CHAPTER – I

INTRODUCTION AND CONCEPTUAL FRAMEWORK

1.0. Introduction

“Moments make minutes, Minutes make Hours,
Hours make days, Days make weeks,
Weeks make months, Months make years, Years make life”.
Yet one has every moment of live life. Modern Science has acted as a springboard for
the progress of mankind and enables us to conquer time, distance and many more
things. It has improved the conditions and quality of life.

Life is experience, Experience is education. Education is enlightenment;
Enlightenment is truth. Truth is wisdom and wisdom is God.

- Vedic Wisdom

In the present world of science and technology, the education has to determine
the levels of well-being and prosperity of the people. Education is considered to be one
of the most powerful agencies in moulding the character and in determining the future
of individuals. Education is regarded as the potential instrument of social
transformation and an important means of national development. Education is a service
commodity, which involves the process of acquisition to attain knowledge, skills and
attitudes, which are essential for achieving success in one’s life.

Education leads individual from darkness into light and from falsehood to truth.
It brings about considerable changes in the individual relating to his/her physical
intellectual and spiritual conditions. Education, thus, is concerned with bringing about
changes in the three-board domain of the individual, normally cognitive, affective and
psychomotor.

Education today has become a powerful tool for the development of the society.
Education is considered as an instrument for social changes resulting in
industrialization, urbanization and social enlistment. Many people believe that
education solves many of the individual and social problems, resulting in individual
and social disorganization and disintegration. The main question is whether education
can solve the social problems generating from social process. The educators believe
that education should also take this added function within its purview.
The modern school is a community centered and teacher is a friend, philosopher and guide. The school is a miniature society or a social constitution, which is entrusted with the responsibility of bringing up the students to participate effectively, efficiently and harmoniously in the community to which they belong. The modern school is not a knowledge shop and the learning experience should not be limited to four walls of the classroom. The school should provide various opportunities to the students for participating in social services, community activities and health campaigns literacy derives and other kinds of public service of educational importance. This will break the barriers between the school and the community and make school life and experiences meaningful lively, realistic and natural. (Mohanty 1991).

1.1. Importance of Education

The Kothari Commission (1964 -1966) pointed out, “The destiny of India is being shaped in the classroom”. It is the education that determines country’s level of prosperity, welfare and security of people. Realizing this fact, the Government of India has been spending large sum of money on education; no investment is likely to yield greater returns than investment of human resources of which the most important component is education.

The National Policy on Education (1986) emphasizes the need for a National System of Education to promote its unique Socio-cultural identity and to meet the challenges of times and education for equality. The National system of Education represents common educational structure throughout the country and national curricular frame work with common core components of national significance. Laik (1994) States “The contemporary system of education has become mechanical as it stuffs the young minds with dry information leaving little scope for thinking. The present system of education needs to be revamped and stimulated with a spirit of scientific thinking in teaching and learning process”. (Suresh Bhatnagar, 1990)

Education is the process by which people acquire knowledge, skills, habits, values or attitudes. It is a human endeavour and modification of human behaviour and knowledge prepares men and women to serve as true citizens of a country. The country depends very much upon the educational system of that country and it prepares the pupils who become the citizens of tomorrow.

Education is a process of adjustment of the individual to adjust himself/herself to the world of nature, the world of human being and the world of value. It also exercises influence on ones’ vocation, home life, friendship, marriage, travel, recreation
and hobbies and tells upon his/her personality. There has been a constant quest to
determine the basic issues of education. Various philosophers and educators have
attempted to define the term “education”. ‘The scholars from Socrates and Plato to
Dewey and Mahatma Gandhi have expressed divergent views’. (Mohanty, 1991).

The primary meaning of education appears to be “bringing up”, leading out’ or
making manifest and explicit the potentialities in a child. That is Education means
bringing out of the idea of universal validity which are latent in the minds of man.
(Chaube, 1999).

Education should help to discover lasting values so that pupil does not merely
cling to formulate or repeat slogans; it should help them to break down their national
and social barriers, instead of emphasizing for they breed antagonism between man and
man. Thus “Education should awaken the capacity to be self-aware and merely indulge
in gratifying. That education is given in five different levels in India such as primary,
upper primary, secondary, Higher secondary and tertiary i.e. higher education.

1.2. Objectives of Higher Secondary Education

The objectives of secondary Education as proposed by higher secondary
Education Commission involve the full and all-round development of every
individual’s personality. According to Patel committee, the objective of secondary
education is “acquisition of the skills and habits of self-training, broad-based general
education, develop aesthetic appreciation and creativity through participation in artistic
activities”. (Quoted by Bhatia, Ahuja, 1993, P. 109).

According to Edmonson et al. (1953), “The duty of the higher secondary school
is to provide experiences and information that will lead to the fullest development of
students as individuals, both in their adolescent years and in adult life. Before this can
be accomplished, those in charge of the institution must determine as accurately as
possible the present and probable future needs of students. These needs should be
translated into the significant general aims and more toward performance of these
functions and attainment of these aims. By encouraging the maximum development of
its students, the schools contribute to the welfare and progress of Society through
improving the quality of participation in social situations” (P.27).

The Commission on ‘Life Adjustment Education’ in 1947 by the federal
government has laid down the objectives of higher secondary education as successful
citizenship, training the young man in day-to-day life requirements, making worthy
members of the family, to be able to understand the basic rules of learning, to prepare
for a vocation, to be able to make worthy use of leisure, to develop spirit of appreciation of beauty, to understand the significance and method of science to developmental health and physical fitness and good moral and ethical development (Edmonson et, al., 1953, P.39).

Judd et, al., (1942) pointed out that the objective of higher secondary education should be to provide such general education as to equip the students with basic knowledge in all subjects and skills in some fields to enable them to pursue a life of their own, the knowledge and skills for the student to pursue higher academic or technical courses. Thus, higher secondary education should be both terminal and continuing (P.S). Science is one among the different subjects offered at higher secondary level.

1.3. Science Education

Sharma R.C. (1991) in his book “Modern Science Teaching” has noted Jawaharlal Nehru’s remark that the progress of any nation depends upon scientific knowledge and a population that knows how to apply it in life. This is very true because science and its application have pervaded every sphere of life.

“Education is an integral indispensable part of the scientific enterprise”. For example, although every body learned how the nutritional deficiency disease kwashiorkor can be prevented, the problem is not solved as long as large numbers of people are not aware of this knowledge or of how to use it. This is largely an educational task. Similarly, scientist or engineer, who does not educate himself and others, is threatened with obsolescence. Without continuing education, one may find out of the mainstream of the field and floating in a stagnant pool going nowhere.

1.3. a. Emerging Trends in Science Education

(i) **Establishment of state institution of science education**: Separate institutions of science education are being established in a number of countries. These institutes are responsible for curriculum development in science and also for planning and implementing science education in schools.

(ii) **Development of Indigenous curriculum**: There is progressive shift towards development of indigenous science curriculum based on the past experience of the country and suitable to the needs and requirements of the children and the country.
(iii) **Emphasis on conceptual learning:** Although the traditional approach to teaching science as a body of facts is still prevalent, there is a shift in some countries from factual to conceptual understanding of science.

(iv) **Integrated science:** There is a trend towards unified or integrated approach to the organization of content within various branches of science especially at the primary level. In some countries there have been attempts to integrate science with social studies and humanities.

(v) **Development of de-centralized curriculum:** There is a greater realization of the importance of decentralizing the development and implementation of curriculum attempts are being made to decentralize the development of curriculum materials relating to certain topics while retaining a core of other topics development at the central level.

(vi) **Pupil-centered teaching:** There is increasingly greater recognition of providing first hand experience to the pupils and seeking their active involvement in the learning process through discovery and inquiry approach.

(vii) **Self-learning materials:** In addition to the traditional instructional materials new multi – media learning packages are being developed. They include self-learning kits, modules, programmed materials, etc.

(viii) **Low-cost science materials:** Many developing countries have established centers for designing and developing equipment suited to local conditions and using local raw materials. There is an emphasis on developing low cost science materials rather than buying expensive and sophisticated equipment.

