model

Petrides and colleagues (Petrides, 2009) proposed a conceptual distinction between the ability based model and a trait
based model of EI. Trait Emotional Intelligence is "a constellation of emotion-related self-perceptions located at the lower levels of personality". In lay terms, trait Emotional Intelligence refers to an individual's self-perceptions of their emotional abilities. This definition of Emotional Intelligence encompasses behavioral dispositions and self perceived abilities and is measured by self report, as opposed to the ability based model which refers to actual abilities, which have proven highly resistant to scientific measurement. Trait Emotional Intelligence should be investigated within a personality framework Petrides and Furnham (2001). An alternative label for the same construct is trait emotional self-efficacy.

The trait Emotional Intelligence model is general and subsumes the Goleman and Bar-On models discussed above. Petrides et. al. are major critics of the ability-based model and the MSCEIT arguing that they are based on "psychometrically meaningless" scoring procedures (Petrides, Furnham, and Mavroveli, 2007).

The conceptualization of Emotional Intelligence as a personality trait leads to a construct that lies outside the taxonomy
of human cognitive ability. This is an important distinction in as much as it bears directly on the operationalization of the construct and the theories and hypotheses that are formulated about it, Petrides and Furnham. (2007).

**Measurement of the Trait Emotional Intelligence model**

There are many self-report measures of EI, including the EQi, the Swinburne University Emotional Intelligence Test (SUEIT), the Schutte Self-Report Emotional Intelligence Test (SSEIT), a measure by Tett, Fox, and Wang (2005). From the perspective of the trait Emotional Intelligence model, none of these assess intelligence, abilities, or skills (as their authors often claim), but rather, they are limited measures of trait emotional intelligence (Petrides, Furnham, and Mavrovelli, 2007). The Trait Emotional Intelligence Questionnaire (TEIQue) is an open-access measure that was specifically designed to measure the construct comprehensively and is currently available in 15 languages.

The Trait Emotional Intelligence Questionnaire provides an operationalization for Petrides and colleagues' model that conceptualizes Emotional Intelligence in terms of personality Petrides and Furnham. (2003). The test encompasses 15 subscales
organized under four factors: Well-Being, Self-Control, Emotionality, and Sociability. The psychometric properties of the TEIQue were investigated in a recent study on a French-Speaking Population, where it was reported that TEIQue scores were globally normally distributed and reliable. Mikolajczak, Luminet, Leroy, and Roy (2007).

The researchers also found Trait Emotional Intelligence Questionnaire scores were unrelated to nonverbal reasoning (Raven’s matrices), which they interpreted as support for the personality trait view of Emotional Intelligence (as opposed to a form of intelligence). As expected, Trait Emotional Intelligence Questionnaire scores were positively related to some of the Big Five personality traits (extraversion, agreeableness, openness, conscientiousness) as well as inversely related to others (alexithymia, neuroticism).

1.2.5 Theoretical Foundations, Background And Development Of The Bar-On Model Of Emotional Intelligence

The Bar-On model of emotional-social intelligence describes Emotional Intelligence as an array of interrelated emotional and
social competencies, skills and facilitators that impact intelligent behavior.

Darwin's early work (1837-1872) on the importance of emotional expression for survival and adaptation influenced the development of the Bar-On model, which also stresses the importance of emotional expression and views the outcome of emotionally and socially intelligent behavior in terms of effective and successful adaptation. Additional influence on the development of this model can be traced to Thorndike's 1920 description of social intelligence and its importance for human performance as well as Wechsler's 1940 observations related to the impact of non-intellective (non-cognitive) factors on what he referred to as intelligent behavior. Sifneos' 1967 description of alexithymia on the pathological end of the Emotional Intelligence continuum and Appelbaum's 1973 conceptualization of psychological mindedness on the healthy end of this continuum have also had an impact on the ongoing development of the Bar-On model as well. Additionally, Gardner's 1983 introduction of the concept of intrapersonal and interpersonal intelligences, within the context of multiple intelligences, had an impact on the development of the
intrapersonal and interpersonal components of the Bar-On model of emotional-social intelligence.

The Bar-On conceptual model of emotional-social intelligence provides the theoretical basis for the Bar-On psychometric model and approach to measuring this construct as was previously mentioned. The most popularly used measure of this concept is the BarOn Emotional Quotient Inventory (the EQ-i). The EQ-i was originally constructed to examine a theory of emotional and social functioning that began developing in the early 1980s during my graduate studies. At that time, hypothesized that effective emotional and social functioning should eventually lead to an overall sense of psychological well-being – as such, the dissertation was titled The Development of a Concept of Psychological Well-Being.

The development of the conceptual aspect of the Bar-On model and the construction of its psychometric component (the EQ-i) are closely interrelated. Consequently, the EQ-i may be considered an 'operationalization' of this model; and the examination of the factorial, construct and predictive validity of the EQ-i provides an efficient method of examining the model's
structure, accuracy and usefulness as an Emotional Intelligence model. Such an approach in theory development is common in psychology as well as in the specific field of emotional intelligence according to researchers such as Newsome, Petrides, Salovey, Van Rooy and their colleagues (1980) based on a number of publications that have surfaced during the past decade. Moreover, this approach when began to develop a theory of emotional and social functioning in 1980 have described in detail.

