CHAPTER I
INTRODUCTION

“The purpose of education is to develop in each individual, the knowledge, interests, ideals, habits and powers whereby he will find his place and use that place to shape both himself and society towards nobler ends”

Reports of the Commission on the Reorganization of Secondary School, USA. (Singh, 2008)

The new born infant is a helpless human being. He has neither any friend nor an enemy. He is not aware of any social customs and traditions. Not only this, he is not even keen to achieve any ideal or value. But as he grows older, he develops his physical, mental and emotional self. By and by, he develops a sense of responsibility like his elders and tries to solve the problems of life, thus inculcating a sense of maturity, responsibility and desired social skills. For developing social skills, education acts as a main instrument which mainly emphasize on development of individual’s personality. Education meets the immediate needs of a child and also prepares him for his needs and demands of ever changing society. Through education, each individual is provided full opportunities to develop his personality according to his interests, inclinations, aptitudes, capacities and needs. Education plays different roles in shaping personality of an individual.

Firstly, education viewed as socialization, is continuous. Socialization is social learning. This social learning is not intermittent but continuous. Perfection in social learning is rarely achieved; the more we could claim to try to learn from our own society and fellow beings, the more remains to be learned. Social learning begins at birth and ends only at death. It continues throughout our life. There is no point or state in our life at which we could claim to have learnt everything about one group or society and beyond that nothing
remains to be studied. We belong to different groups at different stages of our life. As these groups change, we must learn new rules and new patterns of behaviour. Furthermore, we do not always remain within the same role. With each role comes a different pattern of behaviour that we must learn and thus throughout our life, we are involved in the socialization process.

Secondly, education viewed as an agent of cultural transmission is also continuous. Culture is growing while there can be break in the continuity of culture. If at all, there is a break, it only indicates the end of a particular human-group. The cultural elements passed on from one generation to the other act as the agents of cultural transmission. Education in its formal or informal pattern has been performing this role since time immemorial.

Thirdly, the purpose of education is to develop the knowledge, skills and character in an individual. Education implies as an attempt to acquire knowledge, is also continuous. Knowledge is like an ocean, boundless and limitless. Knowledge arises in the mind of an individual when that person interacts with an idea or experience. Education is about drawing out what is already within the students. Well, it is the duty and responsibility of the teachers that they should give students the necessary knowledge and skills to gain optimum position in their lives and come out with flying colours in their social life as well as in their career also. The central task and meaning of education is to build willpower among the students and also providing the best facilities for learning so that one can easily find the true meaning of his/her life. The effort of useful education should be on helping the students to raise their standards of learning as well as for becoming a shining spark in their career. The purpose of education is to teach a student how to live his life in the most conducted and controlled manner. The students should be taught in good manner to understand, to implement and to prove themselves through the esteem medium of education.
To be clearer, the role of education is to draw out innate tendencies, inherent powers of child and develop them to the full through formal, informal and non-formal agencies. The modern concept of education laid emphasis on 7 Rs' - Reading, Writing, Arithmetic, Rights, Responsibilities, Relationship and Recreation; the achievement of which leads to the all-round development of the child. The modern concept of education revolves around the development of life skills among individuals which include cognitive skills, social skills and emotional skills. In recent times, our main emphasis is on developing emotional skills than on cognitive skills. Individuals who have a control over their lives can manage and know their feelings well and can deal effectively with other individual’s feelings. While the individuals who do not have control over their emotional life fight inner battles that sabotage their ability to focus on work and think clearly (Goleman, 1995). Until recently, we have been led to believe that a person’s general intelligence measured as I.Q. or intelligence quotient is the greatest predictor of success in any walk of life - academic, social, vocational or professional. However, researches and experiments conducted in the 1990’s and onwards have tried to challenge such over-dominance of intelligence and its measure I.Q. by replacing it with the concept of emotional intelligence and its measure emotional quotient (E.Q.) revealing that a person’s emotional intelligence measured through E.Q. may be a better predictor of success than his or her I.Q. Hence, there is need to bring intelligence to emotions of the individuals.

The roots of emotional intelligence can be traced back to over 200 years. The famous psychologist Thorndike through his concept of social intelligence laid down a solid foundation of the essence of emotional intelligence in 1920. He defined social intelligence as “the ability to understand and manage men and women, boys and girls to act wisely in human relations.” Human relations as commonly visualized are day-to-day dealings with other people at home and at work. Whatever may be the nature of our work, the success or failure
of a task depends on our handling the situation and the people involved with. Harvard psychologist, Gardner had pointed out the distinction between intellectual and emotional capacities and introduced his theory of multiple intelligences (1983) including interpersonal intelligence and intrapersonal intelligence. Sternberg (1988) also carried out the concept of social intelligence in the name of contextual intelligence through his triarchic theory of intelligence. This component of one’s intelligence relates with one’s capacity of making adjustment to various contexts with a proper selection of contexts so that he/she can improve his/her environment in a proper way. As a follow-up study, it was later on discovered that without having a high I.Q., one can have high contextual intelligence i.e. the ability to lead one’s life successfully. Historically speaking, the phrase ‘emotional intelligence’ was first introduced in 1990 by two American professors, Mayer and Salovey in their attempt to develop a scientific measure for knowing the differences between people's ability in the areas of emotions. However, the credit for popularizing the concept of emotional intelligence goes to another American psychologist Goleman through his book ‘Emotional Intelligence: Why it can matter more than I.Q.’ published in 1995. A detailed description about emotional intelligence is provided below:

### 1.1 EMOTIONAL INTELLIGENCE – CONCEPT AND SIGNIFICANCE

Our hearts are the doorways, the connection to everything there, is in life. If we close our hearts, we close the doors to our lives. When we open our hearts, we become open to all that life can offer. We become more responsible for what and how we feel. Our emotions contain our histories, every chapter and verse of energy, experience, deep understanding and relationships in our lives. Emotions make up that which we are, shape our mind as well as the entire personality pattern. They enter our human system as a source of energy that radiates and resonates. Suppressed emotions and too much control over them become pathological as in immobilizing depression,
overwhelming anxiety, raging anger and manic agitation. Thus, emotions are reactions consisting of physiological reactions, subjective cognitive states and expressive behaviours. Emotions and feelings are the key pointers both to possibilities for, and barriers to learning (Boud and Miller, 1996). Every emotion has a cognitive component and every thought is influenced by emotional factors. Both emotions and thought are basic attributes which in the human beings are intimately mashed into a dialectical unity. Emotional intelligence is a type of social intelligence, which involves the capacity for recognizing our own feelings and those of others for motivating ourselves and for managing emotions well in us and in our relationships. According to Mayer et. al. (2000), “emotional intelligence refers to an ability to recognize the meanings of emotions and to reason and solve problem on the basis of them, and it involves the capacity to perceive emotion related feelings, understand the information of these emotions and manage them”. Bar-On in 1980 proposed the ‘Bar-On model’ that describes emotional-social intelligence as a cross-section of interrelated emotional and social competencies, skills and facilitators that impact intelligent behaviour. According to Bar-On (1997), emotionally intelligent people are those “who are able to recognize and express their emotions, who possess positive self-regard, and are able to actualise their potential capacities and lead fairly happy lives. They are able to understand the way others feel and are capable of making and maintaining mutually satisfying and responsible interpersonal relationships, without becoming dependent on others. These people are generally optimistic, flexible, realistic, and successful in solving problems, coping with stress without losing control.”

Salovey and Mayer (1990) defined emotional intelligence as the “ability to monitor one’s own and other’s feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions.” In 1997, they updated this approach with the four branch model: “Emotional intelligence is the ability to perceive emotions, to access and generate emotions so as to assist thought, to
understand emotions and emotional knowledge and to reflectively regulate emotions so as to promote emotional and intellectual growth.” This gives a clear cut concept of emotional intelligence in terms of person’s ability to understand one’s own emotions, the emotions of others and to act appropriately based on these emotions.

According to Goleman (1995), “emotional intelligence is the ability to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification, to regulate one’s moods and keep distress from swamping the ability to think; to empathize and hope”. He has identified five characteristics of persons with high emotional intelligence i.e. (i) self-awareness, (ii) self-control, (iii) motivation, (iv) empathy and; (v) social skills. A person’s potential for learning the practicing skills are based on the five elements of emotional intelligence. Emotional competence determines how much of that potential have been translated into the real life situations. Along with cognitive elements, all the emotional competencies involve some degree of skill in the realm of feeling. The emotional competencies are divided under two heads namely; personal competence and social competence.

Personal competence determines how one manages himself/herself. It involves intra-personal skills like; knowing and managing one’s internal states, impulses and resources, managing and harnessing one’s own emotions, knowing one’s strengths and limits, having a strong sense of one’s worth and capabilities, maintaining standards of honesty and integrity, taking responsibility for personal performance, being flexible and comfortable in handling novel ideas and new information, striving to meet a standard of excellence, developing readiness to act on opportunities and showing persistence in pursuing goals despite obstacles and setbacks, etc. Personal competence is the foundation of all emotional intelligence competencies. Awareness of one’s emotions and ability to control them is the key to personal competence. In other words, personal......
competence in emotional intelligence enables an individual to recognize and accurately label emotions, control the emotions appropriately, choose how to react, increase confidence in the ability to act appropriately in any situation. Social competence determines how one handles relationships. It involves interpersonal skills such as; sensing others’ feelings and perspectives and taking an active interest in their concerns, sensing others’ developmental needs and bolstering their abilities, listening openly and sending convincing messages, negotiating and resolving disagreements, initiating and nourishing instrumental relationships, working with others towards shared goals, anticipating and recognizing others’ needs and creating group synergy in pursuing collective goals.

It is important to understand that emotional intelligence is not the opposite of general intelligence (IQ); it is not the triumph of heart over head. Rather it is the unique intersection of both. Emotional intelligence (EI) is an array of non-cognitive capabilities, competencies and skills that influence one’s ability to succeed in coping with environmental demands and pressures. As such, ‘effective communication’ between children and adults might lay emphasis to the notion of emotional intelligence. Haim Ginott (in Goleman, 1995) opined that ‘fish swim, birds fly, and people feel’. The emphasis on ‘feeling’ aids the ability to listen, to cooperate with others and develop personal values.

In the current scenario, the reason for many of the behavioural and motivational problems among children is the difficulty in managing emotions. Developing emotional literacy among children and young people can help to enhance learning, cooperation, and confidence among them. These skills aid the development of interpersonal and leadership skills in the workplace. Goleman (1995) has argued that emotional literacy, i.e., understanding and being able to apply emotional intelligence, is essential to succeed in life. Emotional illiteracy makes coping with the tensions and dilemmas of
life in school/society difficult. In that case, it may have to be unavoidably expressed through boredom and frustration. Hence, it is very important to develop emotional literacy among children. Children learn in different ways and their learning is almost always influenced by social and emotional factors. Therefore, they need the abilities to develop reflective skills that enable them to recognize, acknowledge, understand and manage their emotions. This is not only the responsibility of parents but also of the teachers.

Goleman considered the development of “emotional intelligence” as a main factor for success in life. He rejected the conventional concept of intelligence (IQ) scoring and its reliability, as the only element of success. He argued that self-control, zeal and persistence are the main features of every successful story. The challenge is offered to those who consider that intelligence alone is sufficient to make their life successful. He opined that emotional intelligence contains five parts viz. (i) the emotional brain, (ii) the nature of emotional intelligence, (iii) emotional intelligence applied, (iv) windows of opportunity and; (v) emotional literacy.