1.3. b. Importance of Science in the School Curriculum

One has to live in a scientific civilization whether he/she likes it or not. Science is no longer confined to a few seriously devoted persons. Since living in the present world invariably warrants, to variable degrees, knowledge of scientific facts and laws. Science has now become everyday science for everybody. Teaching of everyday science for everybody has become an unavoidable part of general education. Nobody questions its inclusion as a subject in the school curriculum. It is included in a school’s curriculum for the same reasons as any other subject. But in addition, science inculcates certain special values peculiar to it and which no other subject can provide. It is a part of liberal education. But besides satisfying the usual needs for its inclusion as a subject in the curriculum-such as intellectual, cultural, moral, aesthetic, utilitarian as well as...
vocational values, science learning provides training in science method and also helps to develop a scientific attitude of mind in the learner. The qualities imbibed by the learner through learning science are valuable for a citizen living in the society. The teaching of science in schools in India was conspicuously deplorable still after 1953 when the Secondary Education Commission, popularly known as the Mudaliar Commission (1952-53) recommended teaching of general science as compulsory subject at the secondary school stage.

Science has now become a compulsory subject in the school curriculum because of its multifarious value to the individual as well as the society. Some of the Values are intellectual, utilitarian, vocational, cultural, moral, aesthetic, psychological, training in the scientific method and inculcation of scientific attitude

1.3. c. What is Biology?

The word “Biology” comes from the Greek word.’ Bios’ means “life” ‘logus’ means “science”. The word biology is the knowledge of living things. The term biology applies to the two sciences of zoology and botany, the study of animals and plants.” biology arose out of man’s curiosity about himself and other living things”. Some of the major branches of biological science are earth science, biotechnology, biochemistry, molecular biology, genetics, microbiology, bacteriology and marine biology.

1.3. d. Place of Biology in School Curriculum

In primary schools biology forms a part of general science course or it is taught as environmental science or as natural history. Even when biology exists as a separate subject, there is increasing awareness of its relative importance with consequent increase in time allotted to it. More time has to be allotted to biology because it is a time consuming subject. In most of the countries, biology is a compulsory subject at primary school stage and sometimes even upto high school stage. In higher classes, biology is given about 6 periods a week. In school system where biology is available as an elective subject about 80% students opt for it. It is the most popular of the sciences and continues to grow in popularity relative to other subjects in the curriculum. Realizing the need of science Kothari Commission (1964-66) has very rightly remarked in its recommendation as follows:

“We lay great emphasis on making science an important element in school curriculum. We, therefore, recommend that science and mathematics should be taught on a compulsory basis to all pupils as a part of general education during the first ten
years of schooling”-(Education Commission-1994-66). It is in this spirit that science incorporating physical as well as biological sciences has been made a compulsory subject in the school curriculum up to ten years of schooling.

1.3. e. Nature and Scope of Biology

A biology student is engaged in a human activity that is directed towards seeking new knowledge about living things. A student tries to acquire new concepts of biology or science. It is easy to recall that biology has emerged a bit late through schools were teaching hygiene and human physiology for a long time which were later on replaced by botany and zoology. At the turn of the last century, the separate courses of botany, zoology and human physiology were unified into a course known as biology.

In last twenty years, the situation has changed drastically. Not only has the content of biology been brought up to date in the schools but the teaching approach has also been changed from taxonomic to inquiry approach. Today it is not sufficient to teach cell or tissue. It needs teaching of DNA and the process, which helps in its replications. Today, biology need not be a simple grouping of phenomena for the same of description, classification and correlation. Biology students are no longer concerned with memorization of facts alone. They are interested in relating facts to the understanding of a given process. A problem-solving attitude prevails among the students.

1.3. f. Major Thrust Areas in Biological Sciences

Some of the major thrust areas in biological sciences at the present juncture may be named as molecular biology, genetic engineering, bio-remediation, bio-medical, metabolic engineering, space biology, bio-diversity, bio-informatics, industrial biotechnology, industrial micro-biology, environmental bio-technology, environmental resource management, gene therapy and genetic counseling, herbal products of pharmaceutical value, nutritional quality improvement, industrial bio-chemistry, plants genetics, storage and conservation of food, health care, erosion and pollution control, use of fertilizers, population control and maintenance of ecological balance.

1.3. g. Educational Role of Biology

The relative popularity of biology reflects a changing emphasis in the philosophy of curriculum. In past, more importance was given to the descriptive and taxonomic subject matters in teaching of biology but now-a-days more emphasis is laid on the concept of evolution and the history of life on earth. Since, evolution now is considered more of a law than theory, more emphasis is laid on teaching of mechanism
of evolution than that on the details of structure and taxonomy. The outdated and imbalance content has been replaced by modern discoveries in the fields of cell biology, basic genetics, bio engineering and bio technology. Newer areas such as ecology, demography and population genetics give meaning to studies of diversity and evolution. School biology is seen as performing a social role. In some countries, emphasis is on overcoming alcoholism, drug abuse, obesity and other counter productive social needs. It also helps in programmes of family planning, health and nutrition, agricultural policies and the utilization of natural resources.

1.3. h. Biology Education in Indian Schools

In 1964, UNESCO Report on science teaching in secondary schools of India was submitted, which presented a comprehensive report on the teaching of physics, chemistry and biology. It reflected the poor conditions of biology textbooks and laboratories. In the light of the availability of highly technical facilities and every increasing interdependence of biology, chemistry and physics, the UNESCO team gave the following suggestions to improve biology education at the school level.

i. Fundamentals of biology should be compulsory as a part of general education for all irrespective of one’s future vocation.

ii. In the syllabus, attention should be paid to the studies of cell, life activity and individual development of organism.

iii. Achievements of modern biology for practical purposes should be emphasized.

iv. Knowledge of biology should stimulate working out of basic sanitary-Hygienic experiences for pupils.

v. Methods in the study of biological sciences should emphasize sufficiently observation and experimentation.

The NCERT has developed biology textbooks that reflect the spirit of Biological Science Curriculum Study (BSCS) project materials and also distributed and published BSCS materials. The biology courses at both the secondary and higher secondary stages are rich in content and include environmental aspect and the biology teacher is prepared both in content and teaching methodology.

1.3. i. Teaching of Biology

The main aim of teaching is to bring about socially desirable behaviour changes in the students and this can only be achieved if the teaching is effective and based on the principles of teaching. The teaching of biology should be an essential part of course
in general education. The learner’s should be encouraged to think reason and to draw inferences from what they observe. For proper teaching of this subject schools should possess a small aquarium, a vivarium and garden plants, pot-plants, caged birds, insects and botanical specimens which are quite helpful for the school garden. The teacher should illustrate with experiments and encourage pupils to perform simple experiments themselves. Excursion to the countryside, local garden parks, nursery, museum and the zoo must be encouraged to provide students and opportunity for getting first hand information.

1.3. j. Recent Trends in Teaching of Biology

Life sciences or biology, the study of living things, gets new knowledge added to the existing one by observation, experimentation, collection of data, analysis, interpretation, etc. The goal must help the students lead more meaningful, satisfying and responsible lives, both personally and socially. Modern biologists accept that there are five characteristics of living system, which should be taken as a basis for teaching and learning of biology.

It will be possible to teach biology by providing an opportunity to students to carry out short investigations for themselves and also study methodology of experimental research. Thus, students will be able to learn both concepts and the processes. Relevant literature highlights the following trends in biology education.

i. Biology education should be helpful in preparing students to utilize their knowledge for improving their personal lives.

ii. Biology education should produce informed citizens for coping with the science and technology oriented would deal with the biology related social problems.

iii. Biology education should prepare students for academic pursuits appropriate for their needs.

iv. The content of the biology syllabus should be selected for its utility in improving the quality of the individual and social effectiveness.

v. Biology courses should be more interdisciplinary or multidisciplinary.

vi. A biology teacher should possess all teaching competencies and should have a humanistic outlook.

A study of life sciences is useful in becoming aware of the biosocial problems and to acquire decision-making abilities.
1.3. k. Role of the Biology Teacher

Secondary Education Commission (1953), in its report, says: “We are convinced that the most important factor in the contemplated educational reconstruction is the teacher, his personal qualities, his educational qualifications, his professional training and the place he occupies in the school as well as in the community. The reputation of a school and its influence on the life of the community invariably depend on the kind of teachers working on it.”

From the above quotation, the major role can be played by the biology teacher in developing scientific attitudes among his students and that he can do by manipulating various situations that infuse among the pupils certain characteristics of scientific attitudes. In the classroom and laboratory the teacher uses the best knowledge acquisition process. A good biology teacher makes use of instructional material and audio-visual aids and also prepares it. An ideal teacher provides useful instructions to the students. He/she takes part in all the instructional activities and keeps all information of help opportunities and also appraises the students about them.

The teacher selects important principles and facts from the entire syllabus and presents it in front of the students in a collective manner. Using appropriate method, he/she is familiar with the latest technique of evaluation to evaluate his/her students correctly. He/she is fully competent in selecting biological apparatus and making proper use of it. The biology teacher makes his teaching successfully by knowledge acquisition process by obtaining complete knowledge of personal needs, understanding capacity and problems of the students. He/she has to be an expert in organizing exhibition, science fair and other activities for the people of school and community. The practical examples given by the teacher leaves an indelible mark on the personality of the students.