The development of the Bar-On conceptual and psychometric model of emotional-social intelligence proceeded in six stages:

1. Identifying and logically clustering various emotional and social competencies, skills and facilitators thought to impact human effectiveness and well-being;
2. Defining the individual clusters of competencies, skills and facilitators that emerged;
3. Constructing an experimental instrument based on initially generating approximately 1,000 items that were thought to tap these definitions;
4. Eventually determining the inclusion of 15 primary scales and 133 items in the published version of this instrument.
(the BarOn EQ-i) based on a combination of statistical findings and theoretical considerations;

5. Norming the final version of the EQ-i on 3,831 adults in North America; and

6. Continuing to collect data, norm and validate this instrument across cultures worldwide.

1.2.6 Emotional Intelligence at Schools

Emotional Quotient seriously affect educational approaches based on IQ that have mere logic, data, concrete thinking, and process. Also, it is organized according to approaches that are based on the rules where the emotions aren't involved, as it isn't possible for them to be successful in school life. It can be proposed that current educational programs should be re-arranged in order to bring in the competencies, which these new approaches require. Such an influence will be felt deeply in educational programs, which are inter-disciplinary, because school is a synthesis of educational programs and it is an organization of which only input and output is human. So, Emotional Quotient is thought to be more important and significant in education (Karsli, et. al., 2000). Educational programs at schools (where input and output are only human) are supposed to bring in personal, occupational, and
emotional traits to be successful in all life. Students of secondary educational age are adolescents and in this period it should be considered that the most important personal traits that must be acquired are social, emotional personal and notably occupational identity (Can, 2004).

In order to gain this identity in a good manner to reach goals in life, identification of the acquisition levels of Emotional Quotient traits can be shown as an indication of positive personal improvement and a successful future. Another subject increasingly gaining importance is the extent to which these current secondary school programs and EQ traits make a contribution to personal development. So, identifying the Emotional Quotient traits for the students who are in the final year of secondary education, ready for life and identifying which type of school is successful at giving these traits can be stated as important tools for re-construction of the current secondary education system and changing the programs in accordance with these goals.
1.3 Emotional Quotient (EQ)

Emotional Quotient actually stands for Emotional Intelligence Quotient. Much like an intelligence quotient, or IQ, an EQ is said to be a measure of a person's emotional intelligence. However, there is much debate surrounding the legitimacy of a definition of emotional intelligence quotient, primarily because there is no standard against which it can be measured.

Mayer and Salovey (1990 and 1993) defined EQ concept "as the capacity that individuals have for monitoring and understanding their feelings and those of others, describe the discrimination between various types of emotions and using this information to channel thoughts and knowing and recognizing one's own emotions, managing emotions, motivation, being aware of other's emotions, and being able to control relations with others". This definition entirely focuses on self-consciousness. Viewed as one of the three components of the mind (cognition, affect, and motivation), EQ is divided into the following four dimensions: identifying emotions, using emotions, understanding and reasoning about emotions and managing and regulation of emotions (Mayer and Salovey, 1997).
According to the theoretical model of Bar-On (1997 and 2000), EQ is defined as a sum of emotional and social competencies that determine the modalities with which a person relates to both him/herself and to others in order to cope with environmental pressure and requests.

Emotional Quotient (EQ) is thus, in this model, an important factor in determining success in life, and more generically, influences the well-being of individuals. EQ develops over time, changes in the course of life, and can be increased by means of training programs. Moreover, Goleman (1995 and 1998), focuses on the people who are not successful in life in spite of a high IQ, has defined the structure of EQ as recognizing one's own and other's emotions, positive thinking and the ability to be successful at personal relationships. course of life, and can be increased by means of training programs. Moreover, Goleman (1995 and 1998) has defined the competencies in five basic dimensions: understanding emotions, controlling and managing emotions, actuating emotions and motivation, empathy, and social skills. This definition and its dimensions have led to the opinion that there is a deep relation between success in business life and EQ, as well as in education life.
Regardless of the actual scientific basis of measuring Emotional Quotient, the concept is used in many different settings. One particularly popular setting that employs attempts at measuring Emotional Quotient is the corporate world. Many businesses utilize Emotional Quotient tests to help their employees determine and measure their emotional responses to various situations. While most corporate Emotional Quotient tests are administered on the basis that a person’s Emotional Quotient can be modified or increased, there is dispute about whether emotional intelligence is standard or can be changed.

Currently there are studies being conducted on possible ways that an Emotional Quotient may affect a person’s abilities to perform under pressure, resolve conflict, and generally cope with challenges. Of course those who are not proponents of the concept believe these abilities are simply a matter of personality, which cannot be measured or modified. Other studies have linked Emotional Quotient measurements to communication and other social skills that people either lack or possess.

A person’s Emotional Quotient can be measured using any one of a number of assessments, including one developed by the
aforementioned Salovey and Mayer. Some assessments utilize self-given responses while others are peer-given responses. An Emotional Quotient test may give insight into a person's personality and psychological make up, but discovering the true meaning of Emotional Quotient and its relationship to and impact on a person's life and social performance may be years and many studies away from anything definitive.