1.1.1 Key Domains of Emotional Intelligence

Goleman (1995) has pointed out following domains of emotional intelligence:

1. **Knowing One’s Emotions or Self-Awareness**

The ability to “recognize a feeling as it happens and put it off if inconvenient” is the keystone to emotional intelligence. One has to be aware of his own and others’ feelings and emotions in order to have accurate data and information about the world around him. An individual’s ability to monitor feelings from moment to moment is crucial for his/her psychological insight and self-understanding. Being aware of other’s emotions is essential for building a successful workplace environment and quality interpersonal relationships. One can respond appropriately to a situation only if he can read his
emotions in that situation. The skill comes into play in most jobs particularly those that involve dealing with people. People who are unable to know their feelings are at a tremendous disadvantage. In a sense, they are emotional illiterates. Individuals with greater certainty about their feelings are better pilots of their lives.

2. Managing or Controlling Emotions

This domain of emotional intelligence comprises of the ability to regulate moods and emotions in oneself and in other people. Emotionally intelligent people are able to monitor, discriminate, and label their feelings accurately, believe that they can improve or otherwise modify these feelings, employ strategies that will alter their feelings, and assess the effectiveness of these strategies. i.e., emotionally intelligent people will be able to handle uncomfortable emotions once they have accepted that they are feeling them. At times, one can stay open to his feelings, learn from them, and use them to take appropriate action. At other times, however, it may be better to disengage from an emotion and return to it later. This work is mainly about developing an inner mothering mode and learning to soothe ourselves when things seem difficult. Individuals who are poor in this ability are constantly battling with feelings of distress, while those who excel in it can bounce back far more quickly from life's setbacks and upsets.

3. Motivating Oneself

Positive motivation - the marshaling of feelings of enthusiasm, zeal and confidence - is paramount for achievement. To motivate oneself for any achievement requires clear goals and an optimistic 'can-do' attitude. Emotions motivate us but also can disempower us if they are too strong and if we allow them to overwhelm us. It requires delaying gratification or stifling impulsiveness. People who have this skill tend to be more productive and effective in whatever task they undertake.
4. Recognizing Emotions of Others or Empathy

The capacity to know how another person feels is important in any job and in the classroom transaction too. As one begins to recognize emotions in oneself and realizes her/his own emotional weather systems, she/he will be able to sense them in others more accurately. This means that one can feel with someone rather than feel about themselves. People who are empathetic are more attuned to the subtle social signals that others need or want. Understanding emotions includes knowledge of the emotional lexicon, including simple and complex emotion terms, and the ways in which emotions combine (anger and disgust from contempt), progress (annoyance to anger, to rage), and transition to one another, the capacity to analyze emotions and their causes and the ability to predict how people will feel and react in different situations. This skill answers the reason for feeling anxious, the consequences of an action. Empathy skills are most important, in managing relationships. When a person is empathetic, she/he has the ability to have strong bonds with other people, can communicate more clearly, can understand others’ viewpoint, have compassion and can forgive others for their transgression. Goleman has explained empathy as ‘social radar’. He explains empathy as being able to pick up another’s feeling without having a word uttered by them.

5. Handling Relationships or Social Skills

The art of relationship is, in large part, skill in managing emotions in others. Understanding of other people’s emotions, gives us the ability to motivate them, be effective leaders and to work in successful teams. People who excel in these skills do well at anything that relies in interacting smoothly with others. The old rigidities, born out of fear or anxiety, can dissolve into acceptance of others and ourselves. Emotional intelligence gives the ability to have ‘grace under fire’ and to act with integrity and courage. The four interpersonal skills described by Schmuck (1977) are paraphrasing, impression
checking, describing other’s behaviour and describing one’s own feelings.

The five domains of emotional intelligence have, altogether, twenty-five sub domains under them. All of them are given in the following Table 1.1.

**TABLE 1.1**

**Dimensions of Emotional Intelligence**

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<th>Sr. No.</th>
<th>Domain of Emotional intelligence</th>
<th>Sub-Domain of Emotional intelligence</th>
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| 1.      | Self-awareness                   | • Knowing one’s internal state, preferences, resources and intuitions.  
|         |                                  | • Emotional awareness: recognizing one’s emotions and their effects.  
|         |                                  | • Accurate self-assessment: knowing one’s strengths and limits.  
|         |                                  | • Self-confidence: a strong sense of one’s self-worth and capacities. |
| 2       | Managing or controlling emotions | • Self-Control: managing one’s internal state, impulses and resources, self-regulation, keeping disruptive emotions and impulses under check.  
|         |                                  | • Trustworthiness: maintaining standards of honesty and integrity.  
|         |                                  | • Conscientiousness: taking responsibility for personal performance.  
|         |                                  | • Adaptability: flexibility in handling change.  
|         |                                  | • Innovation.  
|         |                                  | • Being comfortable with novel ideas and approaches. |
| 3.      | Motivation                       | • Emotional tendencies that facilitate reaching goals.  
|         |                                  | • Achievement drive: striving to meet a standard of excellence.  
|         |                                  | • Commitment: aligning with group or organizational goals.  
|         |                                  | • Initiative: readiness to act on opportunities.  
|         |                                  | • Optimism: persistence despite setbacks and obstacles. |
4. Empathy
- Awareness of other’s feelings, needs, concerns and understanding others.
- Sensing and taking active interest in others’ concerns.
- Developing others: sensing other’s development needs and helping them in growth.
- Service orientation: leveraging diversity anticipating, recognizing, and meeting others’ needs.
- Cultivating opportunities through different kinds of people.
- Political awareness: reading a group’s power relationships.

5. Social skills
- Adeptness at including desirable responses in others' influence.
- Wielding effective tactics for persuasion and communication.
- Listening openly and sending convincing messages.
- Conflict management: negotiating and dissolving disagreements.
- Leadership: inspiring and guiding individuals and groups, change catalyst, initiating or managing change.
- Building bonds: nurturing instrumental relationships, collaboration and cooperation.
- Working with others toward shared goals.
- Team capabilities: creating group synergy in pursuing group goals.

Source: Dimensions of Emotional Intelligence by Goleman (1998)

1.1.2 Factors Influencing Development of Emotional Intelligence

The process of emotional development is a life-venture. The factors that influence the development of emotional intelligence are early attachment relationships in the family, temperament, the quality of environment and relationships. These factors affect how we see ourselves and thus influences the way of managing emotions. There are several situations and things in the home and school which make a child unhappy rather than happy. It is common to note that children experience too many unpleasant emotions like anger, fear and
jealousy along with positive emotions of affection, joy and pleasure. Here, it may be stressed that it is the experience of positive emotions that helps the child to develop a positive outlook on life. However, it is also true that the experience of only positive emotions in life is not always possible for everyone. One does come across a number of both pleasant and unpleasant situations. This means that a child must learn to accept unpleasant emotional experiences in such a way as he does not show undue concern and disturbance. He must learn to adjust himself to such experiences, situations, events, ideas and persons that cause annoyance. But as far as possible, the home and the school should create more and more situations in which pleasant experiences predominate. A brief overview of the factors influencing emotional development of an individual is presented here:

• **Health and Physical Development of an Individual**

  There is a positive correlation between health and physical development and emotional development. Any deficiency in health and physical development (internal or external) leads to emotional disturbance. Children who are weak in structure or who suffer occasional illness are more emotionally upset and unstable than children whose health is better. Any abnormal increase or decrease in the normal functioning of the glands creates obstacles in the proper emotional development of an individual.

• **Neighbourhood, Community Environment and Emotional Development**

  A child lives in the society and he picks up many traits of his emotional behaviour from his surroundings. Children imitate the behaviour of their elders, parents, teachers, other adults and peer groups. The influence of the classmates and other members of the group affect emotional development of children. The current social scenario indicates the prevalence of many social inequalities and evils which have a direct bearing on the behaviour of the children. The news reports on various print and non-print media also influence the
behavioural characteristics of children. The children observe everything very keenly and develop various skills in such environment. Scientific research on the functioning of brain in particular indicates that the development of emotional skills is much easier in formative years from childhood to adolescence. Thus, immediate environment of the child largely influences his/her emotional development.

- **Family Environment and Emotional Development**

  A cordial environment i.e. healthy relationship among family members is very conducive to the emotional development of the child. The treatment given to the child by the parents and other members of the family influences his/her emotional development. The order of birth (whether the first or the younger child), sex (son or daughter), size of the family, socio-economic status of the family, discipline in the family, the parental attitude towards the child (pampered, overprotected or neglected) etc. are the important factors in emotional development of the child. Family is the first institution of a child, but with the breakdown of joint families and the advent of a high living index, both parents are out for work leaving the child with very little time to spend with the parents. Moreover, parents are not always in a position to cope with or dispense with the necessary emotional skills. This has resulted in a rise in juvenile delinquency i.e. children indulging in alcoholism, smoking, adolescent pregnancies, child suicides and many other antisocial activities which make us to realize that there is a great lack of emotional competencies and skills among children.

- **School Environment and Emotional Development**

  The attitude of the teachers, school discipline, academic facilities, physical facilities, methods of teaching, co-curricular activities etc. — all influence emotional development of children. Lack of emotional security, economic disparities, faulty methods of teaching, traditional concept of discipline, poor physical conditions in
schools, disregard of individual differences, lack of co-curricular activities, etc. adversely influence emotional development of children. Faulty methods of teaching do not develop motivation in the children. Therefore, lessons become drudgery. Sometimes schools are considered just like jails and some teachers, like jailors. Such discipline is negative. Due to this, children begin to hate the very process of education. Poor physical conditions in the school bring fatigue and boredom to the children. They are very soon fed up with the school and its activities. Lack of recreational activities is also responsible for emotional disturbance among children. In the same manner, many other factors viz. emotionally unbalanced teachers, lack of sex education, faulty curriculum and evaluation system also influence proper emotional development of children.