In order to cater to the needs of the heterogeneous group a teacher has to adopt several methods and techniques. The knowledge of the psychological traits is helpful to the teachers to know about the needs of the students and to succeed in their teaching process. They should also know that many factors are influenced in the learning process likely

(1) Environment (2) Study habits (3) Self esteem, etc.
1.4. Environment

Environment is a general term designating all the subjects, forces and conditions that affect the individual through such stimuli as he/she is able to receive (Halsey, 1962). The learning environment refers to the background of a pupil, which means his home environment and school background.

Environment is a powerful factor, which influences the development of a child. Every child is born in a family at a particular place and time in a specific environment. This environment, either controlled or uncontrolled, exerts its influence upon the growing child in different ways. Influence of the environment on personality can roughly be divided into that at home and school. The elements of both school environment and home environment have a strong and direct impact on the academic achievement of students.

“Be careful the environment you choose for it will shape you; be careful the friends you choose for you will become like them”. According to (Resnick, 1987) environments may be divided in the six kinds

(i) Communication environment, where learners participate in the discourse by actively constructing goals, problems, meanings and information.
(ii) Information transmission environments, where learners participate by receiving information.
(iii) Problem solving environments, where learners work on projects and problems.
(iv) Training environments where learners practice exercises to improve specific skills and knowledge.
(v) Evaluative performance environments, where learners perform for an audience.
(vi) Recitation and testing environments, where learners demonstrate their ability to work

1.4. a. Factors of Learning Environment

All children are not brought up in similar environment and hence the effect of learning on the child differs according to the learning experiences provided in different environments.

A proper and adequate environment is very much essential for the fruitful learning of the child. Especially, the home and the school should provide the necessary stimulus for learning. Environment stands for all those circumstances which are asserting their influences on the individual since birth to death. Learning takes place
effectively only when congenial environment is provided for children in classroom, school, home and the societies, which are the parts of the child’s learning environment.

The learning environment is an important determinant of success in any educational system. In the present investigation, the factors of learning environment considered are divided by internal and external factors.

(i) Internal Factors

Internal factors are also called subjective factors influence in learning. There are six internal factors involved during the learning period.

**Age:** Age can influence upon the capability of learning, a child can not learn the things what elders can learn and an aged person will have difficulty to learn modern ways of knowledge.

**Intelligence:** Intelligence effects very much on learning. If subject / individual has maximum level of intelligence he/she can learn more and easily at maximum level.

**Attention:** Attention is also very important factor which influences on learning. If a person does not pay attention towards how to learn a specific knowledge, skill or experience, he/she can not learn easily but if the individual pays attention the results are vice versa.

**Interest:** Subject may here intelligence and can also pay attention towards learning. But if he/she does not have interest in how to learn a specific knowledge, skill or experience, his/her level or process of learning would be very slow.

**Mental and physical health:** Learning also depends upon mental and physical health of the individual or subject. If an individual does not have mental health or physical one, the subject can fulfill the demands of the process of learning due to his/her weak mental and physical capabilities.

**Fatigue:** If an individual is tired, he/she cannot pay full attention towards learning something.

(ii) External Factors

There are six external factors are involved during the learning period.

**Nature of knowledge:** If knowledge is interesting in nature, any individual can learn it more efficiently.

**Recitation:** Recitation is more effective tools of learning. If an individual recite something louder, he/she can learn more effectively.
Meaningfulness: If the material of knowledge is meaningful, the individual will learn it more effectively and easily. Meaningless material neither can be learnt easily nor kept in memory on long term basis.

Exercise of repetition: Single act is learnt in single trial but complex acts require repeated trails. If a material is difficult to learn, it can be learnt through exercises or repeated trails.

By parts learning: If the material is so long it can be divided into small parts, so individual can learn specific knowledge, skill etc more effectively.

Reward and punishment: The presence or absence of reward can affect learning, generally reward is more effective in promoting learning than is punishment, the latter does have some effects on learning, it tends to repress a desired response than to extinguish it.

(iii) Some other factors
Some other factors are directly influencing the learning period. They are home environment, school environment and social environment

(a) Home Environment: If refers to the environment existing in home, which includes the atmosphere created by parents, siblings and other family members. Burgers and Lock defined family as a group of persons united by the ties of marriage, blood or adoption, constituting a single house hold interactions and inter communications with each other in their respective social role of husband and wife, mother and father, brother and sisters creating a common culture.

During the last hundred years, great changes have taken place in the family as an educational agency. Multifarious scientific inventions have changed the needs of living of even an ordinary person. As a result, the responsibilities of the family are being gradually reduced. However, there is no other institution except the family to provide emotional and social security to children, so the need to protect family as an institution in the interest of our children.

Home is said to be the first school of the child and home environment is one of the most potential factors which influences a Childs’ achievement (Jain, 1965: Tandon, 1978: Jaganathan, 1986) and it develops various abilities in children (Frasser, 1959). Children coming from high home environment achieve better in schools than their counterparts coming from low home environment (Misra, 1960).
**Family:** Family is the oldest, basic and fundamental unit of human society. It may be regarded as a small social group united by the ties of marriage, blood or adoption (Clare, 1943). The family carries the responsibility for the welfare of its members from cradle to grave (Coleman, 1965) and it serves as a bridge between the child and the world outside. Two children may attend the same school, may come under the influence of the same teachers and the same course of study and yet may differ in their learning readiness and academic achievement may me due to their family. (Harson and Robinson, 1967).

**Parents:** Parents have been performing the role of the teacher, though the nature of this role has been changing in response to the needs that varies individually from one child to another. Parents education, personality characteristic, emotional and social behavior, mutual affection, love and quarrels, their interest and attitudes and general character etc. (Dave and Dave, 1971: Tiwari, 1981) Parents are responsible for developing disciplined behavior and creative thinking in their child from very early childhood. Parents with sound ethical values will be effective role models for their children. A Child’s personality development is determined by the way in which his/her parents especially his/her mother interact with him/her and how he/she perceives these interactions (Winch and Machinnis, 1959) Parents also play a very important role of counselor or guide to their children and most often do an excellent job because they are readily available for guidance.

**Educative influence of home:** Chronologically and psychologically, home starts the child off into life and its experiences. It is the original and basic source of informal and incidental learning which sale sequentially limits and slants the individuals’ quality and rate of progress on different chosen fronts the overall influence of home itself through affection, care and attention which are diffused and displayed in different ways, on an appropriate scale of frequency and intensity.

Home environment refers to the psycho-social environment of family in which the child is brought up. Home provides an excellent opportunity for socialization, by laying the foundation for physical, mental and social health of the child. All families do not have uniform culture and standards of life, so they differ in the ways of meeting the physical, emotional, psychological and mental needs of the children.

Effect of environmental influences start from the pre-natal stage of the child. Hence the homes are the most important ingredients in the process of growth and development. This social institution develops the finest and most vital qualities in
cognitive, affective and psychomotor fields in the Childs’ formative periods. The foundation of education is laid in the home and the school and teachers simply work on it.

Family means the Child’s basic needs for affection and protection. It is on the lap of family, a newly born learns the language of nature and his/her environment. The scholastic achievement of an individual is often attributed to one’s scholastic home environment than to innate mental potentialities. The factors like psychological condition of the family, social status, economic status, interpersonal relationship of family members and family discipline are some of the factors, which influence educational attainment.

The home environment teaches many things to the child both consciously and unconsciously i.e. mutual respect, adjustment, tolerance, love for weak, suffering and self-confidence, etc. The home should provide facilities and varieties of stimulating experiences through warm emotions which foster academic achievement of pupils.

(b) School Environment

It plays an important role in the development of positive attitudes. School environment should provide feelings of security in every student irrespective of their religion or socio-economic conditions. It should be free from caste, creed or religious feelings. It should provide conducive environment for learning, free from fear, tension and frustration.

The needs of adolescents should be given proper place in the school curriculum. Good libraries, opportunities for the discussion and community service help in the proper development of the mental abilities of the child. Meeting the needs and interests of the pupils is a factor of tremendous importance in education. The main objective of school as a socializing agency is to raise the standard of living of the community.