The concept of Intelligence Quotient (IQ), which relates to the determination of level of intellect or sharpness of mind of a person is very common. One normally use in our daily conversation that the Intelligence Quotient of a specific person is high or low. However the concept of Emotional Intelligence or Emotional Quotient is relatively new in the field of Psychological Research. Emotional Quotient (EQ) relates to the ability or skill to understand, evaluate and manage the emotions of one's self and others. This concept got familiarity with the publication of book titled 'Emotional Intelligence' by Daniel Goleman's in 1995. However, the first use of the term "Emotional Intelligence" is usually attributed to Wayne Payne's doctoral thesis, A study of emotion: Developing emotional intelligence from 1985.
Early emotional intelligence theory was originally developed during the 1970's and 80's by the work and writings of psychologists Howard Gardner, Peter Salovey and John Mayer. Emotional Intelligence is increasingly relevant to organizational development and developing people, because the Emotional Quotient principles provide a new way to understand and assess people's behaviors, management styles, attitudes, interpersonal skills, and potentials. Emotional Intelligence is an important consideration in human resources planning, job profiling, recruitment interviewing and selection, management development, customer relations, customer service, and much more.

Edison (1947) once said that, "Genius is 99% perspiration (E.Q.) and 1% inspiration (I.Q.)." Intelligence Quotient is said to be set in stone, no matter when you take an I.Q. test you will receive, basically the same score. Emotional Quotient, however, is not set in stone. One can take Emotional Quotient tests at different points in your life and find out that it has increased or decreased significantly. The basic reason is that the strength or weakness of emotions is affected by the age factor and environment.

Emotional Quotient is influenced by early attachment relationships. The way that one handle these relationships is what
decides Emotional Quotient. Through training one is able to increase Emotional Quotient. Some companies provide Emotional Quotient workshops to help their employees better understand themselves.

Emotional Intelligence links strongly with concepts of love and spirituality: bringing compassion and humanity to work, and also to Multiple Intelligence Theory which illustrates and measures the range of capabilities people possess, and the fact that everybody has a value. This is the essential premise of Emotional Quotient to be successful requires the effective awareness, control and management of one's own emotions, and those of other people. Emotional Quotient embraces two aspects of intelligence:

(a) Understanding yourself, your goals, intentions, responses, behavior and all and
(b) Understanding others, and their feelings.

Emotional Intelligence embraces and draws from numerous other branches of behavioral, emotional and communications theories, such as Neuro-Linguistic Programming (NLP), Transactional Analysis, and empathy. By developing our Emotional Intelligence in these areas and the five Emotional Quotient domains
one can become more productive and successful at what one does, and help others to be more productive and successful too. The process and outcomes of Emotional Intelligence development also contain many elements known to reduce stress for individuals and organizations, by decreasing conflict, improving relationships and understanding, and increasing stability, continuity and harmony.

The Emotional Quotient concept argues that Intelligence Quotient, or conventional intelligence, is too narrow; that there are wider areas of emotional intelligence that dictate and enable how successful one are. Success requires more than IQ (Intelligence Quotient), which has tended to be the traditional measure of intelligence, ignoring essential behavioral and character elements. One has come across many people who are academically brilliant and yet are socially and inter-personally inept. And one knows that despite possessing a high Intelligence Quotient rating, success does not automatically follow.

1.4 Intelligence Quotient (IQ)

An intelligence quotient is a score derived from one of several different standardized tests attempting to measure intelligence. The term "IQ," borrowed from the German Intelligence-Quotient, was
coined by the German psychologist William Stern in 1912 as a proposed method of scoring early modern children's intelligence tests such as those developed by Alfred Binet and Théodore Simon in the early 20th Century. Although the term "intelligence quotient" is still in common use, the scoring of modern intelligence quotient tests such as the Wechsler Adult Intelligence Scale is now based on a projection of the subject's measured rank on the Gaussian bell curve with a center value (average IQ) of 100, and a standard deviation of 15, although different tests may have different standard deviations.

Intelligence quotient scores have been shown to be associated with such factors as morbidity and mortality, parental social status, and to a substantial degree, parental intelligence quotient. While its inheritance has been investigated for nearly a century, controversy remains as to how much is inheritable, and the mechanisms of inheritance are still a matter of some debate Devlin, Daniels, and Roeder (1997).

Intelligence quotient scores are used in many contexts: as predictors of educational achievement or special needs, by social scientists who study the distribution of intelligence quotient scores
in populations and the relationships between intelligence quotient score and other variables, and as predictors of job performance and income.

The average intelligence quotient scores for many populations have been rising at an average rate of three points per decade since the early 20th century with most of the increase in the lower half of the intelligence quotient range: a phenomenon called the Flynn effect. It is disputed whether these changes in scores reflect real changes in intellectual abilities, or merely methodological problems with past or present testing.

Common tradition about Intelligence Quotient (IQ):

1. **IQ measures intelligence.** IQ is a mathematical ratio. The way people often use the term "IQ" is confused with innate intelligence. The confusion of IQ with innate intelligence has created many misunderstandings. Innate intelligence refers to one's innate intelligence skills and abilities.

2. **IQ's never change.** Since it is a ratio, the number often changes depending on what a person learns.

3. **IQ tests can be totally believed.** The IQ tests only provide an estimate of a person's academic skill abilities. The IQ test
scores are often related to academic abilities rather than a person's intellect. The scores obtained from IQ test vary from test to test. A score on one test is not the equivalent of the same score on another test. Some of the main ones are the Stanford-Binet and the Wechsler.

