CHAPTER I

INTRODUCTION

1.01 EDUCATION

Human life is the most sacred of all the creating of God. It has two aspects; the biological and the sociological. While the biological aspect of human life determined by the genes the sociological aspect is maintained and transmitted by education. In the primitive society, the primary needs of man comprised food, shelter and clothing. With the progress of society and civilization, however, these primary needs have been listed as, food, shelter, clothing, education, recreation and health. Man, primarily, is distinguishable from the other animals because of his educable ability. He is endowed with intelligence; he wants to remain active, energetic and even original. He desires to go ahead. This list of human achievements is very big. All these can be done only through education. It is education which promotes his intelligence, enables him to be industrious and ensures his progress.

The word education is derived from the Latin word ‘educare’ which means ‘to bring up.’ There is yet another Latin word ‘educere,’ which means ‘to bring forth. Education, therefore, means both to bring forth as well as to bring up. It was the Latin author Varro who said “Educit obstetrix, educat, nutrix, instituit, paedagogus, docet,
magister,” which means, “the mid-wife brings forth, the nurse brings up, the tutor trains, and the master teaches.” Accordingly, education does not merely mean the acquisition of knowledge or experience but it also means the development of habits, attitudes and skills which help a man to lead a full and worthwhile life.

‘What is education?,’ is a fundamental question, which has been exercising the minds of philosophers and thinkers from Socrates and Plato to Gandhi and Dewey. The word education has a very wide connotation and it is very difficult to give its precise definition. A biologist, a priest, a psychologist, a philosopher, a statesman, a teacher, a merchant, a shopkeeper and even an artisan or any other individual supposed to have intelligence and can give different definitions of education. These definitions whether naive or serious determined by their own outlook on life, developed through the training they had and the circumstances they were in, instead of being contradictory and complementary to one another.

The concept of education is like a diamond which appears to be of a different colour when seen from a different angle. Like the proverbial elephant and the blind men everybody, be it a biologist, a priest, a philosopher, a psychologist, a statesman, a teacher, a shopkeeper, a merchant, an artisan seems to have his own concept of education which is influenced by his own outlook on life and his past experiences in a limited field.
Reasons for Different Interpretations and Definitions of Education

Complex nature of human personality: The subject-matter of education is the development of the personality of an individual. The personality of an individual is a complex one. It has different aspects, social, physical, intellectual, moral, spiritual, aesthetic etc. Emphasis on one or the other aspect has led to different definitions. A spiritualist stresses the self-realisation aspect of education. A moralist thinks that education is a process which leads to the formation of character.

Complexity of human environment: Education is a process which enables an individual to adjust himself to the environment. This environment is different in different countries. Environment has also various aspects, social, physical, cultural, economic, etc. Thinkers have defined education in terms of one or the other aspect of the environment. In the past, life was very simple and there was less emphasis on vocational education. But with the changing nature of the economic environment, there has been a corresponding change in the concept of education. The present day economist is inclined to think 'education' as a process which makes an individual economically creative member of society.

Different philosophies of life: There are different philosophies of life and different philosophers have defined education in terms of their own philosophy of life.
Different educational theories and practices: There are various schools of psychology which have influenced the interpretation of the educative process. Some psychologists thought that a child’s mind was a clean slate and a teacher could write anything on it. Others were of the view that a child was just like clay and a teacher like a potter could make anything out of it. All these different opinions have led to different interpretations and definitions of education.

1.02 HIGHER EDUCATION

Modern Society is in a state of flux and the changes in the society occur at a very fast rate. Society is always in search of excellence. In order to achieve this, individuals at different strata of the society aspire to achieve further and further. And for this, they want to build their careers, upgrade their knowledge and skills and improve their competence through learning and experience. Higher achievability is the way to excellence and self-development is the key to higher achievement. All the developments start with self-development and self-development is the essence of human resource development. Higher goal must be set by everybody who should make all the attempts to reach the same through self-development.

The individual should have clear perspective of his strengths and weaknesses and accordingly he should set his goal as well as seeks to go ahead through initiative, perseverance and self-improvement. Students should learn constantly and develop
sincerely with genuine interests and adequate motivation. They should plan their career and plan their self-development with the help of their parents, teachers and even peers who are really well-wishers and want their better performance and achievement through study and all kinds of self-development activities.

Educational institutions, particularly, at higher level of education, students and teachers have reached a stage where they can develop their knowledge and interests to such an extent that they can plan their career and set their goals. The educational institutions must provide all kinds of facilities for human resource developments. Students and teachers must utilise these resources to the optimum. Self-development is a continuous process and an individual should not waste a single moment or a little energy on unproductive and destructive purpose.

Accomplishment in every field is the demand of the modern times and mere realisation of the objectives has no meaning. Every individual has aspirations for excellence and so seeks to achieve the optimum of his ability. That is why, quest for excellence is the call of the society and all the individuals should make all the endeavours to achieve their ends through self-development. The colleges and universities must be the centres of excellence and human resource development, to the maximum extent. Particularly, modern universities should be the centres of excellence and teachers as well as students should be engaged in the "pursuit of excellence."
Pandit Jawaharlal Nehru, in his convocation address at the University of Allahabad in (1947), insists upon the basic objective of the University as the symbol of citadel of higher education, Nehru aptly observed, "A University stands for humanism, for tolerance, for reason, for the adventure of ideas and for the search of truth. It stands for the onward march of the human race towards even higher objectives. If the universities discharge their duties adequately, then it is well with the nation and the people." These valuable and meaningful words highlight the very fundamental truth that universities and colleges have a significant role to play in the national life for promoting welfare and strength of the people.