It is clear from above discussion that there has been an increased interest in the role of emotional intelligence in the academic success and emotional adjustment of students both at home and school. After home, school is a crucial agent that influences children's emotional skills and emotional development. The development of emotional intelligence among children contributes positively to their academic success. It is expected that an academically brighter student will have comparatively better emotional skills and able to deal with different academic and social situations effectively. However, it is currently witnessed that students do not possess proper attitude towards their school and certain subjects of studies. Even towards teachers, they possess negative thoughts about different academic aspects and sometimes develop a feeling of fear. This gives birth to academic anxiety among them. Academic anxiety is the painful uneasiness of mind while doing or focusing on academic activities in school or at home. Academic anxiety afflicts students during school-related situations. A detailed description of academic anxiety is given here:
1.2 ACADEMIC ANXIETY - CONCEPT AND SIGNIFICANCE

Anxiety is a non-separable characteristic of the human life and is one of the results of modernization and post modernization in the third millennium. The word ‘anxiety’ is derived from the Latin word ‘Anxieta’ meaning ‘distress state of throttle, choke cause pain’. Anxiety is an emotion characterized by feeling of tension, worried and physical changes like; increased blood pressure, sweating, trembling, dizziness or rapid heartbeat etc. Anxiety is an unpleasant state of inner turmoil, often accompanied by nervous behaviour such as pacing back and forth, somatic complaints and ruminations. It is subjectively unpleasant feelings of dread over something unlikely to happen, such as the feeling of imminent death. Anxiety is not same as fear which is felt about something realistic intimidating or dangerous and is an appropriate response to a perceived threat. Anxiety is a feeling of fear, worry and uneasiness, usually generalized and unfocused as an overreaction to a situation that is only subjectively seen as menacing. It is often accompanied by restlessness, fatigue, problems in concentration and muscular tension. Anxiety occurs in situations only perceived as uncontrolled or unavoidable, but not realistically so. David Barlow defines anxiety as “a future-oriented mood state in which one is ready or prepared to attempt to cope with upcoming negative events” and that it is a distinction between future and present dangers which divides anxiety and fear. Anxiety can also be a permanent state of nervousness that some people with mental illness experience, a kind of milder version of panic. Anxiety can be either a short term ‘state’ or a long term ‘trait’. Trait anxiety reflects a stable tendency to respond with state anxiety in the anticipation of threatening situations. It is closely related to the personality trait of neuroticism. Such anxiety may be conscious or unconscious. Freud believed that neurotic anxiety is the result of an unconscious conflict between ‘id’ impulses and constraints imposed by the ‘ego’ and ‘superego’. Many of ‘id’ impulses pose a threat to the individual either because they are contradictory to personal values or because they are
in opposition to what society permits. In contrast to Freud, the behaviourist or learning theory approach focuses not on internal conflicts but on ways in which anxiety becomes associated with certain situations via learning. For example, if a child has learned to be afraid of a rabbit because of its association with a fear producing stimulus, then this fear is generalized to other furry objects. Sometimes fear learned in childhood are very difficult to extinguish and situations that were anxiety producing in childhood may continue to adulthood because the individual has not developed the ways of coping with it. Thus, anxiety can be defined as an unpleasant state of mental uneasiness or concern that causes physical and psychological discomfort. Trait anxiety varies according to how individuals have conditioned themselves to respond to and manage the stress. People with high levels of trait anxiety are often quite easily stressed and anxious. On the other hand, state anxiety is characterized by a state of heightened emotions that develop in response to a fear or danger of a particular situation. A state anxiety is one which is aroused by some temporary conditions of the environment such as; examination, accident, punishment etc. Trait anxiety refers to a general level of stress that is characteristic of an individual, or a trait related to personality.

Academic anxiety is a kind of state anxiety which is related to the impending danger from the environment of the academic institutions including teachers, certain subjects like Mathematics, English etc. Academic anxiety has four components - worry, emotionality, task generated interferences and study skill deficits. Worry is any cognitive expression of one’s concern about own performance. Worry refers to those thoughts, images and emotions of negative nature in which mental attempts are made to avoid anticipated potential threats. Excessive worry is the main component of generalized anxiety disorder. In positive psychology, worry is described as a response to moderate challenge for which subject had inadequate skills. It is argued that while worry serves a productive
function, anticipatory and dangerous worrying termed as “toxic worry” can be harmful for our mental and physical health. Toxic worry is when the worry paralyzes an individual, whereas good worry leads to constructive action such as taking steps to resolve the issue that is causing concern. Thus, worry refers to negative self-talk that often distract the mind from focusing on solutions to the problems at hand. For example, when students become anxious during a test, they may repeatedly tell themselves they are going to fail, or they cannot remember the material, or that their teachers/parents will become angry with them if they perform poorly. This thinking interferes with focusing on the test as the speech area of brain that are needed to complete test questions are being used for worrying. In other words, worry refers to those thoughts like prediction of failures, thoughts or preoccupation with the consequences of doing poorly which prevent us from focusing on and successfully completing academic works. Another component of academic anxiety is emotionality. Emotionality refers to physiological symptoms such as sweating, increased heartbeat and raised blood pressure, muscle tension etc. It is observable behavioural and physiological component of emotion and is a measure of person’s emotional reactivity to a stimulus. Most of these responses can be observed by other people, while some emotional responses can only be observed by the person experiencing them. Task generated interference refers to unproductive behaviours that are related to task at hand and prevent an individual from successfully performing on that task. For example, constantly checking the clock during an examination or spending a lot of time on a test question which one cannot answer are such fruitless tasks which interfere in performing well on the test. The last component of academic anxiety is study skill deficits which include the problems related with methods of studying or learning a particular subject. Inappropriate study or learning methods adopted by individuals may lead to generation of anxiety and poor academic performance. For example, last-minute cramming resulting in not knowing answers, poor notes-taking during
lectures resulting in confusing about major concepts had an adverse impact on students’ performance. Many students experience the first three components of academic anxiety as a result of study skills deficits. On the basis of above discussion, following characteristics of academically anxious students could be listed:

1) **Patterns of anxiety-engendering mental activity:** Academic anxiety is the sort of thinking hazardous to anyone’s mental health. Academically anxious students trap themselves into insurity by fretting over almost anything that could go wrong. Second, academically anxious students engage in a maladaptive “self-dialogue”. We all carry on conversations with ourselves throughout the day, a stream of consciousness dialogue that include self-reminders, self-directive, self-congratulations and the like. But, the inner speech of the academically anxious student is often punctuated by harsh self-criticism, self-blame and panicky self-talk that produces anxious feelings and contributes to low self-confidence and disorganized problem solving. Student with academic anxiety embrace erroneous beliefs about very important issues-how to define self-worth, how best to motivate oneself, how to cope with anxiety and it is this sort of erroneous thinking that literally guarantees academic anxiety.

2) **Misdirected attention:** Another characteristic of academically anxious student is misdirected attention. Ideally, what is desired is full concentration on the academic task, whether it is reading a textbook, taking an examination, or solving a homework question. But, academically anxious students let their attention become badly side-tracked. Their attention gets diverted due to external distractors (actions of other students, a clock, extraneous noises) or due to internal distractors (worries, daydreams, physical reactions). Misdirected attention handicaps in two ways: first if one let his/herself become distracted, he/she simply can’t work efficiently; second, if one focuses on
worries or personal concerns, then he/she is definitely going to become emotionally upset.

3) **Physiological distress:** Academically anxious children experience many bodily changes and emotional disruptions. Numerous bodily changes are associated with anxiety - muscle tightness, sweating, racing heart and trembling hands etc. Besides these bodily changes, the emotional experiences of anxiety, popularly described as “sinking”, “freezing”, or “clutching” feelings. These physiological and emotional aspects of anxiety become especially disruptive if interpreted as dangerous or if they become an important focus of attention during an academic task.

4) **Inappropriate behaviours:** Academically anxious students choose to act in ways that compound their difficulties. They are involved in such behaviours that are inappropriate to the academic situations. Avoidance (procrastination) is common, as are withdrawing prematurely from tasks and performing irrelevant parallel functions (like conversing with a friend while trying to study). The academically anxious student also answers test questions in a rush or is excessively meticulous in order to avoid a mistake. Another incorrect action of academically anxious students is that they try to push themselves even when they are tense, rather than taking some rest. Academically anxious students face many emotional ups and downs in their schools as well as personal life. There is an overdue need to focus on the emotional side of academics. It was unfortunate that not much is taught in school about managing emotions. Most students probably understand mathematical theory better than their own feelings. Thus, there is strong need to find out the causes about students who seem to be riding “emotional roller coasters”, experiencing alternative highs and lows but not knowing why they feel so good one day and so anxious or depressed the next. Today’s competitive zest makes students
very anxious and eager to know of whether they can do well in their academic part. The high pressure to perform well in academic activities may adversely affect the mental health of students. If anxiety is not properly addressed, it can have many serious and lasting consequences, such as causing a student to procrastinate, perform poorly on school work, fail in classes and withdraw from socializing with peers or pursuing activities that interest him. It is seen that every year, the number of adolescents committing suicide, either at commencement of exams or at the publication of results is increasing. This is due to high academic anxiety. However, if one’s anxiety level is too low, he/she may also show low level of academic performance as a student with excessive high anxiety level. Thus, a certain level of anxiety is necessary for being productive and successful in academic tasks. When this anxiety becomes positive moderator, then it encourages individual, motivates him to work harder and to improve his performance. On the other hand, if the anxiety level crosses the ‘threshold’ point, it starts resulting in debilitating academic performance. The ‘threshold’ point of anxiety is different for each individual depending on his/her own personality and the environment in which he/she lives.

### 1.2.1 Causes of Academic Anxiety

Academic anxiety can develop for a number of reasons. There may be some prior negative experience with test taking that serves as the activating event. Students who have experienced or have a fear of, blanking out on tests or the inability to perform in testing situations can develop anticipatory anxiety. This kind of anxiety can build as the testing situation approaches and can interfere with students’ ability to prepare adequately. Lack of preparation is another factor that can contribute to academic anxiety. Poor time management, poor study habits and lack of organization can lead to a student feeling overwhelmed. Students who are forced to cram at the last minute will feel less confident about the material covered than those who have
been able to follow structured plan for studying. Being able to anticipate what the examination will cover and knowing all the information has been covered during the study session can help students to enter the testing situation with a more positive attitude. If a student’s self-esteem is too closely tied to the outcome of any academic task, the result can be devastating. Anxiety is a reaction to anticipate something stressful. Certain major causes of anxiety are feeling inadequacy, mental and emotional conflicts, frustration etc. Feeling of inadequacy in an individual may come from causes like; parents’ over protectiveness resulting in the individual’s inability to handle his/her problems successfully without their help, criticism and benefitting attitude of people towards the individual’s achievements making the individual question his/her own abilities, experiences that undermine self-confidence and make the individual feel inadequate and anxious. Mental and emotional conflicts are the commonest causes of anxiety in a situation in which the individual is involved in ethical considerations of propriety and impropriety relating to some particular action or thing. A child who has been inspired to steal something is divided between the fear of being caught and disgraced on the one hand and the attraction of the object on the other. In a state of this kind, he is neither able to perpetrate the crime nor does the thought of stealing leave his mind in peace. Frustration is also responsible to create anxiety among students which hinder the path of their academic excellence. Frustration is the state of some desire or tendency being unfulfilled. Evidently, frustration is the outcome of obstacles in the path of an individual’s goal or objective. Frustrations can be the result of many external causes such as physical, economic, social situations etc. Every individual acts within a specific though indefinable social context, so that he sometimes comes into conflict with society’s customs and rules of conduct. A physical environment, at sometimes assist an individual in his/her endeavours, while at others it hinders his/her activities. The individual is led to frustration when physical phenomena such as; illness, physical handicap,
disability, lack of interest etc. defy his/her best efforts and hinders his/her general academic performance and this creates anxiety.

1.2.2 Factors Affecting Academic Anxiety

Anxiety is a feeling of tension which is considered as a response to some unknown but anticipated danger or perceived threat existing only in one’s imagination. In classroom situations, a student also experiences fear, anxiety or tension for which numerous factors are responsible. These mainly include; school-related and home-related factors. A brief description of these factors is provided below:

1) **School-related factors:** School is the second home of child and teacher has to play mother’s role to nourish the child. But in present scenario, educational institutions are not playing their role effectively and are not discharging their responsibilities in a proper manner which adversely impact the individual’s personality. The school-related factors affecting academic anxiety among students are discussed below:

- **Teacher’s attitude:** If a teacher deals with the students in a partial or biased manner, then students may not be able to make good rapport with the teacher and finally, their queries may not be solved. It may cause anxiety among the students towards teachers as well as towards the subject. So, teacher should play his/her role with great care, enthusiasm and should adopt polite and impartial attitude towards the students.