Next to home, school is the second most important institution in the developmental process of child. Schools should promote the complete development of individuality of a child. It can provide a variety of learning experiences through curricular and co-curricular activities. To widen the horizon of the students’ knowledge, methods of teaching like group discussion, assignment, workshops, seminars etc, can be of prime importance. Experiments, excursions, exhibitions visit promote co-operation and we feeling. Sports and games help to develop leadership qualities. Sportsmanship and co-curricular activities like debates, elocution, dramatization develop the skill of expression, arguing and reasoning. All these learning
experiences play vital role in the academic achievement of the pupils. The students who undergo a type of passive teaching and learning do not get the real foundation of the subject, due to lack of understanding of the subject.

(c) Social Environment: It includes the psycho-sociological influence of the society of which the individual forms a part. Man/women has his/her birth and development in the society and acquires socialization through his/her contact with family members, relatives, neighbors, friends etc. This satisfies physical and psychological needs. The social environment which influences the intellectual development of the child includes the family, friends, classmates, neighbors, teachers and the members of the community and society. The means of mass communication, recreation, religious places, social centers, clubs and libraries can form contributions factors for academic achievement. Learning takes place effectively only when congenial environment is provided for children in classroom, school and home which are a part of their social environment.

The socio-economic status of the family and the academic achievement of the children are related. The type of society in which the family lives and the type of extra-curricular activities that a child gets are all determinants of social growth, which contribute to scholastic achievement. Studies also support that a democratic atmosphere promotes more adjustment and hence achievement.

1.4. b. The role of the Environmental Factors in Human Development

Bronfenbrenner (1979, 1989, and 1994) has proposed an ecological model of human development (Figure 1.1). In this context, the human individual is considered to be at the center of a series of concentric circles. The elements in each circle influence the circles inside it. In this model, a person, initially consisting of his or her biological makeup, is most directly influenced by the immediate environment. For most children, this includes the home, family, toys, peers, classrooms and teachers. The immediate environment is influenced by the social and economic context. For example, the home environment will be influenced by the makeup of the neighborhood including such factors as the noise level and the lead content of the soil. The family will be influenced by such factors as whether a parent is able to take a job that permits frequent contact with the child and the degree to which the parent feels oppressed or happy at work. The social and economic context is influenced by the cultural context - the beliefs, values, and guidelines that people in a particular society tend to share.
According to Dewey (1926) “Education is a continuous process of experiences and of revising or non-revising experiences. It is the development of all these capacities in the individual which enables him to control his environment and fulfills his possibilities”. The forces of environment begin to influence the growth and development of the individual right from the womb of the mother. Educational process of development occurs in physical, social cultural and psychological environment.

A proper and adequate environment is very much necessary for a fruitful learning of the child. Especially, the home and the school should provide the necessary stimulus for learning experience. Skinner (1995) defined school is a special environment where a certain quality of life and certain types of activities and occupations are provided with the object of securing Child’s development along desirable lines”.

In the school, great emphasis is placed on achievement from the beginning of formal education. It is the prime concern of teachers, educators and psychologists. A number of academic related studies reveal that factors have been identified as predictions of academic achievement. Some of these factors are intelligence, personality, self-concepts, achievement motivation, interest, socio-economic status, methods of teaching and so on. These factors are the contributions of the physical and social environment of the child on the learning environment.
1.5. Study Habits

The development of good study habits is the highway to the goals of an individual, whatever they are. A simple, small change in study habits makes a big difference in goal setting and organization of one’s life. The success of an individual depends upon his study habits. Education is the manifestation of perfection already existing in man. The tool enabling his manifestation is study habits.

According to Patel (1997), “general ability is mostly concerned with an innate ability while habits are generally formulated, acquired, cultivated and fixed by repeated effort. There may be a sizable number of pupils below the line of average general ability. However, they might get good scores in their school achievement because of their good study habits. Not all pupils having above average general ability with poor study habits may be expected to do better in the studies. Their potential general ability is to be transmitted into a Kinetic resource. The study habit is the medium through which this transformation is possible.

According to Geslat, V.K. (1997), “Study habits mean the ways of studying whether systematically or unsystematically, efficiently or otherwise. Study can be interpreted as planned programmes of subject mastery”. According to Ron Fry (2000), “Studying is a skill process. Like any other process, studying has certain characteristics. They are as follows:

(i) An individual makes use of an appropriate study skill in various stages of his/her life. Studying is not to study harder, just smarter.
(ii) Studying is breaking a complex process into easy-to-follow simple steps.
(iii) Studying is more difficult if one is tired, unhealthy and drunk. So, studying needs use of common sense.
(iv) A good studying needs one’s responsibility for creating his/her own study system.
(v) An effective studying is based on the usage of available study time.
(vi) Studying prefers ‘listening’ to seeing to have little problem on getting the necessary knowledge”

1.5. a. Study Habits-a long-term process

Learning how to study is really a long-term process. As one goes on studying, one finds more techniques and methods that offer new information leading one in an interesting and successful direction. So, learning how to study or to develop good study habits is a life long process, and one should be ready to modify one’s method of study according to the need of the time.
1.5. b. Formation of Study Habits

On account of poor study Habits, an individual may be doing poorly in school even with reasonable amount of study time. The steps by which good study habits can be formed are given below:

♦ It is much easier to replace one of our habits than to break it entirely. So, one should not attempt to stop poor study habits, but just to learn the good ones that substitute them.

♦ Go on practising. There is no way around it. The more we do something, the more ingrained it becomes.

♦ It is better to seek the help of friends and family to look into one’s new practice of a study habit regularly followed. Additional pressure by others is a good motivation.

1.5. c. Study Habits and Content Reading Ability

Each reading skill applied in a content area needs to be taught to students in a systematic, direct fashion.

<table>
<thead>
<tr>
<th>Task</th>
<th>General</th>
<th>Specific Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selecting appropriate texts</td>
<td></td>
<td>Use of title</td>
</tr>
<tr>
<td>Locate specific information</td>
<td>Locational Skill</td>
<td>Use of table of Contents</td>
</tr>
<tr>
<td>Locate page for Specific information</td>
<td></td>
<td>Use of index</td>
</tr>
<tr>
<td>Obtaining general information in text</td>
<td>Comprehension Skill</td>
<td>Determining author’s pattern by reading center heads and paragraph heads</td>
</tr>
<tr>
<td>Reading for information</td>
<td>Comprehension Skill</td>
<td>Finding main idea</td>
</tr>
<tr>
<td></td>
<td>Comprehension Skill</td>
<td>Differentiating important from unimportant</td>
</tr>
<tr>
<td></td>
<td>Organizing Skill</td>
<td>Outlining</td>
</tr>
<tr>
<td></td>
<td>Organizing Skill</td>
<td>Summarizing</td>
</tr>
</tbody>
</table>
1.5. d. Teaching Techniques

The following strategies can help youngsters to be successful when using a single content text.

- **Directed Reading Activity (DRA):** This teaching strategy should be applied to all content reading, not just basal materials. The use of the elements of readiness (motivation, vocabulary, background, purpose setting), silent reading and review (Comprehension check, meaningful oral reading, direct instruction lesson on a study skill, and transfer activities) will help students successfully read and learn specific content. An example of a Directed Reading Activity for science is shown on pages 4-7 of the first color insert.

- **Advanced Organizer:** This teaching technique involves providing students with a short written summary of a content chapter before the actual silent reading.

- **Structured Overview:** This technique is similar in function to an advanced organizer. A Structured overview presents a chapter’s Key ideas and their relationships in a visual format (usually in the shape of a flowchart, hierarchy, spoke, or pie). The Chapter’s key vocabulary words are usually included and discussed with youngsters before and after silent reading.

- **Study Guides:** This technique provided students with a set of questions covering each section or page in a chapter to answer while reading. Study guides provide students with purposes for reading. The questions asked should be balanced among literal, interpretative, and critical comprehension levels and in terms of being vocabulary related.

1.5. e. Heading Readiness for Learning

Texas State Board of Education identified essential elements in reading programs to include: (1) discriminating sounds for each letter of the alphabet; (2) discriminating visual shapes, forms, and letters (3) understanding the direction of formal print; (4) following oral directions; (5) telling what a story is about; (6) appreciating repetition, rhyme, rhythm, and alliteration; (7) following simple story line in stories read aloud; (8) supplying missing words in oral context; and (9) recognizing the ordinal and spatial features of print. This list does not include all of the essential elements that are required in reading instruction. However, it is representative of the fact that many of the reading skills which were typically taught at the first-grade level.
Ausubel defined readiness as the “adequacy of existing capacity in relation to the demands of a given adequacy of existing capacity in relations to the demands of a given learning task”.