Aims and Objectives in the Pre-Independence Period

Education is always related to the life and aspirations of the society. Its aims and objectives are determined and defined according to the local, regional, national and global needs. Besides there must be higher values and lofty ideals which immensely influence the educational system. Hence the objective of the ancient Indian Education was "Sa Vidya Ya Vimuktaye," the education showed emancipate man from the bondages of the present world like ignorance and poverty and also of the next world like sins and misdeeds. Thus, emancipation from the worldly bondages and barriers was the main aim of the vedic education. Subsequently, the Bhagawat Gita said that "Yoga" of Krishna must be combined with
the "dhanus" of Arjun; action and contemplation must go together to make education a success. Bhagabat Gita aptly says "Yogah Karmashu Kaushalyam."

According to Radhakrishnan (1949), the Ex-President of India, "All India is, on the one side, a search for truth; on the other side, it is pursuit of social betterment. He believed that each individual is an unique adventurer of life. The function of education is the guidance of this adventure to the realisation of the potentialities of each individual in the fact of the actual world of men and things. It aims at the development of the individual, the discovery, training and utilization of his special talents." True education, particularly higher education, also should deepen our insights, widen our horizon and create a meaningful outlook.

Education finds its sustenance in the existing social order and its solace in the moral, social and ethical values of the country. According to Indian traditions, education was not merely a means of earning a livelihood nor was it only a training of human souls in the pursuit of truth and the practice of virtues. Education was, therefore, called a second birth (Dwitiyam Janma 1959).

During the British period, there was utter decadence of the Indian values in education and no attempt was encouraged by the then Government to promote the national culture and education.
From the very beginning, the objective of the British education was to train Indians for employment in Government departments, although training them for self-government was "chanted now and then." The average official of the British regime was afraid of the probable demand for Swaraj that India might put forward and tried to postpone the evil day as far as possible. Consequently, training for self-government was more a byproduct than a deliberate objective of the British educational policy. No aims, worthy of a national system of education, were formulated for India. Although reports of many committees and commissions discussed various problems at length, it was for the first time, after Independence, that the Indian Universities Commission 1949 provided an excellent chapter on the "Aims of University Education."

Two years after Independence Government of India decided to set up a University Education Commission under the Chairmanship of Dr.S.Radhakrishnan in 1949. As reported by Nurullah and Naik the aims of the UEC included: "The decision was due to the realization that a reconstruction of university education was essential for a national cultural resurgence as well as for meeting the requirements of scientific, technical and other manpower requirement for the socio-economic development of the country.
The Education Commission, 1964-66

The Indian Universities, of course, owe their allegiance to the eternal values nourished by the hoary heritage of this country. But their aims and functions are about to change from time to time due to emerging needs and demands. The Education Commission (1966) has rightly mentioned that "In the rapidly changing contemporary world, universities are undergoing profound changes in their scope, functions and organization and are in a process of rapid evolution. Their tasks are no longer confined to the two traditional functions of teaching and advancement of knowledge. They are assuming new functions and the older ones are increasing in range, depth and complexity." The Commission (1966) has enunciated the following functions of the universities which distinctly reflect the objectives of higher education:

(a) to seek and cultivate new knowledge, to engage vigorously and fearlessly in the pursuit of truth and to interpret old knowledge and beliefs in the light of new needs and discoveries,

(b) to provide the right kind of leadership in all walks of life, to identify gifted youth and help develop their potential to the full by cultivating physical fitness, developing the powers of the mind and cultivating right interests, attitudes and moral and intellectual values;
(c) to provide society with competent men and women trained in agriculture, arts, medicine, science and technology and various other professions, who will also be cultivated individuals, imbued with a sense of social purpose;

(d) to strive to promote equality and social justice and to reduce social and cultural differences through diffusion of education; and

(e) to foster in the teachers and students and through them in society generally, the attitudes and values needed for developing the good life in individual and society.

**National Policy on Education (1968)**

On the basis of the recommendations of the Commission the **National Policy on Education (1968)** was formulated and declared by the Government of India. It was felt essential for economic and cultural development of the country, for national integration and for realizing the ideas of the socialistic pattern of society. The **Ministry of Education and Social Welfare (1974)** has aptly said, "This is necessary, if the country is to attain its rightful place in the comity of nations and in conformity with the cultural heritage and its unique potentialities." The **NPE 1968 interalia** has laid down that with a view to accelerating the growth of national economy, science and mathematics should form an integral part of general education. It was also suggested that part-time education and correspondence
course should be given the same status as full time education. The **NPE (1968)** has also added that in all parts of the country a uniform educational structure, i.e. 10+2+3 would be established and national progress and common citizenship could be promoted throughout the country.

**National Policy on Education (1986)**

The Opening paragraph of the **NPE (1986)** has very aptly said, "Every country develops its system of education to express and promote its unique socio-cultural identity and also to meet the challenges of the times. There are movements in history when a new direction has to be given to age old process." It was felt that India has faced challenges from the continuing revolution in the World of Technology and from so many problems relating to the quality and security of life. It has also faced "the challenges internal along with external and higher education has to be made the most effective instrument of to these challenges. It can enable its young citizens to acquire knowledge, skills, values, etc. that are essential for building dynamic, vibrant and cohesive nation capable of providing them with better, fuller and more purposeful life.

The **NPE (1986)** has recommended, "Higher Education provides people with an opportunity to reflect on the critical, social, economic, cultural, moral and spiritual issues facing humanity."
In the ultimate analysis, the aim must be to enlarge the coverage and improve the quality of education in our institutions so that a person, belonging to any region, caste, creed, sex or economic strata, would have the chance of developing his or her potentials to the full.”