- **Teaching methods:** Method refers to not only the way of presentation but it is a tool in the hands of teacher to reach at the heart of students. If the teaching methods are not employed according to the needs of the students, then it can create problems for students. Teacher cannot teach fourth standard students by using lecture method. If he does so, then it may cause anxiety among students because they may not be able to understand what is being taught by the teacher.
• **Methods of evaluation:** Procedures and tools employed by school teachers to measure various cognitive and non-cognitive characteristics of the students also have an impact on the behaviour of the students. Inappropriate testing devices, if used by the school teachers would lead to inaccurate information about the students’ behavioural characteristics. This may have an adverse impact on students’ achievement level. Moreover, if the test items are not properly formulated, they may give inaccurate results about students’ performance. Further, if the teachers are not well-versed with evaluation devices such as observation, use of rating scales, portfolios, formative and diagnostic testing etc., then it can lead to faulty assessment of various students' characteristics. It can result in generation of disinterest and feeling of anxiety among the students towards their studies and the school system itself.

• **Over-burdened curriculum:** The over-burdened curriculum is the main cause of academic anxiety among students. It is difficult for the students to cover the whole syllabus in short duration. A school student has to study eight to ten subjects daily, which seems to be unjustified and the student suffers from academic anxiety which further leads to low academic achievement.

Apart from these school-related factors, there are home-based factors that can cause academic anxiety among the students.

2) **Home-related factors:** Home is a place where child receives love, affection and blessings of his/her dear ones. On the other extreme, if the parents are not caring and loving, there may be negative or assertive conditions or environment in the home that can lead to emotional disturbances and other behavioural problems among the children. Following are some major factors related to home which may be responsible for generating academic anxiety among children:
• **Lack of congenial home environment:** If there are broken homes or separated parents, than it is difficult to provide healthy environment/conditions for learning to the children. The quarrels between the parents may create mental tension among children that might adversely affect their academic achievement.

• **Over-ambitious parents:** Over-ambitions of parents towards their children also become the cause of academic anxiety. Today, students are facing tough competition and in this race, parents are imposing their wishes and desires upon their children. They start ignoring the real assets of their children, curbing their real self, their interests and potential which leads to the development of anxiety among children.

• **Lack of proper guidance:** Guidance is a universal phenomenon, which is needed by everyone to ensure success in life. If proper guidance is not provided to children at home, they may face problems related to learning, reading etc. If such learning difficulties continue for a longer duration and remain unsolved may result in the development of a negative attitude towards academics. This may further contribute in generation of academic anxiety among children.

• **Lack of healthy food habits:** It is a popular saying that, “a sound mind resides in a sound body”. If the child does not get proper and healthy diet, then he may not be mentally fit and healthy and if he suffers from mental illness, then it can create tension, anxiety and fear, not towards academics only but also towards other life activities.

• **Partial attitude:** Sometime like teachers, parents also become partial towards their children. Suppose, a mother has two sons and one daughter and she ignores her daughter’s needs related to study or academics, then it can create inferiority complex in the girl. In such a situation, she will not be able to study
properly and thus, chances of enhanced academic anxiety may arise.

In nutshell, it can be concluded that both school and home related factors are responsible for generating academic anxiety among the students. To reduce academic anxiety among children, teachers and parents should play their role carefully and make sure that it is their duty to impart guidance to children related to their personal and educational life and try to resolve the problems for their betterment and bright future. If teachers and parents remain available for the children at every moment of seeking guidance and assistance, it can be surely asserted that the achievement of students in every life activity will be better. One of the major life activities of a student is academic learning, the success or failure of which is measured in terms of academic achievement of students. A detailed description about academic achievement is provided below:

1.3 ACADEMIC ACHIEVEMENT - CONCEPT AND SIGNIFICANCE

Education is the main instrument that enables people to accomplish their individual, environmental and to achieve the ideals of peace, liberty, social justice and universal understanding. Out of many goals, academic achievement is one of the most important goals of education. Academic achievement has always been a crucial point and the centre of educational researches. Despite various statements regarding the aims of education, the academic development of the students continues to be the primary concern and most important goal of education. Although, other aspects of educational objectives cannot be ignored, however, the fact remains that academic achievement is the unique responsibility of the educational institutions established by the society to promote a wholesome scholastic development of the child.

The concept of achievement was put forward by Murray in 1938. Academic achievement is the core of the wider term ‘educational growth’ which implies growth in all school subjects. Academic
achievement refers to the attained ability or degree of competency in the school tasks usually measured by standardized tests and expressed in grades or based on norms derived from a wide sampling of pupil's performance. The performance of students in school tasks function as a basis for selection and differentiation among students and open out avenues for their advancement. Academic achievement may also be defined as the degree of mastery in certain areas of study, attained in prescribed time and measured by standardized tests or teacher made tests. It has been considered as one of the most important factors in life as the future planning for higher studies or vocational training of students depends upon their academic outcome i.e. their marks or grades at school stage. Hence, academic achievement as well as its assessment is of paramount importance in any healthy and sound educational system. Achievement may be defined as the range of abilities and skills which the pupil has acquired in academic field. The future success of each pupil is assessed, predicted and linked with the achievement in school grades. Academic achievement refers to the knowledge attained and skills developed in school subjects which are assessed by the educational authorities with the help of standardized or non-standardized tests. In the words of Good (1973), “achievement may be defined as knowledge attained or skills developed in school subjects, usually designated by test scores or by marks assigned by the teacher or by both.” According to Pandey (1983), “academic achievement is the quantity of learning in a subject or a group of subjects assessed by the examination marks”. Academic achievement of an individual is so far considered to be influenced in part by his/her ability to make adjustment to the environment, in part by special abilities viz. intelligence, aptitude, reasoning power etc. which are integral part of his personality and partly by the intensity of drives and motives which serve as the impelling force for his/her activities. Thus, academic achievement refers to the degree or level of success and that of proficiency attained in some specific areas concerning scholastic and academic work.
Assessment of students’ academic achievement serves a variety of purposes. For example, the past records of a student may illuminate his present status. Extremely good or poor marks may be indicative of unusual traits. It forms the basis of admission to various courses as well as promotion to higher class. It reveals the strengths and weaknesses of an individual in specified areas. Thus, academic achievement is the center around which our education system revolves. Hence, setting the stage for higher academic achievement of the students is a fundamental obligation of any educational system especially at school level. The importance of academic achievement has raised certain important questions for educational researchers like;

• What factors promote academic achievement of students?
• How far do the different factors contribute towards academic achievement?

To answer these questions, many factors have been hypothesized and researched upon. Researchers have come out with varied results, at times complementing each other but at times, contradicting each other. A complete and comprehensive picture regarding academic achievement still seems to elude the researchers. Various factors which influence academic achievement of the students are discussed below:

1.3.1 Factors Influencing Academic Achievement

There are several factors which influence academic achievement of a student in one way or the other. These factors include personality characteristics of the students, socio-economic status of the students, organizational climate of the school, the curriculum of the school, nature of the subjects etc. Broadly, these factors can be classified into two categories namely; objective factors and subjective factors.
1. Objective Factors

These factors are related to the environment of the individual in which his/her development takes place. Some of the main objective factors that influence students’ academic achievement are:

• **Socio-Economic Status**

The socio-economic status includes factors such as; family’s educational status, occupational status of family members, income of family members, type of family (nuclear/joint), educational assistance provided by family members, status of family in immediate society, home environment, caste and religious status of the family etc. Research evidences have indicated that all these factors in one way or the other affect academic achievement of the individual.

• **School Environment**

School environment is the most important factor that is mainly responsible for higher or lower academic achievement of the students. If the environment of the school is healthy where a respect is shown to academic values and a sense of self-discipline is inculcated among students and teachers, then the academic achievement of the students studying in such schools will be higher and vice-versa. School environment is mainly composed of different components such as; various curricular and co-curricular activities organized, type of discipline, classroom environment, relation between teachers and taught, relation between staff members, devotion of teachers towards their duties, nature of administration, involvement of students in various academic and co-curricular activities, nature of curriculum etc.

• **Efficiency of Teachers**

Teacher is the core of teaching-learning process. If the process of teaching-learning proceeds in an appropriate manner and teacher succeeds in achieving what he/she has to teach to the students, then automatically the achievement of students will be higher. Thus, the
efficiency of the teachers is a very significant factor that influences students’ academic achievement. Efficiency of teachers comprise of components such as; teacher’s mastery over the subject matter, type of teaching methods/strategies adopted, knowledge and use of various teaching skills, ensuring students’ participation in teaching-learning process, knowledge of preparing and using teaching aids etc.

In addition to these major objective factors, there are some other factors viz. nature of educational system in vogue at a particular time, friends of the child and their habits, interests etc. that significantly affect his/her academic achievement.

2. **Subjective Factors**

Subjective factors are those factors which are related to the individual himself/herself that influence his/her academic achievement. These factors are generally inherited traits of the individual; however, these may develop within an individual with increased experience and maturation. A brief description of few important subjective factors is provided as under:

- **Intelligence Level of the Students**

  Intelligence is the aggregate or global capacity of an individual to act purposefully, think rationally, and deal effectively with his environment. Intelligence has four major characteristics namely; goal-directedness, awareness, rationale and having some value. Researches have shown that intelligence is positively correlated with performance of the students in particular given situations.

- **Anxiety Level of the Students**

  Anxiety is one of the major non-cognitive variables which affect academic achievement. Anxiety occurs when an individual is interrupted in the course of executing a desired behaviour sequence and has no alternative course of action available. This interruption resulting in an emotion of helplessness and disorganization is termed as anxiety. Anxiety is bi-dimensional, consisting of the components of
worry and emotionality. Various research evidences had clearly indicated that anxiety is negatively correlated with academic achievement of the individuals.

- **Aptitude of the Students**

  Aptitude may be described as a special ability distinct from the general intellectual ability which helps an individual to acquire the required degree of proficiency or achievement in a specific field. It refers to those qualities characterizing a person’s way of behaviour which serve to indicate how well he can learn to meet and solve certain specified kinds of problem. Thus, it can be inferred that aptitude has a future reference and tries to predict the degree of attainment or success of an individual in an area or activity after adequate training.

- **Self-Confidence Level of the Students**

  Self-confidence is an attitude which allows individuals to have positive yet realistic views of themselves and their situations. Self-confidence is a positive attitude of oneself towards one’s self-concept. It is an attribute of perceived self. This refers to a person’s perceived ability to tackle situations successfully without depending on others and to have a positive self-evaluation. Thus, level of self-confidence of the students also seems to be positively related with the achievement of the students.

- **Self-Concept**

  The self-concept may be thought of as an organized configuration of perceptions of the self which are admissible to the self. Self-concept is a set of beliefs about one’s own characteristics. Self-concept is the umbrella term under which three terms viz. self-image, ideal self and self-esteem develop.” Self-image is the individual’s awareness of his/her mental and physical characteristics. The major impressions of self-image during childhood stage of an individual are body-image; his/her sex role identity etc. Side by side
with the development of self-image, the child is learning that there are ideal characteristics, he/she should possess - that there are ideal standards of behaviour and also particular skills which are valued. For example, the school child is most likely to be at the stages of accepting these ideal images from the significant people around him/her and striving to a greater or lesser degree to attain them. ‘Self-esteem’ is individual’s evaluation of the discrepancy between self-image and ideal self. It is an affective process and is a measure of the extent to which the individual cares about his discrepancy. Various researches have shown that individuals with positive self-concept would achieve higher in their academic career.