1.5. f. Variability in Learning Rates

Prior to focusing on specific readiness factors and diagnostic factors and diagnostic measures, teachers should be aware of the differences that exist among children in regard to their rate of learning to read.

(i) **Sex differences:** Research data compiled over the past several decades have shown that girls as a group usually experience less difficulty in learning how to read than do boys as a group. A number of explanations have been offered for why girls are generally more successful than boys in early reading achievement. Among the major explanations are maturation differences, the school curriculum and environment, the content of reading materials, and cultural environments.

(ii) **Maturation differences:** Boys and girls mature at different rates, and some phases of growth have been assumed to be closely related to reading. Since the data are conclusive that girls develop more rapidly than boys, this hypothesis is sometimes seen as the key to the problem under discussion. However the likelihood of this factor alone being the key to sex differences in early reading achievement is questionable.

(iii) **School curriculum and environment:** Two important variables related to both the school curriculum and the environments are the teacher and his/her behavior patterns. The effect of female teachers on the achievement of boys has been considered as a possible reason for explaining sex differences in reading development. In a recent review of the effect of female teachers on boy’s reading achievement, Johnson and Greenbaum categorized their findings into four curriculum and environment areas with the following conclusions:

- **Negative treatment** - Boys appear to have more types of interaction with both male and female teachers. Female teachers do not exhibit a greater amount of negative treatment to boys.
- **Grades** - There is little evidence to suggest that female teachers are biased toward giving higher grades to girls.
- **Higher achievement** - No support was found for the idea that boys achievement is higher when taught by males.
• Alienation - It does not appear, based on the research evidence, that female teachers structure their classrooms in ways that alienate boys.

(iv) Content of reading materials: Some investigations have found that the content of reading materials has a similar appeal to both boys and girls. Furthermore, story content did not often reflect those things that would appeal only to girls.

(v) Cultural environments: Several recent studies have suggested that cultural factors may play a significant role in producing sex differences in early reading performance. A number of these studies suggest that boys perceive reading as a female activity. This perception could result in a conflict between their role as a student and role as a male. In school, boys are encouraged to be passive and conforming, whereas socially they are encouraged to be active, aggressive, and achieving. Cultural factors may be the most credible factors affecting sex differences in reading. A boy’s perception of reading as a female activity could have a negative influence on his/her motivation to read and engagement in reading instruction. The important implication here is that there are variables within the learning environment that, when taken into consideration, could enhance the reading performance of boys. A major concern would be enhancing the appeal of reading to boys rather than reinforcing their conception that reading is for girls only.

1.5. g. Study Habits and Reading Readiness Factors

Numerous factors have been studied in relation to their impact on learning to read. Since reading is a complicated process, it is difficult to establish precise relationships or to completely rule out certain factors as being of no importance. The following discussion will be limited to a few factors that have been either widely studied or accepted, but may not be necessarily valid.

Data from several inquiries have suggested that high intelligence is not an absolute for early reading. During (10) found in her studies of early readers many youngsters who fell within an average range of intelligence (IQs in the range of 90-120). Recent research by Standovich, Cunningham and Freeman pointed out that general intelligence shares a moderate relationship with early reading; however, they noted three relatively independent abilities that are important in predicting early reading progress. These abilities were (1) verbal comprehension ability, (2) phonological awareness (knowledge of spelling-to-sound correspondence), and (3) decoding speed (rapidly recognizing words).
1.5. h. Reading Readiness Tests

A large number of reading readiness tests is available, and they vary in terms of content, format, and purpose. These tests are often used to predict future performance in reading and to diagnose specific strengths and weaknesses. Readiness tests are, as a rule, administered as group tests, though some may contain one or more subtests that must be given individually.

♦ Associating pictured objects with the spoken word for that object.
♦ Visual discrimination.
♦ Sentence comprehension.

1.5. i. Improving Reading Ability

Reading is a complex activity. Many skills are required for its mastery. Most students are poor readers because they do not know how to read in the correct way. Surveys have shown that poor readers are generally poor achievers in school and college. Reading is not merely going through the matter without understanding it.

Reading with understanding means:

1. Locating the main ideas in each para.
2. Listing all the important details in a para and
3. Reading with comprehension.

In order to correctly pick out the main idea and the important details, one should understand the passages.

Speed in reading increases comprehension. It is not difficult to improve one’s speed of reading, which can be developed by practicing. The various factors of reading ability are:

1. Good vocabulary
2. Reading a number of words in groups
3. Good speed of writing
4. Good comprehension
5. Independent selection of appropriate material for reading and locating information.

1.5. j. The Parent’s Role in Developing Study Habits

Ron Fry (2000) says, “The parent’s involvement is absolutely essential to a child’s eventual success. A parent, not even for a minute can underestimate the importance of his/her commitment to his/her child’s success.” Nancy L. Weishew
(1993) points out; “parents can help to improve their children’s behavior in school by becoming more involved in their education, monitoring their actions, and helping to increase their achievement, educational expectations and positive self-perceptions’. It is clear that parents have a specific role in developing one’s study habits.

1.5. k. The Teacher’s Role in Developing Study Habits

The teacher will change the way of one’s study. Effective teaching with its four components, knowledge, understanding, application and skill, can definitely elevate one’s own study habits. Some teachers encourage the students to memorize and some others emphasize the need for learning by understanding avoiding memorization. Hence, in developing a study habit, it’s not only a student who performs, but also a teacher. Teachers are unique in their teaching approach. Accordingly a student adopts a particular approach in a particular class. As is the teacher, so is the student.

1.6. The Concept of Self–Esteem

Self-Esteem

The amount of value ascribed to the self in “Self-Esteem”. Like the other aspects of the self, this is learned from others and becomes a reflection of how others regard or, more accurately, the value we think others attach to as persons. One’s behaviour is likely to reflect the self-esteem, and this, in turn, has a reassuring effect on others. Thus there is “a reciprocal interaction between one’s self-esteem and the esteem expressed for one by others”.

1.6. a. Meaning of Self-Esteem

When an individual has established a concept of self, then he/she is able to determine or not he/she is satisfied with what he feels about himself. Thus self-esteem can be judged. It will be more appropriate to indicate that all individuals have self-esteem because they have worth, value and high regard, but it may range from high to low in various individuals and in various aspect of the substantive self.

Becker (1971) urges that the dominant motive of man is the need for self esteem. Hayakawa (1963) also suggested that the main purpose of all human activity is to enhance self-esteem. It is the affective portion of the self. It refers to the extend to which one admires or values the self. Different people have different levels of awareness of the self different feelings about themselves as persons.

Self-esteem is the individual’s satisfaction with his/her self-concept; positive beliefs of them are termed as positive self-esteem. It is the complex picture of perceived self value. It is the disposition to feel worthy of happiness, respect,
friendship, achievement and success defined feelings of self-worth provide the foundation for motivation, mental development and healthy interpersonal relationships. It is usually defined as the personal judgment of worth lying along a dimension with positive and negative ends. It is usually defined in terms of self-attitudes, as which have an emotional and behavioral components.

According to Wells and Marwell (1976) self-esteem refers to the way a person perceives and defines himself/herself is postulated to have an effect upon his/her behaviour, how he/she will relate to other people, what tasks he/she will attempt, what states of tension he/she will experiences and how he/she subsequently will perceive himself/herself.

Self-esteem refers to the extent to which we admire or value of self. Coopersmith and Feldman (1974) have explained the constructs of self-concept and self-esteem; self-concept consists of the beliefs, hypothesis and assumptions that the individuals have about him. On the other hand, self-esteem represents his/her judgment of the concept that he/she has formed through his/her interpretation of the feedback from his/her physical and social experiences. Self-esteem is the persons evaluation of whether his/her self-concept attains his/her standards and value or not, it is a generalized positive and negative attitude towards, himself/herself.

1.6. b. Aspects of Self-Esteem

- **Self-concept:** In the Dictionary of Behavioral Science self-concept is described as, “the individuals appraisal or evaluation of himself.”
- **Self-image:** It is the perfect and ideal state which the individual imagines himself to be after identification with an idealized conception of what he should be. (K. Horney,1937)
- **Self-acceptance:** A healthy attitude towards one’s worth and limitations consisting of an objective recognition of each quality and an acceptance of each as being part of the Self.
- **Self-insight:** Self-insight means an awareness of one’s basic motivation and the effects that these motivations may have on thinking and conduct.
- **Self-knowledge:** Self-knowledge requires an intelligent inventory of personal assets and liabilities. Personal improvement begins with the courage and determination to face the truth about one’s self.
- **Self-understanding and self-esteem:** “Ellen is a happy and confident child because she has such a positive self-confident.”
The statement like this is heard all the time. Obviously, the term self-concept is used in a particular way in a statement of this sort. These terms one used to refer to children’s evaluations of themselves, that is, whether they feel good or bad about themselves. In other words, we are talking about children’s Self-Esteem. But a statement like “Arden thinks of himself as a helpful individual” is concerned with people’s cognitive conceptions about themselves that is, how they think about themselves. Thus, this discussion is talking here not about self-esteem but about self-understanding.