4. **IQ gives us a measure of a person's competence.** Competence and intelligence are two totally different ideas. Assuming competence or the ability to do a job is related to intelligence is a common mistake. Many political pundits often bring up IQ in association with competence, which only muddies things up.

Since IQ tests often place great emphasis on academic skills, the scores can be improved with training in those areas. Reading and learning ways to improve problem solving, abstract reasoning and conceptual learning will help improve such scores. Studying and practicing language problems is one task that can help. Another is to read literature and then analyze the work in terms of the concepts presented. One can train themselves to even look at everyday problems on both the practical level and the abstract level, taking the solutions and making other applications of what one have learned. Since Intelligence Quotient (IQ) test often have a
strong cultural component, the more one understand about the
culture the greater likelihood will improve the score. IQ tests often
have items that also measure response time, so learning how to
perform problem-solving tasks faster will also help to improve one's
IQ test score.

1.4.1 History of Intelligence Quotient

The modern intelligence quotient score is a mathematical
transformation of a raw score on an intelligence quotient test,
based on the rank of that score in a normalization sample. Modern
scores are sometimes referred to as "deviance intelligence quotient",
while older method age-specific scores are referred to as "ratio
intelligence quotient."

The two methodologies yield similar results near the middle of
the bell curve, but the older ratio intelligence quotient s yielded far
higher scores for the intellectually gifted— for example, Marilyn and
Savant, who appeared in the Guinness Book of World Records,
obtained a ratio intelligence quotient of 228. While this score could
make sense using Binet's formula (and even then, only for a child),
on the Gaussian curve model it would be an exceptional 7.9
standard deviations above the mean and hence virtually impossible
in a population with a normal intelligence quotient distribution. In addition, intelligence quotient tests like the Wechsler were not intended to discriminate reliably much beyond intelligence quotient, as ceiling effects become a concern.

Since the publication of the Wechler (1997) Wechsler Adult Intelligence Scale (WAIS), almost all intelligence scales have adopted the normal distribution method of scoring. The use of the normal distribution scoring method makes the term "intelligence quotient" an inaccurate description, mathematically speaking, of the intelligence measurement, but "intelligence quotient" still enjoys colloquial usage, and is used to describe all of the intelligence scales currently in use.

The role of genes and environment (nature and nurture) in determining intelligence quotient is reviewed in Plomin et. al. (2000, 2003). Until recently heritability was mostly studied in children. Various studies find the heritability of intelligence quotient between 0.4 and 0.8 in the United States; Plomin,. Pedersen,. Lichtenstein and McClearn (1994) that is, depending on the study, a little less than half to substantially more than half of the variation in intelligence quotient among the children studied was due to
variation in their genes. The remainder was thus due to environmental variation and measurement error. A heritability in the range of 0.4 to 0.8 implies that IQ is "substantially" heritable.

The effect of restriction of range on intelligence quotient was examined by Matt McGue and colleagues, who wrote that "restriction in range in parent disinhibitory psychopathology and family SES had no effect on adoptive-sibling correlations ... intelligence quotient." On the other hand, Turkheimer, Haley, Waldron, D'Onofrio Gottesman (2003) demonstrated that the proportions of IQ variance attributable to genes and environment vary with socioeconomic status. They found that in impoverished families, 60% of the variance in intelligence quotient "in a sample of 7-year-old twins" is accounted for by the shared environment, and the contribution of genes was close to zero.

It is reasonable to expect that genetic influences on traits like intelligence quotient should become less important as one gains experiences with age. Surprisingly, the opposite occurs. Some of the correlation of intelligence quotient of twins may be a result of the effect of the maternal environment before birth, shedding some light on why intelligence quotient correlation between twins reared
apart is so robust Devlin, Daniels and Roeder (1997). There are a number of points to consider when interpreting heritability:

- A high heritability does not mean that the environment has no effect on the development of a trait, or that learning is not involved. Vocabulary size, for example, is very substantially heritable (and highly correlated with general intelligence) although every word in an individual's vocabulary is learned. In a society in which plenty of words are available in everyone's environment, especially for individuals who are motivated to seek them out, the number of words that individuals actually learn depends to a considerable extent on their genetic predispositions, Neisser et al. (2006).

- A common error is to assume that because something is heritable it is necessarily unchangeable. As previously noted, heritable traits can depend on learning, and they may be subject to other environmental effects as well. The value of heritability can change if the distribution of environments (or genes) in the population is substantially altered. For example, an impoverished or suppressive environment could fail to support the development of a trait, and hence restrict individual variation. Differences in variation of heritability are
found between developed and developing nations. This could affect estimates of heritability, Neisser et. al. (2006). Another example is Phenylketonuria which previously caused mental retardation for everyone who had this genetic disorder. Today, this can be prevented by following a modified diet.

• On the other hand, there can be effective environmental changes that do not change heritability at all. If the environment relevant to a given trait improves in a way that affects all members of the population equally, the mean value of the trait will rise without any change in its heritability (because the differences among individuals in the population will stay the same). This has evidently happened for height: the heritability of stature is high, but average heights continue to increase Neisser et. al. (2006).