The challenge of Education laid great emphasis on social relevance and diversification of courses in higher education. It proposed that a moratorium should be placed on further expansion of the traditional pattern of colleges and universities. New colleges and universities should offer only work-oriented or socially relevant courses, catering to carefully identified tasks which usually have a multi-disciplinary character. There is a great vacuum in society in the areas which bridge the world of work and the world of knowledge, Concerted action is necessary to bridge this by evolving these support, recognition and credibility.

This status Report added, "it is difficult to define quality, particularly with reference to educational processes. However, it could be stated that a quality conscious system would produce people who have the attributes of functional and social relevance, mental ability and physical dexterity, efficacy and reliability and above all, the confidence and capability to communicate effectively and exercise initiative, innovative and experiment with new situations. To these personal attributes, one could add the dimension of a value system conducive to harmony integration and the welfare of the weak and disadvantaged."

The Committee for reviewing the NPE (1986) constituted by the Government of India under the Chairmanship of Sri Ramamurti in May 1990 submitted their report in December 1990. The Committee in their report observed that higher education as envisaged in 1986 laid emphasis on "reflection rather than action." While the reflection on critical issues facing humanity is important, higher education has a valuable role to play in regard to action on the part of those receiving it, particularly, education (including universalisation of elementary education) etc. Higher Education should support the innovating programmes as an effective instrument for achieving excellence.

It has been suggested that there is need for a complete reorganization of academic life of colleges and university campuses with a fresh direction to the faculty and students as distinct from performing certain extension functions. Colleges and universities should be endowed with the capability of guiding, planning and assisting people's initiatives. Such capabilities should be integrally build into the courses and programmes as already mentioned. This will facilitate infusing life in the campuses with a sense of societal relevance.
An Eternal Quest for Excellence

The aims and objectives of higher education should be very broad and dynamic. The universities and colleges of today must work not only for promotion and dissemination of knowledge but also for generation-of knowledge. They should seek to provide not dry and inert knowledge, but meaningful and vibrant wisdom. They must promote humanism, reasoning, tolerance, adventure, critical thinking and search for truth. They are expected to achieve new knowledge, understanding, good leadership qualities, equality and social justice for their students and teachers. They have to involve themselves in the nation-building and man-making activities of the society. They need to engage themselves in an incessant endeavour for gaining excellence in all walks of life.

Higher Education should aim at socialisation and democratization in its true sense of the terms in all aspects and dimensions. Equalization of educational opportunity should not be a distant vision or a constitutional provision but a true fact and great reality even at this stage. Dr. Radhakrishnan has aptly observed that the true end of education is not the acquisition of technical skills though they are essential in modern society. One must have that superior outlook which goes beyond information and technical skills. True higher education should aim at deepening our insights, widening our horizons and creating a scientific outlook.
1.03 DOWNTURN OF PERCENTAGE OF RESULTS

Downfall in the percentage of results occur widely in Tamilnadu pertaining to some of the problems in schools and classrooms such as administrative inconvenience, inefficient maintenance, Inadequacy of library and laboratory facilities, non-utilitarian function and unsuited Audio-visual aids according to the syllabus, etc. They need to be overcome as they tend to decline motivation and interest among pupils. They ultimately lead to downfall of percentage of results.

Teachers shortage due to frequent transfers and not filling the vacancies, increased teacher-pupil ratio etc. may affect the implementation of our educational goals. Students carelessness and irresponsible behaviour lead them to malpractice during examination.

Strange effect of foreign language like English, ego problem of the adolescence among higher secondary level students and the gap between teacher - pupil relationship for want of rapport between them may cause deterioration of classroom climate.

Feeding schools failing to achieve more becomes the reason for affecting the enrolment in higher secondary schools and also the quality of basic knowledge. Locality, want of accommodation and essential facilities etc. in our schools somewhat affect schooling of students.
The new trends in methodology and innumerable teaching devices have made teaching more concrete than before. The pupils today have before them vast funds of information, pertaining to the various aspects of human life. There is a need for modification in the existing environment in schools.

These causal problems totally and consequently may have their role for the downfall of percentage of results in many schools. **Kothari commission (1964)** has stated, "if the classroom was well organized, if appropriate methods of teaching could be adopted suiting different subjects. . . and if use of modern teaching aid is encouraged, the results would be better."

**1.04 NEED AND IMPORTANCE OF THE STUDY**

The constraints and difficulties which stand in the way of having an ideal classroom in a developing country, like India, should be contemplated. We should identify the conditions necessary to influence the classroom setting. The interaction of the factors that take place in the classroom plays an important role as the classroom is a web of interaction in a particular way. This interaction forms the basis for the prevailing environment in any class room. The environment provides a network of forces and factors which engulf and play on the individual of any classroom.
Some individuals may resist this network and some rare individuals completely avoid or escape from these forces. The environment is a shaping and reinforcing force which acts on the individual’s learning. At the same time every individual becomes the part or the component of the environment. This holds many a good aspects for any class room.

Practice, in education, should place emphasis in creating a good environment in the classroom leading to establish conditions which enable teachers and consequently their wards to develop their potentials.

It is imperative to consider the interaction between the teacher and the pupil, teaching and learning, availability and utilization of instructional aids, discipline control, situation and facility available etc.

It is believed that the different climate will have different effect on the achievement of pupils. That is, if one moves from classroom to classroom, he will find the conditions differ. Hence, the investigator has chosen the present problem. Keeping all these in mind the present investigation has been undertaken in order to study the classroom climate, achievement in chemistry, parental encouragement and Socio-economic Status of Perambalur and Salem Districts in Tamil Nadu.
1.05 STATEMENT OF THE PROBLEM

In the view of idea discussed earlier, it is felt that different climate will have different effect on the achievement. The present problem chosen by the investigator to study is entitled “A STUDY ON THE CLASSROOM CLIMATE AND ACHIEVEMENT OF CHEMISTRY IN RELATION TO CERTAIN SELECTED PSYCHOLOGICAL VARIABLES.”