Healthy self-concept as a sign of mental health: The effect of self-concept on mental health has received a great deal of attention in recent years. Writers in various fields have emphasized that healthy concept of self is a desideratum of mental stability. A distorted concept of self can lead to neurotic formation. Here, in this area of the ideal versus the real self, the virtue of humility and the destructive force of pride can play dominant roles in mental health or ill health. A healthy self-concept leaves ample room for humility and banishes the foolish pride that leads to the development of egotism or neurotic defense mechanisms.

1.6. c. Types of Self-Esteem

People can develop the following types of self-esteem.

(a) High self-esteem (Normal): The persons love themselves and accept who they are.
(b) Low self-esteem: The persons don’t love themselves, don’t accept who they are and don’t value their qualities.
(c) Inflated self-esteem: The persons love themselves more than others and they exaggerate their qualities.

1.6. d. Characteristics of High Self-Esteemers

High self-esteem has different potentials. Achievement is not the most important thing. Authenticities. The authentic person experiences self-reality by knowing, being, and becoming a credible, responsive person. Authentic people actualize their own unprecedented uniqueness.

 Authentic persons-high-self-esteemers do not dictate their lives to a concept of what they imagine they should be; rather, they are themselves and as such so not use their energy petting on a performance maintaining pretence and manipulating others.

 High self-esteemers can reveal themselves instead of projecting images that please, provoke or entice others. They are aware that there is a difference between being loving and acting knowledgeable.
High self-esteemers need not hide behind a mask. They throw off unrealistic self-images of inferiority or superiority.

- Autonomy does not frighten high self-stemmers. They are able to sustain their autonomy over-increasing periods of time. They may lose ground occasionally and may even fail. In spite of set backs, high self-esteemers maintain a basic self-confidence.

- High self-esteemers are not afraid to do their own thinking and to use their own knowledge. They can separate facts from opinions and don’t pretend to have all the answers. They listen to others; evaluate what they say but their own conclusions. Although they can admire and respect other people, they are not totally defined, demolished, bound, or awed by them.

- High self-esteemers do not play “helpless” nor do they play the blaming game. Instead, they assume responsibility for their own lives. They do not give others a false authority over them. High self-esteemers are their own bosses and know it.

- High self-esteemers respond appropriately to the situation. Their responses are related to the message sent and preserve the significance, worth, well-being and dignity of the people involved.

- High self-esteemers respond appropriately to the situation. Their responses are related to the message sent and preserve the significance worth, well-being and dignity of the people involved.

- High self-esteemers know that for every activity a time is needed.
  - A time to be aggressive and a time to be passive,
  - A time to be together and a time to be alone,
  - A time to work and a time to play,
  - A time to cry and a time to laugh,
  - A time to confront and a time to withdraw,
  - A time to speak and a time to be silent,
  - A time to hurry and a time to wait.

- To high self-esteemers time is precious. They don’t kill it, but live it here and now. Living in the now does not mean that they foolishly ignore their own past history or fail to prepare for the future. Rather, high self-esteemers know their past, are aware and alive in the present, and look forward to the future.
High self-esteemers learn to know their feelings and limitations and to be unafraid of them. They are not stopped by their own contradictions and ambivalences. Being authentic, they know when they are angry with them. They can give and receive affection.

High self-esteemers can be spontaneous. They do not have to respond in predetermined, rigid ways, but can change their plans when the situation calls for it.

High self-esteemers have a zest for life, enjoying work, play, food, other people, sex and world of nature. Without guilt they enjoy their own accomplishments. Although high self-esteemers can freely enjoy themselves, they can also postpone enjoyment; can discipline them in the present to enhance their enjoyment in the future.

High self-esteemers are not afraid to go after what they want, but they do so in appropriate ways. Self-esteemers do not claim security by controlling others. They do not set themselves up to lose.

A self-esteemer cares about the world and its people. He/she is not isolated from the general problems of society, but is concerned, compassionate, and committed to improving the quality of life. Even in the face of national and international adversity, a High self-esteemer’s self-image is not one of a powerless individual. A high self-esteemer works to make the world a better place.

1.6. e. Characteristics of Low Self-Esteemers

Although people are born to win, they are also born helpless and totally dependent on their environment. High self-esteemers successfully make the transition from total helplessness to independence, and then to interdependence. Low self-esteemers do not. Somewhere along the line they begin to avoid becoming responsible for their own lives.

Some low self-esteemers speak of themselves as successful but anxious, successful but trapped or successful but unhappy. Others speak off themselves as totally beaten, without purpose, unable to move, half dead, or bored to death. Low self-esteemers may not recognize that, for the most past, they have been building their own cages, digging their own graves, and boring themselves.

A low self-esteemer seldom lies in the present, but instead destroys the present by focusing on past memories or future expectations. The low self-esteemer who lives in the past dwells on the good old days or on past personal misfortunes.
Nostalgically, the low self-esteemer either clings to the way things used to be or bemoans his or her bad luck.

* The low self-esteemer is self-pitying and shifts the responsibility for an unsatisfactory life on to others. Blaming others and excusing oneself are often part of the low self-esteemer’s games.

- A low self-esteemer who lives in the past may lament if only:
  - “If only I had better parents …………”
  - “If only I had been born rich ………….”
  - “If only I had been handsome …………..”
  - “If only I had a different job …………”

People may in the future dream of some miracle after which they can ‘Live happily ever after’. Rather than pursuing their own lives, low self-esteemers wait-wait for the magical rescue. How wonderful life will be when:

- “When the kids grow up …”
- “When the new job opens …”
- “When the boss dies …”
- “When my ship comes in …”

In contrast to those who live with the delusion of a magical rescue, some low self-esteemers live constantly under the dread of future catastrophe. They conjure up expectation of what if:

- “What if I lose my jobs …”
- “What if I lose my mind …”
- “What if something falls on me …”
- “What if I break my leg …”
- “What if they don’t like me …”
- “What if I make a mistake …”

By continually focusing on the future, these low self-esteemers experience anxiety in the present. They are anxious over what they anticipate—either real or imagined—tests, bill paying a love affair, crisis, illness, retirement, the weather, and so forth. Persons involved too much with imaginings let the actual possibilities of the moment pass them by. They occupy their minds with material that is irrelevant to the current situation. Anxiety tunes our current reality. Consequently, these people are
unable to see for themselves, hear for themselves, feel for themselves, or taste, touch, or think for themselves.

- Unable to bring the full potential of their senses into their immediate situation. Low self-esteemer’s perceptions are incorrect or incomplete. They see themselves and others through a prism like distortion. Their ability to deal effectively with the real world is hampered.

- Low self-esteemers spend much of their time play-acting, pretending, manipulating and perpetuating old rules from childhood. Low self-esteemers invest their energy in maintaining marks, often projecting a phony front. Karen Horney writes, “The fostering of the phony self is always at the expense of the real self, the latter being treated with disdain, at best like a poor relative.” To the play acting low self-esteemer performance is more important than reality.

- Low self-esteemers repress their capacities to express spontaneously and appropriately the full range of possible behaviour. They may be unaware of other options for a more productive, self-fulfilling life path.

- Low self-esteemers are afraid to try new things and instead maintain their own status quo.

- Low self-esteemers are repeaters, repeating not only their own mistakes, but often those of their families and culture as well.

- A low self-esteemer has differently giving and receiving affection and does not enter into intimate, honest, direct relationships with others. Instead, a low self-esteemer tries to manipulate them into living up to his or her expectations. Low self-esteemers often live up to the expectations of others.

- People who are low self-esteemers are not using their intellect appropriately, but instead are misusing it to rationalize and intellectualize. When rationalizing, low self-esteemers give excuses to make their actions seem plausible, when intellectualizing they try to show others with verbiage. Consequently, much of their potential remains dormant unrealized and unrecognized. Like the frog-prince in the fairly lake, low self-esteemers are spell bound and live their lives being something.