• **Learning Abilities of the Students**

Ability refers to quality of being able to perform a mental or physical task or action with a minimum or greater degree of success, through application of innate talent, acquired skills, acquired knowledge, or any combination of these. Learning ability means the receptivity of an individual to learning, and the maximum amount of information and knowledge that the individual is able to learn, retain, assimilate and apply. Various researchers have claimed that superior learning abilities result in higher academic achievement.

• **Level of Aspiration**

It may be defined as the level of performance to which one aspires for future. Generally, aspirations are ambitions of an individual, in educational usage usually seen as academic, social or occupational, and concerned with performance, prestige and status. Thus, level of aspiration of a student may be considered as standard of achievement that a pupil sets for himself/herself. Level of aspiration depends on several factors like; intelligence, socio-economic status, parental relations with children and their expectations from children etc. As all these factors, in one way or the other are related with academic achievement of the students, therefore, level of aspiration is also a major determinant of students’ performance.
• **Attitude towards Education**

Attitude has been defined as ideas with emotional content, important beliefs, prejudices, biases, predispositions, appreciations and as state of readiness. Allport has defined attitude as a “mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s response to all objects with which it is related.” Students’ positive attitude towards education, school, teachers etc. may prove to be helpful in enhancing their academic achievement.

• **Students’ Interest in School Curriculum and Co-curricular Activities**

Interests have been defined as preoccupations, likes and dislikes, and motives. Interests can be viewed as factors that attract an individual to or repel him from objects, persons and activities. Therefore, if the school curriculum and co-curricular activities organized in the schools are planned in such a way that will help in generating students’ interests in them and attract them, then it will help in improving their academic performance.

• **Emotional Intelligence Level of the Students**

Emotional intelligence is relatively a new concept which can be defined as the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. The existing data and knowledge in this area suggests that it can be as powerful, and at times more powerful than IQ and thus, affect academic performance of children.

• **Motivation Level of the Students**

Psychologists have a general consensus that motivation is an internal state or condition (sometimes described as a need, desire, or want) that serves to activate or energize behaviour and give it
direction. Motivation, thus, may be regarded as something which prompts, compels and energizes an individual to act or behave in a particular manner at a particular time for attaining some specific goal or purpose. There are a variety of motives based on the basic human needs such as; hunger motive, thirst motive, sex motive, maternal motive, aggression motive, affiliation motive and achievement motive which force us to act in a particular manner in particular situations. Out of all these motives, achievement motive is of vital importance in educational programmes and is considered as the heart of sound teaching-learning process.

- **Study Habits**

  Study habits refer to characteristic pattern which an individual follows in learning about things and people. There are certain study habits which prove to be helpful whereas; some other type of study habits prove to be detrimental in academic progress. There are such behaviour patterns and learning modes through which an individual acquires knowledge of the subject, especially from books and other sources of information. It is generally observed that the students’ possess and employ various modes to learn a new concept. The students show preference towards certain modes of cognitive functioning over other modes. For example, certain students learn better through listening than through writing or any other mode. In the similar manner, different students think in different ways to reach at any conclusion about a concept. They prefer to use different ways to process information received from the environment and thus, reach at certain inference. These modes of learning and thinking have a strong influence on academic achievement as well as on non-cognitive characteristics of the individuals. A detailed description of various modes/styles of learning and thinking is provided here:
1.4 STYLES OF LEARNING AND THINKING - CONCEPT AND SIGNIFICANCE

Individual differences in human performance are an important area of interest in behavioural sciences. Intelligence, personality, motivation etc. are some of the constructs developed for explaining individual differences. When these constructs provided only a partial answer to the question of individual differences in performance, some interfaces between these constructs were developed. The notion of styles (developed after 1950s) is one among the attempts to describe individual differences using some interfaces between intelligence and personality (Sternberg, 1997; Sternberg and Zhang, 2006). Most people are somewhat flexible in their use of style and they try with varying degrees to adapt themselves to stylistic demand according to situation. This is because mind plays a flexible role in accomplishing a variety of tasks. It is, therefore, important for the parents and the teachers to understand the nature of students’ mind and their styles of learning and thinking. The knowledge of students’ preferred styles of learning and thinking can help the teachers to capitalize on the opportunities for their learning. Hence, it is of foremost importance to explore the hidden facts about styles of learning and thinking.

Concept of Styles

According to Webster’s New World Dictionary, “a style is a distinctive characteristic... method of acting or performing”. Jonassen and Grabowski (1993) hold that styles do not represent abilities but rather a set of preferences. Styles may have close relationship with abilities but they are different from abilities.

Characteristics of Styles

Sternberg (1997) has enumerated following major characteristics of styles:

- Styles are preferences in the use of abilities, not abilities themselves.
• A match between styles and abilities creates a synergy that is more than the sum of its parts.
• Life choices need to fit styles as well as abilities.
• People have profiles of styles, not just a single style.
• Style is variable across tasks and situations.
• People differ in the strength of their preferences.
• People differ in their stylistic flexibility.
• Styles are socialized.
• Styles can vary across the life span.
• Styles are measurable.
• Styles are teachable.
• Styles valued at one time may not be valued at another.
• Styles are not, on average, good or bad.

The term ‘styles’ appeared in the literature for the first time in 1921 in the research of Jung on psychological types. Thereafter, the word ‘style’ was used by Allport into his work in 1930. Since Allport’s time, the term has been modified and imbued with different meanings but the core definition of style i.e. its reference to habitual pattern or preferred ways of doing something (eg. thinking, learning and teaching) that are consistent over long period of time and across many areas of activity remains virtually the same. The first movement came into prominence in the 1950’s and early 1960’s with the idea that styles could provide a bridge between the studies of cognition eg. how we perceive, how we learn, how we think) and the study of personality. The movement was called the cognitive style movement. A number of cognitive styles were proposed, all of which seemed somewhat closer to cognition than to personality. A glaring example of such style is field dependence-independence suggested by Herman Witkin. The term ‘cognitive style’ referred to an individual’s way of processing information. The term was developed by cognitive psychologists conducting research into problem solving, sensory and perceptual abilities. The research provided some of the first evidence for the
existence of distinctive styles. A second movement attempted to understand ‘styles’ but in a way that resembles the conceptualization and measurement of personality more than of cognition. Therefore, they were labeled as personality-centered styles. The third movement attempted to understand styles that appear close to behaviour or were referred as action-centred styles. These styles are popular by the name of learning styles. These styles deal with how people like to learn. Recently, the term thinking styles is being used by psychologists. These are concerned with how people think. Work of Sternberg is a good example of such styles. Like that of cognitive styles, problem solving styles, decision making styles, teaching styles, intellective styles and creativity, the term thinking styles have been extensively used. It becomes important to distinguish between the terms; ‘styles’ and ‘strategies’.

Styles and strategies can be distinguished by the degree of ‘consciousness’ involved. Styles operate without individual awareness whereas; strategies involve a conscious choice of alternatives. Some authors use these interchangeably (Cronbach and Snow, 1977), but in general, strategy is used for task or context dependent situations whereas; style implies a higher degree of stability falling midway between ability and strategy. ‘Strategies’ usually imply operations followed to minimize error during decision-making process at a basic level. The style is not most pervasive phenomenon of the contemporary society. Different writers have used this term in variety of contexts. However, in the field of psychology, it has been used in context of personality, cognition, communication, motivation, perception, teaching, learning, leadership, decision making and problem solving etc. Thus, the concept of style has been most often used to indicate an individual’s quality, forms, activity or behaviour sustained over time. For any sort of learning in human life, styles play a dominant role. Due to individuals differences, children or adults learn new things by employing different styles. Such modes of learning are generally referred as ‘learning styles’.
1.4.1 Learning Styles: Concept and Nature

Different authors have defined the term ‘learning style’ differently. Some of important definitions of learning styles have been offered to understand the nature of learning styles:

Dunn and Dunn (1975) defined learning styles as those environment emotions, sociological and physical characteristics through which he or she learns most easily. Learning style is the way in which individual begins to concentrate on process, internalize and retain new and difficult academic information.

Kolb (1984) held that learning styles are relatively stable attributes or preferences or habitual strategies used by individual learner to organise and process the information for problem solving.

Keefe and Monk (1986) defined learning styles as the characteristics of cognitive, affective and psychological behaviour that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment.

Schmeck (1987) held that learning style is a student’s predisposition to adopt a particular learning strategy across the learning task.

Gregorc (1987) defined learning style as consisting of distinctive behaviours which serve as indicators of how a person learns from and adapts to his environment.

Debellow (1990) defined learning styles as the way people observes, process and retain information.

Honey and Mumford (1992) defined learning styles as being a description of the attitudes and behaviour which determine an individual's preferred way of learning.

According to Messick (1994), “learning styles are consistent orientations towards learning and studying”.
In view of Grasha (1996), learning styles are personal qualities that influence a student’s ability to acquire information, to interact with peers and the teachers and otherwise to participate in learning experiences.

Vermunt (1996) defined learning styles as a coherent whole of learning activities that students usually employ, their learning orientations and mental models of learning.

Sternberg and Zhang (2001) conceptualized learning style as how an individual prefers to learn for instance; reading or attending lectures.

Jackson (2002) holds that learning styles are subsets of personality, having a biological basis constituting the learnt basis of personality.

Thus, it may be summed up that learning style is a unique way of an individual learner which he adopts or prefers to approach the learning tasks. The concept of learning styles can be better understood by Kolb’s model of learning styles.

### 1.4.2 Kolb’s Model of Learning Styles

One of the most influential models of learning styles was developed by David Kolb in the early 1970’s. His theory of experiential learning and the instrument which he devised to test the theory - the Learning Style Inventory (LSI) has generated a considerable body of research. According To Kolb (1984), “learning is the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping experience and transforming it.” He proposed that experiential learning involves two major dimensions; perceiving and processing. The first describes concrete and abstract thinking and the second, an active and information processing activity. Effective learners need four kinds of abilities to learn; concrete experiences (CE), reflective observation (RO), abstract conceptualization (AC) and active experimentation (AE).
These four capacities are structures along two independent axes (dimensions) as shown in Figure 1.1.

**FIGURE 1.1**

**Kolb’s Learning Styles Model**

![Kolb's Learning Styles Model](image)

The four abilities are known as learning modes. The combinations of any two specific learning modes generate a unique learning style. For example, concrete experiences and reflective observation produces diverging learning style; reflective observation and abstract conceptualization (RO and AC) creates assimilator learning style; abstract conceptualization and active experimentation (AC and AE) generates converging learning style; active experiment and concrete experiences (AE and CE) produces accommodation learning style. According to Kolb, learning by its very nature is full of tension and these tensions are resolved by preferring or choosing a particular learning style over the other. Kolb has described the process of experiential learning as four stage cycle which starts from concrete experiences followed by reflective observations, abstract conceptualization and active experimentation.
Kolb has argued that this theory of experiential learning provides a useful framework for the design and management of all learning experiences. The four basic learning styles are; imaginative learning style, analytical learning style, precision learning style and dynamic learning style.