• Even in developed nations, high heritability of a trait within a given group has no necessary implications for the source of a difference between groups Neisser et. al. (2006).

1.4.2 Trends in Intelligence Quotient

Since the twentieth century, intelligence quotient scores have increased at an average rate of around three intelligence quotient
points per decade in most parts of the world (Flynn, 1999). This phenomenon has been named the Flynn effect (aka the "Lynn-Flynn effect") named after Richard Lynn and James R. Flynn. Attempted explanations have included improved nutrition, a trend towards smaller families, better education, greater environmental complexity, and heterosis. Some factions believe that modern education has become more geared toward intelligence quotient tests, thus rendering higher scores, but not necessarily higher intelligence, Mingroni (2007). Tests are therefore renormalized occasionally to obtain mean scores of 100, for example WISC-R (1974), WISC-III (1991) and WISC-IV (2003). This adjustment specifically addresses the variation over time, allowing us to compare scores from different times.

According to Schmidt and Hunter (1998), "for hiring employees without previous experience in the job the most valid predictor of future performance is general mental ability." The validity depends on the type of job and varies across different studies, ranging from 0.2 to 0.6, Hunter and Hunter. (1984). However intelligence quotient mostly correlates with cognitive ability only if intelligence quotient scores are below average and this rule has many (about 30 %) exceptions for people with average
and higher intelligence quotient scores, Diaz-Asper, Schretlen, Pearlson (2004). Also, intelligence quotient is related to the "academic tasks" (auditory and linguistic measures, memory tasks, academic achievement levels) and much less related to tasks where precise hand work ("motor functions") is required Warner, Townes, Preston (1987). For highly qualified activities (research, management) high intelligence quotient scores are very relevant, whereas for less qualified activities, physical ability (body speed, hand-eye coordination) is more important. According to Watkins et al. (2007), intelligence quotient is a causal influence on future academic achievement, whereas academic achievement does not substantially influence future intelligence quotient scores Marley W. Watkins, Pui-Wa Lei and Gary L. Canivez (2007). Treena Eileen Rohde and Lee Anne Thompson (2007) wrote that general cognitive ability but not specific ability scores predict academic achievement, with the exception that processing speed and spatial ability predict performance on the SAT math beyond the effect of general cognitive ability.
1.5 Emotional Intelligence, Intelligence Quotient and Performance

Research of Emotional Intelligence and academic performance show mixed results: a positive relation has been found in some of the studies, in others there was no relation or an inconsistent one. This led researchers Cote and Miners (2006) to offer a compensatory model between Emotional Intelligence and Intelligence Quotient, that posits that the association between Emotional Intelligence and academic performance becomes more positive as cognitive intelligence decreases, an idea first proposed in the context of academic performance (Petrides, Frederickson, and Furnham, 2004). The results of the former study supported the compensatory model: students with low Intelligence Quotient get higher task performance and organizational citizenship behavior directed at the organization, the higher their EI(Emotional Intelligence).

1.6 Emotional Quotient Vs Intelligence Quotient (EQ Vs IQ)

Emotional Quotient is one of the ways to measure a person's ability to be successful in life. The phrase was first developed in the
1980s and asserts that emotional quotient or emotional intelligence is as valuable as intellectual quotient.

According to theories of brain function, a high emotional quotient means someone is self-confident, self-aware, and able to navigate through trying emotional times. Emotional Quotient is often tied directly to the degree of success one may have in the workplace and in personal relationships. Some companies offer services to test the emotional quotient of employees.

Intelligence quotient measuring has existed for much longer than Emotional Quotient measuring. Alfred Binet developed the first modern IQ test in the early 20th century. Since then, many modifications on intelligence quotient testing have been made. Currently an IQ test involves a set of standardized questions for which one receives a score.

While the Intelligence Quotient can measure concepts like logical reasoning, word knowledge and math skills, many feel it is not adequate in measuring creative abilities or emotional abilities. In fact, some with high IQs do not seem to be particularly adept at maintaining relationships or seem socially awkward at best.
Intelligence quotient testing is not administered very frequently, since some feel it merely measures how well people do on IQ tests. Emotional quotient testing is becoming more popular in the workplace since some employers feel it will help predict how well potential employees might do in stressful circumstances.

Some educators and psychologists feel that neither Emotional Quotient nor Intelligence Quotient testing presents the full picture of a human being. There are other types of intelligence, according to critics, that may be just as important. As well, standardized testing may oversimplify emotional intelligence and response.

Some psychologists further make distinction between emotional quotient and emotional intelligence. Some feel that one is all born with innate Emotional Intelligence (EI) that may be perverted by growing up in difficult circumstances, such as an abusive home. However, stronger innate Emotional Intelligence in people who have strayed from high emotional quotient might predict how well people from difficult backgrounds might be able to improve Emotional Quotient.

Compelling evidence recently has surfaced, leading scientists to believe that Einstein's superior intellectual ability may have been
related to the region of his brain that supports psychological functions. In other words, according to Levy (1984), "When it comes to appreciating the most famous brain of our century, it ain't the meat - it's the emotion."

Apparent in many aspects of human interaction is the notion of "survival of the fittest." In business, government, science, and even personal relationships, the competition for that which is scarce drives humans to find an "edge" over their adversaries. A good indicator of success in the past has been the level of one's intelligence. It was assumed that the relationship between one's IQ and one's success would be positively correlated. In other words, "smarter" individuals were bound to triumph over those less intelligent.