The investigator is interested to study the classroom climate and achievement of chemistry in relation to certain selected psychological variables of higher secondary students in Perambalur and Salem Districts.

1.06 IMPORTANCE OF CLASSROOM CLIMATE

The education commission (1964 – 1966) has aptly stated in its report that destiny of India is being shaped in her classrooms. The shape undoubtedly, will depend on what goes on in the classroom and how does it go.

A well organised classroom with suitable teaching aids and methods can achieve better results.

1.07 DEFINITION OF CLASSROOM

The class room is not just a group of pupil; it is the place where the pupil are exposed to the respective society's ways and values; and it is a pervasive phenomenon.
Medley and Mitzel (1958) interpret classroom as one where 1) teacher undertakes certain activities 2) the pupils undertake certain activities 3) certain kinds of group structure occur, 4) there is some emotional interplay, 5) certain teaching aids are used.

Cornell, Lindvale and Saupe (1953) refer classroom a place where exists classified behaviour.

Classroom is a behaviour setting. In its personnel, the manner in which they constrained, the idealistic nature of its task objectives, and the procedures by which attempts are made to achieve the objectives, the classroom is manifesting different from other social groups.

The classroom is a system and each pupil and teacher are the sup-system and the class as a unit has properties which are not the same as the properties of the sub-system. In classroom, we have interactions in class room functional and structural transactions occur. Physical environment namely, structural setting influences the spirit of the classroom.’ Classrooms are cluster of setting; these settings are the base for the behavioural arenas both for the students and the staff (William C. Morse and G. Max Wino). The setting exhibits physical aspects - site, enclosures, facilities manipulenda possess a program or action structure (Joachim. F. Wholwill and Harry Helt). Learning, in classroom, is not an independent act owing to the influence of the class. This emphasizes the importance of classroom climate.
1.08 MEANING OF CLIMATE

The term climate is a newly emerging concept. In India even now in many organizations this term in its socio psychological significance is little known and understood.

The term climate has' been variously understood in many ways as 'the zeal,' ‘the atmosphere,’ ‘the environment,’ ‘the conditions prevailing and 'the tone of institution.’

According to Sinclair (1971), the educational environment refers to the conditions, forces and external stimuli that fostes the development of individual characteristics.

It can be explained as a relatively enduring quality of the internal environment which is experienced by its members, influences their behaviour. Argyris used the form climate as 'the environment'

Sullivan and Brown (1960) conceived climate as "the catholic patterns giving identify to' sub-groups and the interpersonal relations in a living organization."

According to Schneider and Hull (1972), 'the climate perceptions emerge as a result of the persons' numerous activities, interactions, feeling and other daily experience in the organisations.
1.09 DEFINITION OF CLASSROOM CLIMATE

Classroom climate can be considered as a product of the dynamic inter-relationship between the collective needs of the participants and the system maintenance requirements of the classroom.

It refers to the notion of perceived environmental quality and it can be measured by the perception of physical and physiological conditions or factors. The classroom climate may be defined as, "the product of interaction that takes place between the factors or forces when they fulfill their prescribed roles structurally (passively) and functionally (actively) within the classroom."

1.10 CLASSIFICATION OF CLASSROOM CLIMATE

The class-room climate is classified into two major groups

1. Physical climate

2. Physiological climate

Physical climate is divided into two dimensions and physiological climate is further divided into five dimensions. They are as follows:

1. Physical Climate (Structural Climate)

The factors and forces that influence passively the phenomena of the classroom are called structural climate or physical climate.

Dimensions (Sub-groups) of physical climate  (i) Situation and Facility  (ii) Instructional Aids
2. Physiological Climate (Functional Climate)

The factors and forces that influence activities the phenomena of the classroom are called physiological climate or functional climate.

Dimensions (Sub-groups Physiological Climate)

(i) Teacher and teaching

(ii) Utilisation of instructional aids

(iii) Learning and Learning

(iv) Teacher - pupil relationship

(v) Classroom management

1.11 ACHIEVEMENT

In the present society, education is widely understood as an important factor for scientific, economic development and growth of a nation. The important of achievement in educational Institution is a matter of great social science and concern. It has become imperative for the educators to ensure maximum achievement of all students enrolled for higher education, both for the benefit of the society and for the individual himself. In spite of numerous reforms that are being made for maximizing the academic achievement of pupils in educational institution it is difficult to research the target set for this purpose.
Achievement is the end product of all educational endeavour. The main concern of all educational efforts is to see that the learner achieves the acquisition of knowledge in its highest order.

The dictionary of education (Carter 1859) defines academic achievement as "the knowledge attained on skills developed high school subjects usually designated by test scores (or) by marks assigned by teaches or both.

According to Comrey, "achievement is the accomplishment of proficiency of performance in a given skill or a body of knowledge.” He sees education in school as" "moving towards instructional objectives.”

According to Chaplin, achievement is "education or academic achievement as a specific level of attainment or proficiency at the academic work as evaluated by the teachers, by standardised tests or a combination of both.” Adequate academic achievement is a necessary developmental milestone, and poor school performance can have serious long term effect on adolescents (Routers and Johnson, 1994).

1.12 ACHIEVEMENT IN CHEMISTRY

Human beings do not exist in a vacuum. They exist in an environment. Achievement also possesses considerable social significance. The techniques for satisfying the need for achievement
can be seen all around us. Everyone is driven on throughout his life but the need is to achieve. It is essential, if one is mentally healthy this need should be satisfied.