**High versus low self-esteem:** When self-esteem is high, one can be confident, feel free to be ourselves and to express. When it is low, he one would to hide himself/herself, expert very little of ourselves. Some of the characteristics of individual with high self-esteem versus low self-esteem are given table 1.2.
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<thead>
<tr>
<th></th>
<th>High Self-Esteem</th>
<th>Low Self-Esteem</th>
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</thead>
<tbody>
<tr>
<td>Perceives reality</td>
<td>Avoids reality to avoid anxiety</td>
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</tr>
<tr>
<td>Relatively undefensive</td>
<td>Defensive</td>
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<tr>
<td>Spontaneous</td>
<td>Reserved</td>
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<td>Natural</td>
<td>Plays a Role</td>
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<tr>
<td>Task centered</td>
<td>Self centered</td>
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<tr>
<td>Self-reliant</td>
<td>Dependant</td>
<td></td>
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<tr>
<td>Relationships are intimate</td>
<td>Relationships are Casual</td>
<td></td>
</tr>
<tr>
<td>Feeling valuable</td>
<td>Feeling unworthy</td>
<td></td>
</tr>
<tr>
<td>Makes growth choices</td>
<td>Makes fear choices</td>
<td></td>
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<tr>
<td>Non-judgmental of others</td>
<td>Critical of others</td>
<td></td>
</tr>
<tr>
<td>Wholeness</td>
<td>A feeling of not belonging</td>
<td></td>
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<tr>
<td>Enjoys being alone</td>
<td>Oriented towards approval of others</td>
<td></td>
</tr>
<tr>
<td>Acceptance</td>
<td>Strive to be perfect and avoid mistakes.</td>
<td></td>
</tr>
<tr>
<td>Experiences without self-consciousness</td>
<td>Consider what others think as most important.</td>
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1.6. f. Causes of Low Self-Esteem

Some of the important factors considered to be the causes for low self-esteem are given below:

- **Negative body image:** Feeling inferior in contrast with someone else.
- **Criticism:** A pattern of acceptance from parents and others that makes the child feel unworthy because of criticism.
- **Critical blow-ups:** Negative Self-criticism the child gives him or herself.
- **Chronic comparisons to others:** Makes each child know that he/she is not valued.
- **Demands of perfection:** Perfections are driven by feelings of insecurity, so they compensate by being perfect.
- **Sense of hopelessness:** Negative input from others has destroyed hope.
1.6. g. Sources of High Self-Esteem

Every child needs parents’ approval in terms of
1. his/her own sense of personhood
2. his/her proven ability
3. his/her sense of individuality
4. his/her framework of meaningful value.
   - Other good examples and about role models.
   - Sibling and peer approval.
   - Educational achievements.
   - Skills, mystery in sports, music, hobbies etc.
   - To learn to feed self good strokes.
   - To receive God’s love and acceptance.
   - Career expertise and enjoyments and Root-value transfer.

1.6. h. Gender Role and Self-Esteem

Perhaps as a result of the women’s movement over the past twenty-five years young men’s and women’s concept of masculinity and femininity are changing. Among many young adults, gender-role stereotypes are breaking down, and those whose personalities do not fit the traditional stereotype for either gender show the highest self esteem and most advanced psychological development (Hyde, Krajnik, and Skuld–Niederberger, 1991). These women and men are androgynous: they are high both in personality traits considered masculine (they are self-reliant, independent, and assertive) and in traits considered feminine (they are affectionate, sympathetic and understanding). Among college students studied by Janet Spence (1979) more than a decade ago, those who were low in both masculine and feminine traits also had low self-esteem. Male students who fit the traditional gender-role stereotype (high in their own genders traits and low in traits ascribed to the gender) tended to be higher in self-esteem than women who fit their traditional gender role. This may explain why many women see themselves as less competent than men. Recent studies have found an increase in the proportion of androgynous students, with women now being twice as likely as men to have androgynous personalities (Hyde, Krajnik, and Skuld–Niederberger, 1991).

Most young men and women seem comfortable with androgyny. Among one group of young adults, men felt easy about expressing their “feminine” qualities as
women did about expressing their “masculine” side (Reedy, 1977). Both genders wanted to see themselves as self confident, intelligent, independent, loving and understanding. This way of thinking about masculinity and femininity widens the possibility for both sexes.

1.6.1. Self Concept Brings Self-Esteem

Whether stable or unstable a person’s self concept is a motivating force in his/her behaviour. The individual acts in accordance with how he/she sees himself/herself at the moment. If one feels that he/she is misunderstood or discriminated against, he/she will act like a martyr. If he/she feels that people accept him/her he/she will act in a friendly cooperative way. Much unpredictable behaviour can be traced to unstable self-concept.

Because self-concept is the dominant element in the personality pattern, it governs the individuals’ characteristic reaction to people and situations and determines the quality of his/her behaviour. Children and adults are governed by the concept of self which they develop and make part of themselves. Thus we have boys and girls who assign to themselves the role of clown, good citizen, manager, shrinking violet, little demon, sage, featherhead.

Research studies from several areas of behaviour illustrate how the concept of self, built up in the early years of life and reinforced by later experiences, influences the quality of the person’s behaviour and his/her characteristic reactions to people and to situations. Many school children work below their capacities because they have learned at home or from members of the peer group, to think of themselves as ‘dumb’. A child whose ability is limited, may work beyond his teacher’s expectation if he/she has a favorable self-concept characterized by feelings of competence and self-worth.

Success brings self-esteem: Academic success is highly valued by most adults; the degree of success a student achieves affects his personality via self and social evaluations. Every student becomes aware of how successful or unsuccessful in the area by academic symbols of success, promotion, grades, honours and diplomas and degrees. How significant people in the student’s life react to these symbols of success influences how he/she reacts.

At all ages people are judged by now their achievement compare with those of their peers. The person whose achievements in highly valued areas are superior in quantity and quality is favourably judged by the social group. However, whether
favourable social judgments will lead to favourable self-evaluation will depend on whether the person’s achievements come up to his/her own aspirations.

**Aspirations:** Aspirations are the ego involved goals persons set for. The more ego involved his/her aspirations are and the more they relate to areas of behaviour that are important to him/her. Most people want to be regarded as successful in areas that are important to others. And what is important to others varies from age to age and from one social group to another. To effectively play its role as a symbol of self, success must be visible. A person may communicate his/her success to others in various ways, some of which are crude and some extremely subtle.

**Effect of success:** Because of the high prestige associated with success, it is not surprising that the degree of success the social group attributes to a person has a profound influence on self-concept. Further more, the more prestige the group attributes to the area in which the person is successful, the more prestige value his success has and the more favourable the effect on his/her self concept. The more symbols of success a person has and the more visible the symbols are, the more favourable the judgements of others, and in turn, the more favourable the effect on the success in his/her self esteem.

**Motivating effects of self esteem:** Much research has been based on the assumption that people are motivated to behave in ways that maintain and enhance their self-image. Moreover, people will distort their perceptions of others behavior toward themselves so as to preserve this self-image. Thus, as noted in the discussion of attribution process, the people discredit information that they have done poorly on a task by attributing their failure to their lack of effort, to bad luck, or to the fact that the task would be impossible for any one to do well. In fact, they are motivated actively to seek information that helps to maintain their self-esteem: if they score low on an intelligence test, they may seek information that questions the validity of the test in preference to information that suggests the test results are accurate. The tendency to disparage people who evaluate unfavorably, predicted by balance theory, and may also be viewed as a means of preserving self-esteem by discrediting the source of the evaluation: the teacher who failed is incompetent: the person who left for another lover is not worth having. The reasons for this motivational effect are fairly clear. In the extreme, the failure to preserve the self-esteem can have devastating consequences for the mental health, such as serve depression.
The discussion, here, provides only a few examples of the ways in which the “self” enters into the processing of information, as

1. A source of information
2. A basis for comparison, or
3. A motivating factor that affects reactions to information and behavioral decisions.

The role of self is also critical with respect to the effect of other persons on one's behaviour the issue to which the people now shall turn.

1.6. j. Measuring Self-Esteem: Ideally the most appropriate way of assessing self-esteem levels of a child or class is to get to know them well over a period of time. However this is not always possible if dealing with a new (unknown) class or a difficult individual child, when speed of assessment, is of the essence. If the teacher does not wish to engage in complex assessment methods, a few simple techniques can be used such as:

- Interviews- where by a skilled teacher (such as a counselor, head of year or pastoral care teacher) encourage the child to discuss their self-concept. Interaction with the child can be both helpful and inhibiting dependent upon the previous relationship between teacher and pupil. The drawing up by the teacher of a list of standard question responses, in advance, can be of great advantage in the approach.

- A Teacher Check List - this is filled in by the teacher based on observations, of the pupil’s behaviour.