This new evidence is no surprise to those behind the latest rage in corporate competence - the idea of Emotional Intelligence (EQ) as a counterpart to Intelligence Quotient (IQ). Nor is the concept of Emotional Quotient totally new to successful global communicators, many of whom have refined their emotional and communication competencies to a fine art.
What's new is the recent identification of these skills under the singular phrase "emotional intelligence," with an accompanying scientifically based, systematized approach to personal development that's rapidly attracting attention within corporate and organizational settings today.

Emotional intelligence may actually be significantly more important than cognitive ability and technical expertise combined. In fact, some studies indicate that Emotional Quotient is more than twice as important as standard IQ abilities. Further, evidence increasingly shows that the higher one goes in an organization, the more important EQ can be. For those in leadership positions, emotional intelligence skills account for close to 90 percent of what distinguishes outstanding leaders from those judged as average.

"Emotional intelligence refers to the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships," says Goleman (1999). It describes abilities distinct from, but complementary to, academic intelligence - the purely cognitive capacities measured by Intelligence Quotient.
A measure of one's emotional intelligence can be defined by the ability to use both emotional and cognitive thought. Emotional intelligence skills include but are not limited to empathy, intuition, creativity, flexibility, resilience, stress management, leadership, integrity, authenticity, intrapersonal skills and interpersonal skills. It involves the lower and central sections of the brain, called the limbic system. It also primarily involves the amygdala, which has the ability to scan everything that's happening to us moment to moment to see if it is a threat. As defined by Goleman (1998), the components of emotional intelligence are "simple, yet powerful enough to effect change." Hence, if Goleman and Darwin are to believed, it is emotionally intelligent individuals who are most able to adapt to dynamic environments and therefore most likely to survive.

Examples by comparison of EQ vs. IQ

- Appealing to emotions to convince someone rather than using facts alone
- Using your emotions in addition to your cognitive abilities to function rather than relying solely on logic
- Knowing how and why vs. Knowing what
• Knowing how to motivate separate individuals as opposed to treating everyone the same way
• Understanding and controlling your emotions to use them for something vs. Letting your emotions control you because you do not know how to deal with them.

It is no wonder then, that inspite of the onslaught from Emotional Quotient proponents and believers Intelligence Quotient tests haven't lost their sheen or shine in corporate and educational circles. Intelligence Quotient, or Intelligence Quotient, is a general determination of the capacity of individuals to think and reason. An Intelligence Quotient level indicates how one is positioned compared to the majority of individuals in a given age bracket. It is one of the most important indicators of one's ability to take important decisions based on facts and reason- a trait necessary to be successful in any endeavour.

A standardised Intelligence Quotient test measures demonstrable potential. But more often than not it is largely impossible to measure potential because while some potential may have developed in an individual, there may be other latent potencies that may not yet have flowered due to lack of opportunity or may have deflowered due to disuse. Besides, Intelligence
Quotient being intangible, it cannot be quantified or compared, as each individual's faculties and exposure are entirely different. Hence an Intelligence Quotient test cannot always reckon true potential nor can it give an indication of an individual's latent potentialities.

Apart from this limitation, one also has to admit that reasoning power or the ability to think logically and critically is not the only criterion for success. There are other equally essential factors to be taken into account. For example, it is more important to be able to persist in the face of difficulty and get along well with colleagues and subordinates than it is to have an extra 10 or 15 points of Intelligence Quotient.

Social and emotional factors are also major contributing factors. Studies have shown that it's not only people with high Intelligence Quotients who succeed in life. Pure intelligence, as measured by Intelligence Quotient, allows an individual to reason logically.

Perhaps the most important element of Emotional Quotient for effective academic performance is delaying gratification. Goleman (1998) describes an experiment in which four-year olds were given a challenge: "You can have one marshmallow now but, if
you will wait until I have run an errand, you can have two marshmallows." Some grabbed the marshmallow as soon as the experimenter left the room, while others waited as long as twenty minutes. This ability to resist impulse proved to be critical in subsequent academic success. Those children who deferred gratification at the age of four, were more socially competent as adolescents, less likely to freeze under stress, accepted challenges, were self-reliant and dependable; they took initiative and plunged into projects. When the four year-olds who grabbed the marshmallow immediately reached adolescence, they were shy, stubborn and indecisive; they would tend to overreact to irritations with a sharp temper.

Achievement test as the name signifies are employed for measuring the amount of success or achievement of individual in a specific field or area of accomplishment. In schools situations an achievement test is used as a tool for measuring the nature an extent of student's learning in a particular subject or a group of subjects. How far a particular student has been able to learn and acquire or has been benefited from the learning experiences given to him is ascertained with the help of tests. Therefore, achievement tests are essentially past-oriented. They give evidence of what has
been learned or acquired by an individual by testing his present ability. Nothing all these facts, if one is required to define an achievement test; one can define as “an achievement test is essentially a tool or device of measurement that helps in ascertaining quantity and quality of learning attained in a subject of study or group of subjects after a period of instruction by measuring the present ability of the individual concerned”.