The need of adjustment must be satisfied frequently, if an individual is to be well adjusted. The destiny of India is being shaped in classrooms. In a world based on science and technology, it is education that determines the level of prosperity, welfare and security of the people.

The problem of under-achievement in science is profound not only because it imposes limitations on the educational and career opportunities available to the students affected, but also it poses a broader problem for the nation. The need for new scientists and engineers must increasingly come from students who are currently under-represented in the sector of the work force (Holden, 1989).

This challenge must be met by schooling that is appropriately constructed to help under represented students develop competence and confidence in science (Messey, 1989).

1.13 ACHIEVEMENT – DEFINITIONS

Dictionary of Education (Good, 1959) defines academic achievement as "The knowledge attained and skill developed in the school subjects which are usually determined by test scores or marks assigned by the teacher or both."
Freeman (1969), remarks, "A test of educational achievement is one that is designed to measure knowledge, understanding or skills in a specified subject." Achievement tests are concerned with quality and quantity of learning attained in that particular subjects.

Chaplin (1961), in the Dictionary of Psychology, defined educational achievement as specified level of attainment or proficiency in academic work as evaluated by teachers by standardized tests or by combination of both.

1.14 FACTORS FACILITATING THE ACHIEVEMENT

What a student learns depends upon his learning method (Smith, 1961). Ambition is also an important factor, which facilitates achievement. Gebhart and Hoyt (1958) and Shailer (1964) reported that academic achievement of students could be improved by enhancement of their mental health. Motivation, attitude, interest and intelligence are constantly influencing and facilitating academic progress and attainment.

General satisfaction of pupils regarding school is found to be more closely related to pupil's success than any other factor (Smith, 1961).

Academic performance has been shown to be dependent on a number of factors such as student’s attitude, interest, personality characteristics and social class, in addition to learning (Lavin, 1965).
1.15 HINDRANCE TO ACHIEVEMENT

Indian education needs a drastic reconstruction. The educational system in our country is, in fact, too subject-centered and not sufficiently pupil-centered and no deliberate attempt is, made to change the situation. In this connection, Indian Educational Commission (1966) has pointed out the following reasons:

a) Lack of research in developing teaching,

b) Rigidity of education system,

c) Failure of administration in applying new teaching methods and techniques and desirability of average teachers.

In schools, students suffer from frustration and they are unable to involve themselves in educational programmes.

Srivastava (1974) has proved, in his study, that the poor environment is one of the major factors responsible for failure in the case of students who failed. In addition to these, other factors like undernourishment, crowded living condition, low level of parental education and inadequate training by parents are also responsible for low academic achievement.
1.16 CRITERIA FOR ACHIEVEMENT

a. School and achievement

The unique responsibility of the school is to impart and help children in the acquisition of scholastic skill. If the school fails to help the pupil in this aspect, no other agency can take up this responsibility. It is a well known fact that the differences exist in the environmental condition of rural and urban schools. India is a country of predominant rural background. Development of the country depends upon the uplifting of all aspects of village life including education.

There is wide differences between rural and urban school students with regards to their life-style, educational background of parents, parental influence and so on. All the factors do exert influence on the academic activities of school students (Sharma 1978). In this connection, Jammur (1961) has stated that students belonging to families where the father occupies prestigious occupation achieve better than their counter part from families where the father holds a position which is considered to be low.

b. Teacher and achievement

Teachers play a vital role in the improvement of the achievement of students. Teachers are fully aware of the importance and significance of achievement in the overall development of school
students. It is the responsibility of the teacher to make the students highly achievement oriented and also help them in the overall development of creativity. Teachers should shoulder the responsibility of making the students become academically and socially useful citizens.

1.17 MULTI-DIMENSIONAL ACTIVITY OF ACHIEVEMENT

Krishnan (1960) has expressed that the success or failure of a student, in the examination, cannot be attributed to a single causative factor as more than one factor may contribute towards his success or failure.

Achievement is always affected by multi dimensional correlates. The more accurate and reliable prediction of academic performance is possible only when all the achievement related variables are studied at a time. This necessitates that the correlates of achievement should be studied together at a time at different educational levels on different samples at varied places. Such an attempt will be of great help in arriving at worthy conclusions.

1.18 NEED FOR GOOD ACHIEVEMENT

Achievement, in an educational institution, may be taken to mean any desirable learning that is observed in the student. Since the word desirable implies a value judgment, it is obvious that a particular learning may be referred to as achievement or otherwise
depending on whether it is considered desirable or not. Hence we assume that, any behaviour that is learned may come within the scope of achievement. Achievement, according to Smith (1969) Spencer and Helmrich (1983), is the task-oriented behaviour that allows the individual’s performance to be evaluated according to some internally or externally imposed criterion, that involves the individual in competing with others or otherwise involves some standard of excellence (Morgan et al. 1986).

There is no gainsaying the fact that learning is not limited to mere acquisition of information, it also includes attitudes, interests, values etc. Modern personality characteristics of the individual are learned. Therefore, the acquisition of desirable characteristics is as much an achievement as is knowledge of the principles of science of facts, world history or language and literature. Although achievement is used in this broad sense it is customary for schools and colleges to be concerned to a great extent with the development of knowledge, understanding and acquisition of skills (Narayana Rao, 1980). This may be in part owing to the fact that in the intellectual field the teacher can be relatively more certain of achieving the objectives he has set for himself than in other areas or domains.
Academic achievement is related to the acquisition of principles and generalizations and the capacity to perform efficiently certain manipulations of objects, symbols and ideals. Assessment of academic performance has been largely confined to an evaluation in terms of information, knowledge and understanding. It is universally accepted that the acquisition of actual data is not an end in itself but an individual who has received education should show evidence of having understood them. But for obvious reasons the examinations are largely confined to the measurement of the amount of information which students have acquired.