1) Imaginative Learning Style

It depends on concrete experiences and reflective observations. The greatest strength of the learner with imaginative learning style lies in their imaginative ability. They perform best in situations when they have to generate ideas. They need to seek background information and sense opportunities, investigate new patterns, recognize discrepancies and problems and generate alternatives. They have broad cultural interests and tend to specialize in the arts. They are interested in people and tend to be imaginative and emotional. They are very intense, over-enthusiastic and dedicated in their work. They are creative, innovative and tend to initiate ideas. They are people oriented and like to promote interaction among groups to reduce conflicts and disagreements and seek harmony. They believe in trusting and encouraging their team members.

2) Analytical Learning Style

Learners with analytical learning style perceive information abstractly but process it reflectively. This great strength lies in their ability to create theoretical models. They can assimilate disparate observations into an integrated explanation, by which they excel in inductive reasoning. They value continuity and sequential thinking and need to seek opinions from experts. They are more interested in abstract concepts than in people. They were less concerned with the practical use of theories and more concerned with whether the theory is logically sound and precise. They like to work in their traditional classroom mode. They seek personal effectiveness as well as goal attainment. They solve problems through logic and lead by principles and facts.
3) **Precision Learning Style**

It depends on the use of abstract and active experimentation modes. Learners with this style perceive information abstractly but process it actively. Their greatest strength lies in the practical application of ideas. They seem to do best in those situations where there is a single correct answer or solution to question or problem. Their knowledge is organized in such a way that through hypothetical deductive reasoning, they can focus on specific problems. They are seen as relatively unemotional, preferring to deal with things rather than people. They are pragmatists who seek results. They have little patience for vague and fuzzy ideas. They tend to have narrow interests and often choose to specialize in the physical sciences. They adhere strictly to deadlines and time table. They prefer people who can understand and implement ideas as quickly as possible.

4) **Dynamic Learning Style**

It depends upon the use of concrete experiences and active experimentation modes. Learners with dynamic learning style perceive information concretely but process it actively. Their strength lies in doing things, carrying out plan and experiments and getting involved in new experiences. They take more risk than people with other three learning styles. They excel in situations where they have to adapt to specific circumstances. They tend to solve problems in an intuitive, trial and error manner, relying heavily on other people for information rather than their own analytical ability. In situations where theory or plans do not fit the facts, they are likely to discard the plan or theory. They are at ease with people but are sometime seen as impatient and pushy. People with this learning style are action-oriented. They are stimulated by challenging and risk taking tasks. They solve problems by looking at all possibilities and studying the trends. They are accomplishment-oriented. Learners with this style aim at implementing solutions and committing resources.
From the aforesaid discussion, it becomes apparent that there is wide variety of learning styles. Individuals possess and employ different styles to learn a new concept and to perform any learning activity. This process of learning is, however mediated by the process of thinking. The process of thinking involves use of abilities possessed by the individuals. If an individual possesses essential abilities and capable of using those abilities, he/she will be successful in learning a particular concept or task. Thus, thinking is also equally important in learning process.

1.4.3 Thinking: Meaning and Types

Thinking is an activity of the human mind. It helps the individual to adjust himself within the environment. Thinking leads to better performance and better adjustment. Different definitions given by various authors throw considerable light on the nature and functioning of thinking.

In the words of Garrett (1968), “thinking is behaviour which is often implicit and hidden and in which symbols (images, ideas and concepts) are ordinarily employed”.

According to Gilmer (1970), “thinking is a problem solving process in which we use ideas or symbols”.

The above definitions about thinking point out following aspects of its nature:

1) Thinking is essentially a cognitive activity.
2) It is always directed towards achieving some purpose.
3) Thinking is described as a problem solving behaviour from the beginning till end. There are some problems around which whole process of thinking revolves, but every problem-solving behaviour is not thinking. It is related only to the inner cognitive behaviour.
4) In thinking, there is mental exploration rather than motor exploration. One has to suspend one’s overt or motor activities
while engaging in thinking through some kind of mental exploration or the other.

5) Thinking is a symbolic activity. In thinking, a mental solution of the problem is carried out through some signs, symbols and mental images.

6) Thinking can shift instantaneously over a span of time and space.

Thinking is a mental process and is usually classified into following categories:

1) **Perceptual or Concrete Thinking**

   This is the simplest form of thinking. The basis of this type of thinking is perception i.e. interpretation of sensation according to one’s experience. It is also termed as concrete thinking as it is carried out on the perception of actual or concrete objects and events.

2) **Conceptual or Abstract Thinking**

   Unlike perceptual thinking, this does not require perception of actual objects or events. It is an abstract thinking where one makes use of concepts; the generalized ideas and languages. It is regarded as being superior to perceptual thinking as it economizes efforts in understanding and problem solving.

3) **Reflective Thinking**

   This is somewhat higher form of thinking. It can be, distinguished from simple thinking as it seeks at solving complex rather than simple problems. It requires reorganization of all the relevant experiences and finding new ways of reacting to a situation or of removing an obstacle instead of a simple association of experiences or ideas. Mental activity in reflective thinking does not involve any mechanical trial and error type of efforts. There is an insight cognitive approach in reflective thinking. It takes all the relevant facts arranged in a logical order into account in order to arrive at a solution of the problem in hand.
4) **Creative Thinking**

This type of learning, as the name suggests, is associated with one’s ability to create or construct something new, novel, or unusual. It looks for new relationships and associations to describe and interpret the nature of things, events and situations. It is not restricted by any pre-established rules. The individual himself usually formulates the problem and is also free to collect the evidences and to fashion the tools for its solution. The thinking of scientists, artists or inventors provides ideal example of such type of thinking. Skinner (1968) has defined thinking in the following way, “creative thinking means that the predictions and inferences for the individual are new, original, indigenous and unusual. The creative thinker is one who explores new areas and makes new observations, new predictions and new inferences.”

5) **Critical Thinking**

It is a type of thinking that helps a person in stepping aside from his own personal beliefs, prejudices and opinions to sort out the facts and discover the truths, even at the expense of his basic belief system. It represents a challenging thought process which leads a person to new avenues of knowledge and understanding. On the basis of this, we can draw a conclusion about the nature of critical thinking, by terming it as a higher order well-disciplined thought process which involves the use of cognitive skills like; conceptualization, interpretation, analysis, synthesis and evaluation for arriving at an unbiased, valid and reliable judgement of the gathered or communicated information or data as a guide to one’s belief and action.

6) **Non-Directed or Associative Thinking**

In a strict psychological sense, what we have discussed so far concerning the types or a category of thinking encompasses real or genuine thinking. It is essentially directed thinking which pertains to
reasoning and problem solving procedures and aimed at meeting specific goals. However, there are times when we find ourselves engaged in a unique type of thinking which is non-directed and without any goal. It is reflected through dreaming and other free-flowing uncontrolled activities. In psychological language, these forms of thought are termed as associative thinking.

Thinking styles possessed by individuals are determining factors in learning of a particular task. We do not have a single thinking style, but a profile of styles of different dimensions in varying degrees at a given period of time. This may change with the changes in the learning tasks, situations and groups with which one is engaged. Just like different learning styles, individuals possess different thinking styles. Thinking styles generally refer to the preferred ways of using one's abilities (Sternberg, 1997). The detailed description about thinking styles is provided here:

1.4.4 Thinking Styles: Concept and Nature

Our abilities do not completely explain our performance in different situations. Individuals with equal abilities need not necessarily perform similarly in a given situation. These differences are due to the variation in using the abilities one possesses. People like to use their abilities in different ways in different situations. While abilities describe what one can do, thinking styles show how one likes to use the abilities. Sternberg, in his theory (Mental Self-Government Theory of Thinking Styles), postulated a profile of 13 dimensions of thinking styles under five categories. Like the organization of governments in modern human society, according to this theory, individual’s mental self-government of thinking styles also has some functions (legislative, judicial and executive), forms (monarchic, hierarchic, oligarchic and anarchic), levels (global and local), scope (internal and external) and learning (liberal and conservative).

Sternberg’s theory on thinking styles postulates that people with legislative thinking style prefer to create, design and invent things.
Judging, evaluating and analyzing of things and processes are the preferences of people with judicial thinking style. Executives follow and obey rules and regulations and implement things and procedures developed by others. Monarchic individuals have one goal at a given time and devote fully to its attainment disregarding the obstacles. Both hierarchic and oligarchic people have more than one goal at a time. Hierarchic persons, realizing the impossibility of achieving all goals at a time, prioritize their goals and strive for attainment of the goals in order of priority; but the oligarchic people attend all their goals at a time without any prioritization. Anarchic individuals have a large number of attainable and unattainable goals and attempt to achieve all of these, without any order or regularity. The global persons see the whole picture and abstractness of the things and problems, the local people on the other hand generally see the details, specifics and concrete matters. People with internal thinking style are work-oriented and outgoing with preferences for working with others. Liberal people prefer change. They learn through unfamiliar situations and defy conventions, whereas conservative people like to follow conventions and avoid unfamiliar situations. Thus, the learning among individuals takes place by employing different thinking styles depending on their mental orientation.

Torrance (1977) in his NEA publication on ‘What Research Says to the Teacher: Creativity in the Classroom’, argued as follows:

“...... the weight of present evidence indicates that people fundamentally prefer to learn in creative ways - by exploring, manipulating, questioning, experimenting, risking, testing and modifying ideas. Recent research suggests that many things, though not all, can be learned more effectively and economically in creative ways rather than by authority. It also appears that many individuals have an especially strong preference for learning creatively, learn a great deal if permitted to use their creative abilities. There are individuals who make little educational progress when they are insisted to learn by authority. Such suggestions open exciting possibilities for better ways of individualizing instruction.”

Somewhat parallel with these developments in creativity theory and research, have been research on functioning of brain hemispheres
as specialized area of research. According to Torrance (1981), research conducted during the last several decades have shown that left hemisphere of human brain is specialized for verbal, analytical, abstract, temporal and digital operations (Bogen, 1969; Gazzanzia, 1970; Ornstein, 1972). The same investigators have found that right cerebral hemisphere to be specializing for non-verbal, holistic, concrete, spatial, analogic, creative and aesthetic functions. Torrance, Reynolds, Riegel and Ball (1977) held that difference in preference of two hemispheres for information processing gives birth to various styles of learning and thinking. Hemisphericity is defined as tendency for an individual to rely more on one than the other cerebral hemisphere for information processing. The role of the right hemisphere for information processing, problem solving and creative functioning is well documented (Torrance and Reynolds, 1978). Different methods, materials and procedures are required for the development of the right hemisphere. Since a person’s two hemispheres are able to function in a complimentary manner, improvement in right hemisphere functioning often results in improved left hemisphere functioning, at least within the normally functioning human context. Hemisphericity seems to be established early in the preschool and primary grade years. It is possible to modify a person’s preferred style of learning and thinking over a relatively brief period of time (six to ten weeks). It is possible through reinforcement contingencies and through direct, extensive and specialized training.