For example,

Does Pupil make self-disparaging remarks?
Is pupil boastful?
Is pupil hesitant and timid in new situations?
Does the pupil make excuses to avoid situations which may be stressful?
Is pupil continually asking for help and/or reassurance?
Is pupil continually asking if they are liked or popular?
Does pupil hang back and remain on the fringe of a group?
Is pupil apathetic in a learning situation?
Does pupil daydream a lot?
Does pupil avoid work even though risking teacher's displeasure?
Does pupil tend to blame others for their own failures?
Is pupil reluctant to assume responsibilities?

Even if all these questions are answered affirmatively, the feelings of low self-esteem are merely being inferred, not observed directly. There is also a set average (or Mean) value, as to what a child with average self-esteem should score, leading to inaccuracy in results.

- A Child Check List - basically a list of similar questions to the Teacher Check List, however this is for self-completion by the child. A list of personal attributes, such as:
  - Outgoing or Not Outgoing,
  - Friendly or Unfriendly,
  - Helpful or Unhelpful,
  - Good Worker or Poor Worker, etc.

These are examined by the child, who ticks those they feel apply to them. The completed list is studied by the teacher and based upon the results and their own personal knowledge of the child, a judgment is made. This approach has the added advantage of providing material for discussion later with the child or children, as to why they perceive themselves that way.

- Free Response Method-the child is asked to write an essay about themselves, and to list attributes which they believe to be personal characteristics. This can also take the for of twenty or more questions about the child, beginning with “I am ……….” For children with learning difficulties, this additional structure can be very helpful. The completed essay/list is then analysed by the teacher, as per the Child Check List (as above), giving points for later discussion.

- Q-Sort - this involves the sorting into different piles by the child, of a series of card. Each card contains a statement about the self (e.g. I am always happy). The first ordering is ranked in priority of how the child sees itself, and the second ordering is how the child would like to be. There are over 22 different set of these cards on the market, however Bulter and Haigh’s (1954) 100 card set, is the most frequently used and is fairly accurate. Although time consuming to set-up, the effort is repaid by the involvement and interest levels.

- Psychometric Tests - Some psychometric tests are sufficiently user-friendly to be considered for use in the mainstream classroom. Included here are the LAWSEQ “Primary School” Version (Lawrence, 1982) and the LAWSEQ “High School” Version (1983) which measure global self-esteem in a speedy and simple manner.
1.6. k. Self-Esteem and Evaluation

Although people customarily speak of self-esteem as a single entity, global-esteem-our-esteem also includes many compartmentalized or situation-specific aspects which vary according to circumstances. Nevertheless, all of us some of the time and sizable minority most of the time suffer from low self-esteem. Because self-esteem resides largely within yourself, ultimately you have the power to change it. As Seneca, the ancient philosopher said, ‘what you think of yourself is much more important than what others think of you.’

1.6. l. Development of Self–Esteem

The development of self-esteem is important because it may play a mediating role in assisting an individual to adjust to environmental demands and to develop socially appropriate behaviors and self-regulations (Higgins, 1991). Positive self-affects may also foster development and mastery of various competencies, whereas negative self-conscious emotions may provoke behaviors that inhibit the individual's pursuit of life goals. A positive view of self will affect the feelings, behaviors, and thoughts of an individual child. The resulting sense of self-efficacy may assist the child in working through difficult times and applying the self regulation necessary for personal growth.

1.6. m. The Importance of Self-Esteem

Even though self-esteem has been studied for more than 100 years, specialists and educators continue to debate its precise nature and development. Nevertheless, they generally agree that parents and other adults who are important to children play a major role in laying a solid foundation for a child’s development. Good self-esteem is important because it helps your students to hold their head high and feel proud of their accomplishments and abilities. It gives them the courage to try new challenges and the power to believe in themselves. It allows them to respect themselves—even when they make mistakes. And when they respect themselves, adults and other friends usually respect them, too. Having good self-esteem is also the ticket to make good choices about their mind and body. If they think they’re important, they’ll be less likely to follow the crowd if their friends are doing something dumb or dangerous. If they have good self-esteem, they know that they are smart enough to make their own decisions. Success in school, getting along in a family or with peers all depend on self-confidence. Without it, children’s talents may be developed as they may be afraid to take risks or be creative. Research shows that a positive self-concept is more important to academic
success than a high IQ score. Children will have greater self-esteem if they feel a sense of ownership and responsibility for their experiences.

1.6. n. Self-Esteem and Academic Achievement

An integrated self concept acts as a motivational force in maintaining mental health and influencing the learning situations. A positive relationship has been found between self esteem and intelligence and self esteem and scholastic achievement irrespective of the subjects belonging to either of the sexes, to forward or backward communities, to urban or rural communities, although the degree of intelligence or achievement may vary from person to person. There is a perfect relationship between high scholastic achievements and a positive self-concept, while the low ones have got a negative self-concept. Marsh (1992) said that the relationship of self-esteem to school achievement is very specific. General self-esteem and non-academic aspects of self-esteem are not related to academic work; general academic achievement measures are related moderately to academic success specific measures of subject-related self-esteem are highly related to success in that content area.

Using linear discriminate analysis. Byrne (1990) showed that academic self esteem was more effective than academic achievement in differentiating between low-track and high-track students. (Hamachek, 1995) also asserts that self-esteem and school achievement are related. The major issue is the direction of the relationship: does self esteem produce achievement or does achievement produce self-esteem. George and Berliner (1992) state “the evidence is accumulating, however, to indicate that level of school success, particularly over many years, predicts level regard of self and one’s own ability (Bridgeman and Shipman 1978; Kifer, 1975); whereas level of self-esteem does not predict level of school achievement, the implication is that teachers need to concentrate on the academic success and failures of their students. It is the student’s history of success and failure that gives them the information with which to assess themselves” (p - 159)

If academic achievement leads to increased self-esteem, but self-esteem is a better predictor of being a low-track or high-track student, it would appear that there is some intervening variable. James (1890) states that the intervening variable is personal expectation. His formula is self-esteem = success + pretensions.

That is increasing self-esteem results when success is improved it relates to expectations and self-esteem: success = pretensions + self-esteem.
1.7. Academic Achievement

Achievement refers to the knowledge attained or skill development in school subjects usually designated by test scores or by marks assigned by the teachers or by both. According to (carter V. Good, 1973), achievement means accomplishment or proficiency or performance in a given skill or body of knowledge, help in declaring the examine successful or unsuccessful choosing the students for various professional and academic courses and selecting the candidates for different jobs. (p.6)

Suppose you have a choice of three video games to play. One game is easy, you know you can get a high score on it, but so could any one else. The second game is more difficult, you are not sure how well you would do. The third is so difficult that you are sure you would lose quickly, as most people do. Which do you choose. Most people prefer the difficult but not impossible game, especially people with a strong need for achievement (Alkinson & Birth 1978)

When people receive feedback on their performance, such as “You got 82% correct on the first test”, those with a strong need for achievement usually increase their efforts, no matter what the results were. Apparently, they interpret almost any feedback as meaning that they have room for improvement and need to try harder. People with a lord need for achievement or a high fear of failure react to feedback by decreasing their efforts. The feedback either tell them that they are achieving their modest goals, or that they are failing and may as well quit (Matsui, Okada and Kakuyama, 1982).

Evaluation of learning outcomes of the students by measuring their academic achievement, the appropriateness of the methods of imparting knowledge may be judged. In the present socio economic and cultural context, academic achievement is of paramount importance and the schools place great emphasis on it. At all school levels there exist enormous differences in the academic attainment of students ranging from high to low. Progress in future to a great extent depends upon the academic attainment of the students. It has to be pointed out that though several attempts have been made to study the impact of non-intellectual factor on achievement in general, no concrete attempt has been made to study how much variance in achievement in biology is accounted for environmental factors, study habits and self esteem. The present study is aimed at finding out the influence of environmental factors, study habits and self esteem on academic achievement in biology.
1.8. Organization of the Dissertation

The dissertation has been organized in five chapters.

- The first chapter presents a systematic introduction of the study, its significance and way of approach to the problem.
- The second chapter deals with the abstracts of Review of related literature regarding the study done abroad and in India, which presents a vivid picture about the state of art of the study.
- The third chapter deals with the methodology of the study comprising a description of statistical techniques used for the study, tools, sample, data collection and scoring.
- The fourth chapter deals with the analysis and Interpretation part of the collected data.
- The fifth chapter comprises the Summary of the study, Findings, pertinent recommendations and suggestions for further study.

1.9. Conclusion

The first chapter deals with the significance of the problem. The review of related literature and research studies related with the present investigation are included in the next chapter.