Achievement, in terms of subject matter, is conventionally assessed in our institutions by employing a system of marks or grades. It has been strongly argued that marks are necessary for effective teaching-learning. Irabue (1920) felt that for classification, guidance and evidence of effort, marks are necessary. A committee in California listed the purposes of marks as the indication of the degree of mastery of subject matter and the prediction of further success. Madsen (1930) points out that the marks set the goals and motivate the students. It is universally accepted that the marks serve the basis of classification and certification, motivation and measurement of educational performance.
1.19 ACHIEVEMENT TEST

Freeman (1965) defines the test on educational achievement as a test designed to measure knowledge, understanding and skills in a specified subject or group of subjects. Thus, according to him an educational achievement test measures the individual's knowledge. Further, Freeman is of the view that through educational achievement test, it is possible to assert how much does a person know after receiving education or training in a particular branch of knowledge. The standardized achievement tests are used to determine the degree of achievement in a specific subject matter. Achievement Test attempts to measure what an individual has learned and his or her present level of performance.

The achievement test is also used for the purpose of guidance and counselling. It has been found useful in remedial teaching programme as well as in determining the class to which a student should be admitted into. Administration of these tests at regular intervals is helpful to the teachers and to the pupil in learning. Finally, it may be stated that the achievement test may be used as an aid in the evaluation of teaching, instructional techniques and the curriculum.
1.20 FACTORS AFFECTING ACHIEVEMENT IN SCIENCE

Achievement in science has been studied in relation to a number of variables, both cognitive and affective. Studies in the past decade have confirmed that intelligence and socio-economic background are major contributors to achievement in science. The factors responsible for poor achievement or failure have also caught the attention of researchers. Mainka (1983) found language mastery was an important factor in the acquisition of concepts in science. Nilima Kumara (1997) studied the conservation of number and substance in relation to intelligence and SES, revealing significant positive relationship. Reasoning power, space visualizations, attitude towards science were found significantly related to science achievement. In Rajput’s (1984) study, achievement motivation was found to have no bearing upon achievement.

The factor analysis of abilities having a bearing on science achievement was also undertaken by a number of researchers. Achievement in science as a whole and that of in algebra, arithmetic and geometry and in some specific topics in algebra, concepts of sets and functions are also factor analysed.

The number of correlates, arithmetic operational sequence and numbers group property were the best predictors of achievement in science. General algebraic reasoning was identified as the only factor common to tests in algebra (Chauhan, 1982).
1.21 PARENTAL ENCOURAGEMENT

The permanent need of all societies is to bring up the children and the particular way in which it is done is a cultural pattern of that society. Child grows up to fit in his society and the society of child begins with his family, which defines the context in which a child receive his early socialization. If parents want to provide optimal facilitative environment conducive to the cognitive development of the children, they should play an important role in the educational process of their children. It is generally believed that parental care, concern, guidance and influence, or in a word, ‘parental encouragement’ has an effect on the educational development of the child.

The term, ‘parental encouragement’ is slightly new in psychological research perspective. In parental encouragement, we assume, that the parents show it by helping and guiding the child and coaxing him not to feel disheartened at a particular point of difficulty, Rossi (1965) defined this term as, “when father and mother approve or disapprove of any activity related to education or revoke any hurdle felt by the student in the process, or guide him the right or wrong—this entire spectrum activity comes within the purview of parental encouragement.” So, in short, we can conceptualize the parental encouragement in this manner treatment originating from parents towards the child with a view to enhancing the possibilities of future occurrence of good behaviour by care, concern, approval and guidance.
1.21.1 The role of parents in educating their children

Parents play a significant role in the process of moulding a child. Human development is a continuous and cumulative process. Recent findings in psychology and education have clearly revealed that the first six years of the child move fast and the mind also develop in the same way and the stage after six is also slightly difficult till the child attains the age of 17. A full integration of childcare and education will be brought. Recognising the holistic nature of child and development namely Nutrition, Health, Social, Mental, Physical, Moral and emotional development are all equally to be kept in the mind by the members of the both home and educational institutions.

Parents are their first models as well as the first teacher to all the children. Parental love is vital factor in self development but over protection may lead to a sense of irresponsibility and lack of self-control.

There is a need for a change in approach of our social customs, traditions and attitudes of the male members. The need for change from narrow nationalism to universalism, understanding pluralism and from autocracy to democracy in its various manifestations places enormous responsibilities on teachers and parents.
1.21.2 Grandfather-Grandmother their role in educating their children and grand children

Elderly persons guide the whole family with rich experience, control the situation and make anything to be straight in accordance with the process of learning. They tell the moral stories to the grand children which attract them. The home is guarded and made as the place of learning by the presence of the grandfather who on having vast experience. By his rich experience he advises, guides and controls. He also compares the modern education with his time when he was a student and then encourages the children to learn a man and human.

Grandmother helps the family members in all aspects from providing the child an atmosphere of learning to maintain cordial relationship to the nature of the situation. She also works for the family and tells the mother what kind of food she should provide to the child who is learning, moreover she shares her experience of retiring her own children and how she brought them up to learn things. She is also cordial to the children and guides them by telling stories of the olden days. Thus, the grandmother also plays the vital role in educating the children.

1.21.3 Education as a tool for change

For the good life, for the good of the individual, and for the good of the society, we need direction and the mother of all sciences including education provides this direction. The field of education
provides a testing ground for testing truth of wisdom or direction provided. When we define education as the modification of behaviour, the direction in which modification is to be carried out is detrimental by philosophy.