1.7 Emotional Intelligence and Achievement:

Students are educated with one main objective in mind: their success. What is the measure of success? Is it only a strong scientific mind? No! It was, in the past, but now some fundamental new theories have been introduced: The Multiple Intelligences Theory (Gardner, 1983) and The Emotional Intelligence Theory (Mayer and Salovey, 1990; Goleman, 1995). Then one can say that success depends on several intelligences and on the control of emotions. IQ alone is no more the measure for success; emotional intelligence, social intelligence, and luck also play a big role in a person’s success (Goleman, 1995). In the work place all kinds of articles are written, workshops and conferences are held to help doctors (Epstein, 1999), employees and managers (Abraham, 1999;
Laabs, 1999; Barrier and Bates, 1999) become aware of the components of emotional intelligence so that they improve themselves. Emotional intelligence affects student achievement, then it is imperative for schools to integrate it in their curricula, hence raising the level of student success. The purpose of this study is to see whether there is a relationship between emotional intelligence and achievement of students.

In Cattell and Butcher (1968) tried to predict both school achievement and creativity from ability, personality, and motivation. The Cattell and Butcher (1968) succeeded in showing the importance of personality in academic achievement however could not link motivation to it. In Barton, Dielman and Cattell (1972) conducted another study to assess more fully the relative importance of both ability and personality variables in the prediction of academic achievement. One of the conclusions they reached was that IQ together with the personality factor? which they called conscientiousness? predicted achievement in all areas. What was tested under personality was--among others--whether the student is reserved or warmhearted, emotionally unstable or emotionally stable, undemonstrative or excitable, submissive or dominant, conscientious or not, shy or socially bold, tough-minded
or tender-minded, zestful or reflective, self-assured or apprehensive, group dependent or self-sufficient, uncontrolled or controlled, relaxed or tense. It can easily observed that most of these factors are included in the components of emotional intelligence. Goleman (1995) also says that emotional intelligence is a new concept indeed, but the existing data imply that it can be as powerful as Intelligence Quotient and sometimes even more. And, at least, unlike what is claimed about Intelligence Quotient, one can teach and improve in children some crucial emotional competencies. Emotionally intelligent people are more likely to succeed in everything they undertake. Teaching emotional and social skills is 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). In 1996, Dr. Reuven Bar-On explained Emotional Intelligence saying that it reflects our ability to deal successfully with other people and with our feelings. He developed the BarOn EQ-i after 17 years of research, and this inventory is the first scientifically developed and validated measure of emotional intelligence that reflects one's ability to deal with daily environmental challenges and helps
Emotional intelligence is hypothesized to aid in prioritizing thinking and to enable one to manage emotions in anxiety-provoking situations, such as taking standardized tests. Evidence supporting the role of emotional intelligence in academic settings is mixed. Some studies show positive associations (Barchard, 2003; Brackett and Mayer, 2003), whereas others show no links at all. In two studies with college students, MSCEIT total scores and grades were correlated modestly (Barchard, 2003; Brackett and Mayer, 2003). However, the correlations in these studies became non-significant once verbal intelligence scores were controlled. A study with high school students in Spain, however, demonstrated the incremental validity of emotional intelligence in the prediction of grades. Scores on the MSCEIT, which was administered at the start of the academic year, correlated with final grades after controlling for both personality and academic intelligence (Gil-Olarte et al., 2006). Among middle school students, MSCEIT scores correlated significantly with year-end academic and behavior grades after controlling for scores on verbal standardized tests ($r_{ps} = 0.34, 0.21$, respectfully) (Rivers et al., 2010). The findings from middle and
high school students may be stronger than those using college student samples due to a restricted range of grades among college student samples.

Although more research is necessary to unpack whether (and how) emotional intelligence relates to academic performance, it appears that emotional intelligence may influence other aspects of student performance in school. Students scoring higher on the MSCEIT-YV were less likely to be rated by their teacher as having school problems, including attention and learning problems. Students scoring higher on the MSCEIT-YV also were less likely to report negative attitudes toward school and toward their teachers (Brackett et. al., 2010).

1.8 Significance of the Study:

The intelligence is a fundamental and plays the key role in effectiveness in life and the ability to form deeper questions pursuit leads man in direction of meaning. Thus the idea that some people and certain groups of people, are inherently and unalterably better endowed then of these fundamental attributes stirrers deep fears, tribal rivalries and hatreds and many levelled compensations for these primitive impulses so unacceptable in supposedly civilized
people. Goleman (1995) says emotions traits made major impact on man's success in life. He said self-awareness is fundamental to psychological insight, enthusiasm and persistence and certainly important ingredients in any pursuit under taken seriously. The ability to concentrate is important for success in almost any field. Concentration depends on an emotional connection to the object on which attention is focused on the ability to filter destruction. So, the child/student has become the centre of concern not only his reasoning capacities but also creativity emotions and interpersonal skills.

Intelligence is the most valuable wealth of humans. Intelligence is assessed and not measured because in all its meaning and application, it is not a thing; it is only an idea, an abstraction. Thurnstone (1946), has all come up with their definitions of intelligence but perhaps the pioneer in this field is David Wechsler. Thurnstone (1946) defined intelligence "as the aggregate or global capacity of an individual to act purposefully, to think rationally and so to deal effectively with his environment". It helps an individual to consciously adjust his thinking to new requirements. Thus, it is a general mental adaptability to new
problems and conditions of life. Intelligent mind and efficient hands work in coordination with each other.