1.4.5 Styles of Learning and Thinking based on Hemisphericity/Cerebral Dominance

Educators are now drawing on psychology and neurobiology to expand their awareness of individual differences. Recent advances in neuroscience and cognitive psychology are providing a clear understanding of the three pound human brain. The newest element in cognition is hemisphericity dominance which is another dimension
of individual differences. This refers to the tendency of a person to use one side of the brain to perceive and function more than the other. Ornstein (1972) summed up as follows:

“We are biologically equipped to process information in two distinct and complementary modes that are developed in different manners and that these specializations are not absolute but are rather a matter of relative predominance of one of the hemispheres.”

Brain research shows that the brain has two hemispheres which specialized different functions or process information in different ways. The two hemispheres extract different aspects of meaning from the same experiences. The interconnecting fiber, the corpus callosum (the bundle of fibers that connect the two hemispheres) and other connections allow inter-hemispheric communication for comparing and evaluating the knowledge. Individuals have the capacity to engage in both the left and right hemisphere processing modes, but which mode takes the lead may depend on the individuals' dominance. There is a need to cultivate both hemispheric modes so that an individual can develop the ability to use both hemispheres in a complementary fashion. Research showed that verbal, logical, convergent, and analytic functions can be described to the left hemisphere. Intuitive, divergent, visual, spatial, and gestalt functions can be described to the right hemisphere of the brain. Psychologists began to redefine and re-conceptualize the hemispheric differences in terms of the processing of information rather than in terms of the types of tasks. The specific functions of both the hemispheres are given ahead:

1.4.6 LEFT HEMISPHERIC DOMINANCE

Each hemisphere is capable of functioning in manner different from the other. The left hemisphere of human brain apparently specialized in sequential, logic, symbolic, convergent production and logical functioning. Left hemisphere dominance plays important role in following functions:
1. **Language**

The left hemisphere controls the voluntary movements of right side of the body and is found dominant in right handed people. The right handed people with left hemispheric dominance ordinarily have the speech centers in left hemisphere. The left hemisphere is relatively specialized in verbal functioning and is devoted largely to semantic abilities and functions.

2. **Speech**

The short term memory is primarily the function of left hemisphere. Researches have clearly shown that task of the expression of thoughts through speech is exclusively processed by left hemisphere.

3. **Learning**

Left hemisphere is involved in the learning of 3 Rs. Reading is considered to be principally left hemispheric function. Left hemisphere is well-suited for the education of relation which is essentially the ability to analyze the common aspects of tasks and formulate systemic relation among these tasks.

4. **Analytical Thinking**

Left cerebral hemisphere is involved in sequence operations, analytical-logical thinking, explaining, describing, recalling the verbal content and operations related with words. Left hemisphere is a rational linear mind specializing in sequential processing, logical and analytical thinking. Left hemisphere helps in the acquisition of new habit patterns.

1.4.7 **Right Hemispheric Dominance**

The right hemisphere has a great ability to process any modes of information within a single cognitive task. The right hemisphere is not totally silent. It plays important role in following functions:
1. **Language**

   The right hemisphere is capable of processing language if the discriminations are uncomplicated. Complimentary and non-verbal functions are carried out by right hemisphere which is dominant in left handed people. It coordinates the voluntary motor activities of the left side of body.

2. **Visual Patterns**

   The interpretations of complex visual patterns such as; geometric designs and graphs, iconic presentation of information eg. graphic display, diagrams, flow charts etc. are the functions of right cerebral hemisphere. In other words, right hemisphere facilitates both the comprehension and relation of information about iconic memory.

3. **Facial Identification**

   In several studies of normal and clinical subjects, it was found that the right cerebral hemisphere is involved in face processing. It involves both perceptual and memory components.

4. **Motor Activities**

   Awareness of body position, spatial orientation and the perception of fine and gross motor activities, all come within the realm of right hemisphere.

5. **Dreams**

   Research studies have reported that dreaming is a lateralized function specific to the right hemisphere of brain. The degrees of hemispheric lateralization contribute to individual differences in dream recall and content.

6. **Creativity**

   Research evidences suggest right brain as artistic brain because it is incharge of creative talents. Although, the clinical studies do not conclude about the specific location of creativity in the brain, i.e. in the right or the left hemisphere. However, the findings have made it
clear that creativity will not occur without the full participation of well-developed right hemisphere. The persons with right hemispheric dominance are more intuitive, imaginative, insightful; has a rudimentary verbal conceptual scheme, and aesthetic experiences, produces visual imagery, sees things in a broader perspective, uses the information from left hemisphere to elaborate, to form new combination and to attribute new meanings to it.

7. **Problems**

Right hemisphere is capable of overcoming most difficult logical and systematic problems. It is evident that right hemisphere makes an important contribution to human performance. It is neural basis of our ability to make in fragmentary sensory information and from it construct coherent world, a sort of cognitive spatial map within which we plan our actions.

1.4.8 **Integrated Hemispheric Functioning**

Research identifies the left-brain as the academic brain because educators generally emphasize its processes in the traditional classrooms, resulting in certain groups using hemisphere specialization to explain limitations of traditional learning. On the other hand, research identifies the right-brain is considered as the artistic brain because it is more specialized for the analysis of space, geometrical shapes and forms and plays an important role in the comprehension of emotions. Recently, educational researchers have shown that a balanced involvement of both the hemispheres of the brain in the classroom can create surprising learning gains in different types of students: children, adult learners, mentally retarded, gifted and genius. It has been revealed that learning can proceed at astounding rates when teachers have students with integrated hemispheric functioning. Integrated brain functioning involves the coordination of right hemisphere with left hemispheres of brain. The persons with integrated hemispheric functioning perform tasks that involve abstract, analytic, linear as well as concrete and holistic
thinking. These persons have rational, logical, intuitive and artistic
cognitive styles resulting in rich vocabulary, good grammar and
sequential learning. In a world of complex and ever changing
demands, use of both the hemispheres of brain i.e. integrated
hemispheric functioning may help to set realistic goals, tackle
challenges and accomplish them successfully.

1.4.9 Importance of Learning and Thinking Styles

The importance of learning and thinking styles to the field of
education may be described as follows:

• **Improving Instructional Methods**

  Learning and thinking styles provide a basis for tailoring the
mode of presentation so as to develop, compensate for or to capitalize
upon students’ characteristics for the optimization of subject matter
learning. Contrary to this, depending on the educational goals,
student might be deliberately confronted with instructional demands
that are congenial to their learning and thinking styles so as to
stimulate growth and flexibility. There is thus continuing but potential
fruitful tension over the relative value of matching educational
treatment to learner characteristics as opposed to mismatching them.
Although, matching may be facilitated when the aim is to enhance
immediate subject matter achievement, mismatching may be needed
when the aim is to promote flexible and creative thinking. Depending
upon the instructional aims and curriculum materials, procedure
might be devised in stylistic terms by varying the degree of
independent study versus group instruction and cognitive controls.

• **Improving Teacher Behaviour and Conceptions**

  Teachers’ performance might be improved through heightened
awareness of styles of learning and thinking, which may help to
increase the flexibility in the teacher’s own styles/preference for
particular evaluation and teaching methods. Increased teacher
awareness of stylistic differences might also improve teacher-students
communication by increasing sensitivity to verbal and non-verbal stylistic cues and to communicative difficulties, dependent upon stylistic mismatch. Teacher and students who are similar in learning and thinking styles tend to view each other with greater mutual esteem than those who are dissimilar; they also tend to communicate more effectively, as if they were on the same wavelength.

• **Enhancing Students’ Learning and Thinking Strategies**

   By increasing students’ awareness of learning and thinking styles and their implications for learning, communication and social functioning, the teacher can expand students’ previews about the range of alternative thinking strategies that are congenial in their styles but those that are uncongenial as well. Since strategies may be more easily learnt than styles and more amenable to alternation, teacher might thereby increase the student strategic repertoire and likelihood that strategies, even stylistically uncongenial ones, will be selectively and appropriately applied as a function of varied task requirements.

• **Expanding Guidance and Vocational Decision-Making**

   Since learning and thinking styles are related to vocational preferences and to choice of major field, choice of specialization and to relative performance, its adequate and proper knowledge can contribute to improve educational decision making. Moreover, since learning and thinking styles have significance for the way in which information is selected, processed and used, styles should be taken into account in optimizing students’ involvement in the guidance process.

• **Broadening of Educational Goals and Outcomes**

   The pervasiveness of learning and thinking styles suggests that capitalizing upon styles and coping with their restrictiveness might become explicit goals of education that schools and colleges should be concerned not just with knowledge acquisition but also with the
students’ manner of thinking. This concern invokes a number of process goals and associated process outcomes to be evaluated such as the development of strategic thinking, the enrichment of the student’s repertoire of procedural alternatives and the development flexibility in the utilization of multiple thinking modes.

• **Turning the Stylistic Demands of Learning Environment**

   Educational environment makes stylistic demands as well as intellective demands, but the stylistic demands of most current programmes and settings are usually so intermixed that they neither uniformly match nor uniformly mismatch the learning styles. Rather, they are generally misaligned with stylistic characteristics of learners with some environmental and programme features facilitating and others debilitating performance. This often puts students in a dilemma. From the learning and thinking styles perspective, it is of vital significance to explore the stylistic requirements of different learning environments with a view towards developing style consistent modules of instructional methods. Such modules might include suitable teaching methods. Such explorations may help us to better understand and appreciate the subtle stylistic demands of the conditions of learning.

• **Render Help in Adopting Suitable Assessment Methods**

   It is assumed that different methods of assessment tend to benefit different styles of learning and thinking. For instance, multiple choice testing is very much oriented towards creative and internal thinking. Essay type tests do not benefit particular styles, rather whom they benefit depends on how the essay type tests are evaluated. Projects and portfolios tend to reward styles that are quite different from those typically rewarded by short answer and multiple choice tests. Even interviews tend to reward some particular styles than the others. Having complete knowledge of testing and thinking styles, the teacher could be in best position to adopt suitable methods of assessment in the classroom. Teacher can facilitate learners’ styles of
learning and thinking for helping them to understand as thinkers, for encouraging them to expand their thinking styles for using a variety of learning approaches for creating an environment in which diversity can thrive.

It is clear from above discussion that styles of learning and thinking to a great extent are developed by environmental conditions and nurturing children by their parents and teachers. Some children may have one preferred style at one stage and another preferred style at some other stage. Styles are not fixed, but changeable, the need is to recognize the students’ preferred styles and develop the instructional strategies accordingly to meet the individualistic needs for the wholesome development of his/her personality in particular and the educational system in general.

1.5 EMERGENCE OF THE RESEARCH PROBLEM

The roots of any problem under investigation lie in the theoretical and research literature pertaining to the concerned variables. The current era of cut-throat competition in every sphere of life calls for higher level of academic achievement which in one way or the other, is related to general intelligence (IQ). Now, it has been established by research that emotional intelligence is contributing more towards success than general intelligence. The anxiety serves two types of functions i.e. facilitating and debilitating. The debilitating effect of academic anxiety leads to problems in the performance of students in academics. The conceptual literature available on these fascinating variables points towards the fact that a number of factors influence academic achievement of students. One of such crucial factor is the ‘styles of learning and thinking’ possessed by students. Since independence, the individuals from poor and backward sections of the society have been provided different benefits namely; reservation in admissions, scholarships and freeships in order to ameliorate their plight. It is necessary to see whether these benefits have started bearing fruits or not. It also becomes pertinent to
investigate that whether or not two important psychological constructs i.e. emotional intelligence and academic anxiety are influenced by styles of learning and thinking and social category of school going students so that their academic achievement could be enhanced to the optimum level.