The Kothari commission (1964) has rightly observed, “The expanding knowledge and the growing power, which it places at the disposal of modern society, must, therefore, be combined with the strengthening and deepening of the sense of social responsibility and a keener appreciation of moral and spiritual values.” Inculcation of moral and spiritual values in the pupils is felt essential for meeting out the crisis of character. In the situation that is rapidly developing, it is equally important for us to give a proper value orientation to our educational system.

1.22 SOCIO-ECONOMIC STATUS

In the words of Good (1959), "Socioeconomic status means the level indicative of both the social and the economic achievement of an individual or group." The term socioeconomic status is broadly defined to include educational, occupational and economic status of parents. The environmental facilities available are also taken into account.
Social status is the position of an individual within the society. It is the specific position of the individual in his relationship with other individuals by virtue of which he derives respect and prestige. The social status may be inherited but in modern society, the status is achieved. The status is divided on the basis of occupation, membership of certain clubs, association and organization.

The economic factors such as the income of the family, types of house in which he lives, ownership of various household articles like T.V, car etc., play an important part in determining social status. Therefore, it is better to call these factors as socio-economic factors rather than social or economic factors.

Chapin (1928) has offered the most widely used definition of socioeconomic status as the position that an individual or family occupied with reference to providing average standard of cultural possessions and participation in group activity of the community.

The term status refers to the recognition given to an individual by his group relations. Social status is an indication of one's position of respect, prestige and influence in the social setup. Economic status stratifies modern population according to the amount and source of income, which is usually derived from a set of occupational activities or ownership of property or both.
In the words of Bharadwaj et al. (1980), "Socio-economic status would, therefore, be a ranking of an individual by the society he lives in, in terms of his material belongings and cultural possessions along with the degree of respect, power and influence he yields."

Parental occupation, parental education income of the family, assets, household articles, the types of newspaper and magazines purchased, membership of the various clubs and other organizations, general views held by others about the family etc are the component variables of the socio-economic status.

The principle of equality in education as in social justice, generally, has thus come to be emphasized in the form of 'equality of opportunity.' Children should have equal opportunity to demonstrate their intelligence, aptitudes, and potentialities, so that they can enjoy the most appropriate educational provisions.

The gradations of class and status in modern society are, of course, not as simple as this two-fold picture suggest, but being more complex, the distinctions of class are still sharp and telling in human relations. Social classes are the embodiment of very distinctive styles of life, values, patterns of expectations and attitudes, habits of mind and behaviour, which differentiate people in a stratified way throughout society and are very difficult to eliminate.
Differences of this kind lead to fundamental differences in the mind, personality and approach to life of individuals, and are thus likely to affect their attitudes and approaches to education. Social class remains a powerful determinant because the more privileged class can still buy a private education for their children which is different from and still considered superior to that provided by the state, and because the many qualitative differences in class background make for inequalities even within the public system of education.

The word income in a general way means the inflow of economic resources in cash or in kind or both over a period of time in return for any due consideration or service rendered. The income of a family of a landlord includes the amount of cash and kind earned by the economically active members of the household. In our country, educational status goes with the professional status. Therefore, the social status has been taken to mean both educational and occupational status.

Socio-economic status as an important variable affecting the academic achievement has been the focus of attention to the investigator. The importance of socio-economic background of an individual in determining his or her children's educational achievement at different levels has been recognized by educationists. Psychologists also declare that there is a positive correlation between socio-economic status, intelligence and academic achievement.
1.23 Definitions of the Key Term Used in the Research

**Achievement in Chemistry:** In the operational terms the academic performance denotes the marks obtained during the half yearly test and annual examination as evaluated by teachers.

**Achievement:** Achievement signifies accomplishment or gain or a performance carried out successfully by an individual or group or the completion of a task whether it is academic, personal or social. Thus achievement means all those behavioural changes, which take place in the individual as a result of learning experience of various kinds.

**Classroom Climate:** Quality of education is determined by the quality of the classroom. The structural and functional characteristics play an important part in this direction. The physical and physiological characteristics interact to produce a climate that can be significant to both the individual and the classroom. The individual in a classroom setting become the environment of one another.

**Parent:** The father and mother of the child are called the parents. For the betterment of their children, the parents should encourage them in a right way.

**School:** It is a holy place which help the pupil learn many good things; it is where best knowledge is imparted to the children. In this study, the school refers to the schools located in Perambalur and Salem Districts.
**Student:** Those who undergo a system of teaching-learning and expected to learn all the good things from the school is called a student. In this study, the higher secondary students are referred as the students in different schools of Perambalur and Salem Districts.

**1.24 OBJECTIVES OF THE STUDY**

The following are the objectives of the present study:

1. To find out the level of achievement of higher secondary students in chemistry.

2. To find out the level of classroom climate of higher secondary students.

3. To find out the level of parental encouragement of higher secondary students.

4. To find out the level of socio-economic status of higher secondary students.

5. To find out whether there is no significant difference in achievement level of the higher secondary students in chemistry belonging to different sub samples

- a) Gender : Male/Female
- b) Type of school : Government / Private
- c) Location : Rural / Urban
- d) Type of family : Nuclear family / Joint family
- e) Community : SC/MBC/BC/OC
- f) Birth order : First/Second/Third
g) Parental Education  :  Illiterate / School Education/College Education
h) Parental occupation :  Government/ private/ others
i) Parental income     :  Below 10,000/10,001-30,000/above 30,000