The multiple intelligences theory has been introduced by Howard Goleman (1983) and the emotional intelligence theory by Mayer and Salovey (1990) then by Goleman (1995). Intelligence Quotient alone is no more the only measure for success. Emotional Intelligence, social intelligence and luck also play a big role in a person's success Goleman (1995). Hence, the investigator has made an attempt to see whether emotional quotient and intelligence quotient is related with the achievement of X standard students in Kannada language.

1.9 Need for the Study

At the beginning of a new century, intelligence and success are now viewed the same way they were before. New theories of intelligence have been introduced theory. The student has become the centre of concern, not only his reasoning capacities, but also his creativity, emotions and interpersonal skills. The multiple intelligence theory has been introduced by Gardiner (1983), and the emotional intelligence theory by Mayer and Salovey (1990), then Goleman (1995). Not only Intelligence Quotient alone is more the
only measure for success; but also emotional intelligence, social intelligence also play a big role in a person's success (Goleman).

The investigator is interested to know the emotional intelligence effect on achievement of students and to suggest the students to improve the emotional intelligence. Hence the present study to know the relation between intelligence quotient and emotional quotient on achievement of IX students in Kannada language.

1.10 Statement of the Problem:

The problem for the present study is stated as "A Comparative Study of Intelligence Quotient and Emotional Quotient on Achievement in Kannada Language of Ramdurg Taluk"

1.11 Objectives of the Study:

The major purpose of this study is to find the effectiveness of the emotional quotient and intelligence quotient on achievement of the students.
The present study was undertaken with following objectives:

1. To study the difference between
   a. Gender (Boys and girls) of IX standard with respect to their intelligence quotient, emotional quotient and achievement in Kannada language
   b. Government and private school students of IX standard with respect to their intelligence quotient, emotional quotient and achievement in Kannada language
   c. Rural and urban school students of IX standard with respect to their intelligence quotient, emotional quotient and achievement in Kannada language

2. To study the interaction effect of
   a. Intelligence quotient (High and Low) and emotional quotient (High and Low) on achievement in Kannada language of IX standard students in total
   b. Intelligence quotient (High and Low) and emotional quotient (High and Low) on achievement in Kannada language of IX standard Gender (Boys and girls)
   c. Intelligence quotient (High and Low) and emotional quotient (High and Low) on achievement in Kannada
language of IX standard students of government and private schools
d. Intelligence quotient (High and Low) and emotional quotient (High and Low) on achievement in Kannada language of IX standard students of urban and rural schools

3. To study the relationship between

a. Intelligence quotient and emotional quotient with achievement in Kannada language of IX standard students in total.

b. Intelligence quotient and emotional quotient with achievement in Kannada language of IX standard Gender (Boys and girls).

c. Intelligence quotient and emotional quotient with achievement in Kannada language of IX standard government and private school students.

d. Intelligence quotient and emotional quotient with achievement in Kannada language of IX standard urban and rural school students.

4. To predict the relative efficiency of predictor variables
a. Intelligence quotient and emotional quotient would not be significant predictors of achievement in Kannada language of IX standard students in total

b. Intelligence quotient and emotional quotient would not be significant predictors of achievement in Kannada language of IX standard Gender (Boys and girls)

c. Intelligence quotient and emotional quotient would not be significant predictors of achievement in Kannada language of government and private school IX standard students

d. Intelligence quotient and emotional quotient would not be significant predictors of achievement in Kannada language of urban and rural school IX standard students

5. To study the direct and indirect effect of

   a. Intelligence quotient and emotional quotient on achievement in Kannada language of IX standard students in total.

   b. Intelligence quotient and emotional quotient on achievement in Kannada language of IX standard Gender (Boys and girls).
c. Intelligence quotient and emotional quotient on achievement in Kannada language of IX standard students of government and private schools.

d. Intelligence quotient and emotional quotient on achievement in Kannada language of IX standard students of urban and rural schools.

1.12 Limitations of the Study

- The study will be limited to IX standard students of Ramdurg Taluk.
- The study is restricted to students of IX standard Government and Private schools of Ramdurg Taluk.
- The study is restricted to IX standard students of rural and urban locality of Ramdurg Taluk.
- The study is restricted to IX standard students is limited to Kannada medium students only.

1.13 Overview of the Study

This chapter deals with a brief introduction of the role of Emotional Intelligence, Emotional Quotient, Intelligence Quotient, Relationship between Emotional Quotient and Intelligence
Quotient, Emotional Intelligence and Achievement. It also deals with the need for the study, statement of the problem, objectives of the study and limitations included in the study.

In Chapter II, a brief review of related literature is presented, which helped the researcher to design the present study.

In Chapter III, the methodology adopted for the present study is discussed. This chapter includes scope for the study, design of the study, variables used for the study, operational definitions of the terms used, hypotheses, tools used for the study, sampling design, data collection procedures, statistical analysis used for data.

Chapter IV deals with the analysis, presentation and interpretation of the data in tabular and graphical form.

Chapter V presents a brief summary of the study. It also presents findings from the study, overall conclusions in relation to the variables and suggestions for further research along with educational implications of the study.

Bibliography and Appendices are presented at the end.

The succeeding chapter deals with review of related literature.