Against this brief backdrop, the present study was designed which will provide a new direction to educational planners, teachers, guidance workers and curriculum designers in the improvement of teaching-learning process and the education system itself.

1.6 STATEMENT OF THE PROBLEM

Emotional Intelligence, Academic Anxiety and Academic Achievement of High School Students in relation to their Styles of Learning and Thinking and Certain Demographic Variables

1.7 SIGNIFICANCE OF THE STUDY

Education, the foremost weapon for social reform, is now under the forces of change. In the modern world of technological innovations, all educational institutions are trying to improve their quality and laying more emphasis on academic excellence of the learners. In the present era of cut-throat competition, quality of performance has become the key factor for personal progress. Parents desire that their children climb the ladder of performance to as high as possible. This desire for a high level of achievement puts a lot of pressure on students, teachers, and schools and in general, on the education system itself. The era of competition and over expectations of parents make students more anxious which may adversely affect the mental health of students. The all-pervasive competitive atmosphere, be it social or academic, encourages students to get themselves compared with their peers. Consequently, their self-image remains in the continuous state of flux and redefinition. Such situation creates anxiety among the students towards their studies and when it becomes much high, may lead to depression and even suicide.
Although, certain amount of anxiety may help the students to excel in the field of academics and can sustain the interest to achieve high on academic tasks, but a higher level can be debilitative for them.

Intelligence is still considered as the most effective predictor of academic achievement; but research has shown that other social and emotional factors like; emotional intelligence, anxiety, achievement motivation etc. also affect the achievement of students considerably. Interdisciplinary research clearly indicates the importance of emotional intelligence and emotional skills in students’ achievement, career success and personal well-being. As emotional intelligence is considered as a predictor of success in a number of life domains, so present study has been undertaken to identify the factors having a direct or indirect bearing on emotional intelligence of adolescents. On the basis of this, suggestions will be given to parents and teachers to improve emotional build up and the self-adaptation abilities among the students for solving personal problems and other pressures of life.

In the last three decades, extensive research studies has been conducted on various emotional, social and other psychological correlates of teaching-learning process. A considerable attention has been paid by the educationists and researchers to study the individual differences in the learning and thinking styles of students at different levels of education. The present investigation is also an attempt to identify highly preferred learning and thinking styles of students in terms of functioning of their brain hemispheres. Solid and unique contribution of styles of learning and thinking may be seen in improving instructional methods, students’ performance, learning and learning strategies, broadening educational goals and outcomes for meeting the stylistic demands of the environment and developing human skills. The knowledge of how students prefer to learn and think may prove to be helpful in tailoring the instruction to meet the learning needs of the students so that best learning outcomes in academic and non-academic areas of their life can be produced. The
present investigation has been designed to make recommendations in this context.

Moreover, the identification of styles of learning and thinking through the present investigation may prove to be beneficial for educationists, curriculum framers and teachers in suggesting meaningful academic and occupational choices to the students. Necessary recommendations for making the existing curriculum more need based and vocational in nature may be laid down on the basis of findings of present investigation. In nut shell, the present investigation will provide new and meaningful information pertaining to styles of learning and thinking of students which may give new directions in the area of improvement of teaching-learning process and designing corresponding instructional strategies for students. The outcomes of present study will not only help the teachers to build up desirable instructional procedures to meet the learners’ needs in terms of their styles of learning and thinking but will also prove to be a great help to curriculum designers and textbook writers. Besides, it may provide new directions to educational planners and thinkers to develop strategies of education which may yield fruitful results for school going students.

Review of research literature makes it clear that there is lack of systematic research studies on the impact of styles of learning and thinking on emotional intelligence, academic anxiety and academic achievement of high school students. Therefore, the present study is a humble attempt in fulfilling the gap in existing research on emotional intelligence, academic anxiety and academic achievement in relation to styles of learning and thinking of high school students. Further, the results of this study will be helpful in providing empirical base for organizing classroom teaching in the most effective and efficient manner in schools for enhancing the level of academic performance of students.
The results of present study will throw light on the impact of styles of learning and thinking on emotional intelligence and academic anxiety of the students. This may help the parents, guidance workers and all those who are concerned with the betterment of students in devising ways and means of reducing academic anxiety and enhancing emotional intelligence by employing appropriate styles of learning and thinking.

The overview of research literature has highlighted that no serious attempt has been made in the past to explore the influence of styles of learning and thinking on academic anxiety of the students. Hence, the researcher thought it worthwhile to investigate that in what manner, academic anxiety is affected by styles of learning and thinking or brain hemispheric dominance. This will be helpful in devising the interventions to reduce academic anxiety among students by way of imparting training in adopting appropriate styles of learning and thinking.

Hence, present investigation was undertaken with the following specific objectives to be accomplished:

1.8 OBJECTIVES OF THE STUDY

1. To study emotional intelligence level of high school students.
2. To study academic anxiety level of high school students.
3. To study academic achievement level of high school students.
4. To study the prevalent styles of learning and thinking among high school students.
5. To study the gender-wise difference among high school students with respect to overall emotional intelligence and it’s four components i.e. (i) intra-personal awareness, (ii) inter-personal awareness, (iii) intra-personal management and, (iv) inter-personal management.
6. To study the difference in overall emotional intelligence and it’s four components i.e. (i) intra-personal awareness, (ii) inter-personal awareness, (iii) intra-personal management and, (iv)
inter-personal management among high school students having different styles of learning and thinking.

7. To study the interaction between gender and styles of learning and thinking of high school students with regard to their overall emotional intelligence and it’s four components i.e. (i) intra-personal awareness, (ii) inter-personal awareness, (iii) intra-personal management and, (iv) inter-personal management.

8. To study the social category-wise differences among high school students with respect to overall emotional intelligence and it’s four components i.e. (i) intra-personal awareness, (ii) inter-personal awareness, (iii) intra-personal management and, (iv) inter-personal management.

9. To study the interaction between social category and styles of learning and thinking of high school students with regard to their overall emotional intelligence and it’s four components i.e. (i) intra-personal awareness, (ii) inter-personal awareness, (iii) intra-personal management and, (iv) inter-personal management.

10. To study the gender-wise difference in academic anxiety of high school students.

11. To study the difference in the academic anxiety of high school students possessing different styles of learning and thinking.

12. To study the interaction between gender and styles of learning and thinking with regard to academic anxiety of high school students.

13. To study the social category-wise differences in academic anxiety of high school students.

14. To study the interaction between social category and styles of learning and thinking with regard to academic anxiety of high school students.

15. To study the gender-wise difference in academic achievement of high school students.
16. To study the differences in the academic achievement of high school students possessing different styles of learning and thinking.

17. To study the interaction between gender and styles of learning and thinking with regard to academic achievement of high school students.

18. To study the social category-wise differences in the academic achievement of high school students.

19. To study the interaction between social category and styles of learning and thinking with regard to academic achievement of high school students.

1.9 DELIMITATIONS OF THE STUDY

The delimitation is an essential part of any research study because the field of investigation is limitless. So, it is necessary to delimit its scope. The present study was delimited in terms of following aspects:

1) Out of twelve districts of Himachal Pradesh, only four districts i.e. Mandi, Hamirpur, Bilaspur and Kullu were selected by adopting systematic random sampling technique for conducting the present investigation.

2) The study was delimited to a sample of 1259 students studying in 9th class in government high schools/senior secondary schools affiliated to Himachal Pradesh Board of School Education, Dharamshala.

3) The study was restricted to three dependent variables i.e. emotional intelligence, academic anxiety and academic achievement. Out of these, two variables were measured by employing following standardized tools respectively;

   (i) Emotional Intelligence Inventory developed by Mangal and Mangal (2009).

4) The study was delimited to the independent variable i.e. styles of learning and thinking which was measured with the help of standardized research tool i.e. Styles of Learning and Thinking (SOLAT) by Venkataraman (1994).

5) The marks obtained by selected 9th class students in their end-term examination in previous class (i.e. 8th) under continuous and comprehensive evaluation (CCE) pattern was considered as their academic achievement.

6) The study was delimited to only two demographic variables i.e. gender and social category.

1.10 OPERATIONAL DEFINITIONS OF THE KEY TERMS USED

To avoid ambiguity and give a clear picture of the problem, it is necessary to explain each term mentioned in the title of the problem. Certain terms with a specific meaning have been used in the present study. The operational definitions of the key terms are given as under:

**Emotional Intelligence**

Emotional intelligence is the ability to monitor one’s own and other people’s emotions, feelings, to discriminate among them and to use this information to guide one’s own thinking and actions. Emotional intelligence is an umbrella phrase that captures a broad collection of inter-personal and intra-personal skills. In the present study, it was measured by Emotional Intelligence Inventory developed by Mangal and Mangal (2009). It measures emotional intelligence of high school students in terms of its following four components:

(i) Intra-personal awareness.
(ii) Inter-personal awareness.
(iii) Intra-personal management.
(iv) Inter-personal management.
**Academic Anxiety**

Generally, anxiety is classified as trait anxiety or state anxiety. The trait anxiety is a stable characteristic or trait of the person. A state anxiety is one which is aroused by some temporary conditions of the environment such as; examination, accident, punishment etc. Academic anxiety is a kind of state anxiety which is related to impending danger from the environment of the academic institutions including teachers, certain subjects like; Mathematics, English etc. In the present investigation, it was measured by Academic Anxiety Scale for Children developed by Singh and Sengupta (1984).

**Academic Achievement**

It refers to the marks obtained by class 9th students in their end-term examination in previous class (i.e. 8th) under continuous and comprehensive evaluation (CCE) pattern followed in government high/senior secondary schools affiliated to Himachal Pradesh Board of School Education, Dharamshala.

**Styles of Learning and Thinking**

Styles of learning and thinking depend upon the cerebral functioning of an individual in retaining and processing different modes of information. Styles of learning and thinking indicate the hemispheric functions of the brain. Student’s learning strategy and information processing are based on the preferences of the brain area. In the present investigation, styles of learning and thinking indicate whether the high school students prefer to make use of right hemisphere or left hemisphere or make use of both hemispheres of their brain for processing various kinds of information. The preference of the students for using particular hemisphere of the brain is further responsible for particular styles of learning and thinking possessed by them. In the present investigation, it was measured by the tool entitled, “Style of Learning and Thinking (SOLAT)” developed by Venkataraman (1994).
Demographic Variables

In the present investigation, demographic variables include gender and social category of sampled high school students. The variable of social category was further classified in three categories viz. general, scheduled caste and other backward classes students.

**General Category:** All those individuals (except those belonging to SC, ST, OBC and other minority groups) who are not provided with any kind of reservation in accordance with the Constitution of India.

**Scheduled Caste (SC):** The individuals belonging to that section of the society which in the past were deprived of basic amenities and currently provided reservation under ‘Article 15 and 16’ of Indian Constitution are referred to as scheduled caste.

**Other Backward Classes (OBC):** The individuals who in the Indian Constitution are enlisted as belonging to socially and economically backward section of society under ‘Article 340’ and are provided with reservation benefits.

**High School Students**

The students who were studying in 9th class in government high schools/senior secondary schools affiliated to Himachal Pradesh Board of School Education, Dharamshala.