6. To find out whether there is no significant difference in the classroom climate of higher secondary students belonging to different sub samples

   a) Gender  :  Male/Female
   b) Type of school    :  Government / Private
   c) Location        :  Rural / Urban
   d) Type of family   :  Nuclear family / Joint family
   e) Community       :  SC/MBC/BC/OC
   f) Birth order      :  First/Second/Third

   g) Parental Education  :  Illiterate / School Education/College Education
   h) Parental occupation :  Government/ private/ others
   i) Parental income     :  Below 10,000/10,001-30,000/above 30,000

7. To find out whether there is no significant difference in the parental encouragement of higher secondary students belonging to different sub samples

   a) Gender  :  Male/Female
   b) Type of school    :  Government / Private
   c) Location        :  Rural / Urban
   d) Type of family   :  Nuclear family / Joint family
   e) Community       :  SC/MBC/BC/OC
   f) Birth order      :  First/Second/Third
g) Parental Education : Illiterate / School Education/College Education
h) Parental occupation : Government/ private/ others
i) Parental income : Below 10,000/10,001-30,000/above 30,000

8. To find out whether there is no significant difference in the socio-economic status of higher secondary students belonging to different sub samples

a) Gender : Male/Female
b) Type of school : Government / Private
c) Location : Rural / Urban
d) Type of family : Nuclear family / Joint family
e) Community : SC/MBC/BC/OC
f) Birth order : First/Second/Third
g) Parental Education : Illiterate / School Education/College Education
h) Parental occupation : Government/ private/ others
i) Parental income : Below 10,000/10,001-30,000/above 30,000

9. To find out if there is no significant relationship between the achievement of higher secondary students in chemistry and their classroom climate.

10. To find out if there is no significant relationship between the achievement of higher secondary students in chemistry and their Parental encouragement.

11. To find out if there is no significant relationship between the achievement of higher secondary students in chemistry and their socio-economic status.
1.23 HYPOTHESES OF THE STUDY

On the basis of the objectives, the following hypotheses have been formulated.

1. The level of achievement of higher secondary students in chemistry is high.

2. The level of classroom climate of higher secondary students is high.

3. The level of parental encouragement of higher secondary students is high.

4. The level of socio-economic status of higher secondary students is upper class.

5. There is no significant difference in achievement of higher secondary students in chemistry belonging to different sub samples:

   a) Gender : Male/Female
   b) Type of school : Government/Private
   c) Location : Rural/Urban
   d) Type of family : Nuclear family/Joint family
   e) Community : SC/MBC/BC/OC
   f) Birth order : First/Second/Third
   g) Parental Education : Illiterate/School Education/College Education
   h) Parental occupation : Government/private/others
   i) Parental income : Below 10,000/10,001-30,000/above 30,000
6. There is no significant difference in classroom climate of higher secondary students belonging to different sub samples:

a) Gender : Male/Female  
b) Type of school : Government / Private  
c) Location : Rural / Urban  
d) Type of family : Nuclear family / Joint family  
e) Community : SC/MBC/BC/OC  
f) Birth order : First/Second/Third  
g) Parental Education : Illiterate / School Education/College Education  
h) Parental occupation : Government/ private/ others  
i) Parental income : Below 10,000/ 10,001-30,000/above 30,000

7. There is no significant difference in parental encouragement of higher secondary students belonging to different sub samples:

a) Gender : Male/Female  
b) Type of school : Government / Private  
c) Location : Rural / Urban  
d) Type of family : Nuclear family / Joint family  
e) Community : SC/MBC/BC/OC  
f) Birth order : First/Second/Third  
g) Parental Education : Illiterate / School Education/College Education  
h) Parental occupation : Government/ private/ others  
i) Parental income : Below 10,000/ 10,001-30,000/above 30,000

8. There is no significant difference in socio-economic status of higher secondary students belonging to different sub samples:
a) Gender : Male/Female
b) Type of school : Government / Private
c) Location : Rural / Urban
d) Type of family : Nuclear family / Joint family
e) Community : SC/MBC/BC/OC
f) Birth order : First/Second/Third
g) Parental Education : Illiterate / School Education/College Education
h) Parental occupation : Government/ private/ others
i) Parental income : Below 10,000/10,001-30,000/above 30,000

9. There is no significant relationship between achievement of higher secondary students in chemistry and their classroom climate.

10. There is no significant relationship between achievement of higher secondary students in chemistry and their Parental encouragement.

11. There is no significant relationship between achievement of higher secondary students in chemistry and their socio-economic status.

1.25 METHOD OF STUDY

In the present study, the investigator has employed normative survey method to analyse the effect of classroom climate on the achievement of higher secondary pupils in Perambalur and Salem Districts.
1.26 TOOLS OF THE PRESENT STUDY


2. Kusum Agarwal (1983) developed by Parental Encouragement scale and


1.27 STATISTICAL TECHNIQUE USED

In this study, the investigator has used the following statistical techniques for analysis of the data

1. Descriptive Analysis

2. Differential Analysis

3. Correlation Analysis and

4. Regression Analysis

1.28 DELIMITATIONS OF THE STUDY

1. The present study is confined to + 1 (first year students of higher secondary course) students in Perambalur and Salem Districts.

2. There are so many factors responsible for the climate condition of a classroom, the researcher has taken only two factors in the study namely, physical climate and physiological climate.
3. Regarding the achievement of pupils the researcher has taken the half-yearly marks of higher secondary students of Perambalur and Salem Districts.

1.29 BRIEF RESUME OF SUCCEEDING CHAPTERS

Chapter II has a detailed review of the studies related to the present investigation, carried out both in India and in other countries.

The theoretical bases underlying the construction of the classroom climate scale, the steps involved, the construction and details of administration are outlined in chapter III.

Chapter IV gives the result of the analysis of the data, interpretation and the verification of the hypotheses.

In chapter V, a brief summary of the investigation, main findings, recommendations as well as suggestions for further research are given.