

# *Chapter I*

## *Introduction*

### **1.0 Introduction**

Education is a process of human enlightenment and empowerment for the achievement of a better and higher quality of life. Sound and effective system of education results in the unfoldment of learners potentialities, enlargement of their competencies and transformation of their interests, attitudes and values.

Recognizing such an enormous potential of education, all progressive societies have committed themselves to the education with an explicit aim of providing "Quality Education for all". In this context, environment existing in our institutions and classrooms has a crucial role.

The task of building an enlightened, strong and prosperous nation rests on the shoulders of its who are to be cherished, nurture and developed with tenderness and care.

### **1.1 Concept of Classroom Environment & Its Assessment**

Doyle (1977, 1980) has argued that classroom settings have distinctive properties affecting participants regardless of how students are organized for learning or what educational philosophy the teacher espouses. There are, in other words important elements already in place when teachers and students arrive at the classroom door. These elements include.

1. **Multidimensionality:** Which refers to the large quantity of events and tasks in classrooms.

2. **Simultaneity** : which refers to the fact that many things happen at once in class rooms.
3. **Immediacy** : which refers to the rapid pace of classroom events.
4. **Unpredictability** : which refers to the fact that classroom events often take unexpected turns.
5. **Publicness** : which refers to the fact that classrooms are public place and what events, especially those involved the teacher are often witnessed by a large portion of the students.
6. **History** : which refers to the fact that classes meet for 5 days a week for several months & thus accumulate a common set of experiences, routines & norms which provide a foundation for conducting activity.

The classroom is the basic structure unit of our educational systems. This environment is where a wealth of interactions occur among students, teachers peers and curriculum and is where learning takes place. These interactions create an environment that effects both attitude and achievement of students (Talton, 1987). This interaction occurs in a classroom between the teacher and pupils on the one hand and among the pupils on the other.

Phillip Grammage (1971), also believes that the interaction of the teacher and children is one of the most essential aspects of the educative process and possibly one of the most neglected. To some extent the type of quality interaction determines not only the effectiveness of the learning situations but the attitude interests and in part even the personality of pupils.

These interaction can be further classified into five major activities of classroom. Classroom involves five major facets of activity. They are :

First : classrooms are places where students and teachers form interpersonal relationship involving praise, acceptance, criticism, feelings of satisfaction, liking for one another, initiation, response, competition, cooperation and many other aspects of a socioemotional variety.

Second : the events of the classroom are very different from events in other social settings in terms of their content. That is the subjects of the talk, writing listening and watching are different from those at the sports club, the family meal, the church gathering or the disco.

Third : The ways in which the teacher and the student share activities in pursuit of learning tasks as questioning, answering, correcting, commencing, reviewing, recapitulating and similar "pedagogical" behaviours are performed to different extents by teachers and students and apparently according to rules for classroom behaviour.

Fourth : Depending upon such factors as the size of the class, the motivation of the students, and the suitability of the learning tasks, teachers find the establishment and maintenance of law and order in classrooms easy or difficult identification of problem children, efficient teachers, difficult contexts and the like by watching the state of orderliness in classrooms.

Fifth : It contains thoughts, either by teachers or students about teaching and learning, is a covert process.

Many researchers emphasizes the impact of physical aspects of classroom whereas other focus on how social environment in the classroom affects students educational outcomes.

Cheng (1994) describes these two aspects physical environment and social or psychosocial environment of classroom.



The physical environment of the school and classroom includes facilities, spaces, lighting, ventilation provides safety and comfort to promote learning and student development.

The psychological environment often refers to the social quality of the school and classroom especially the aspects related to perceptions and feelings of social relationship among members. The term classroom psychological environment, classroom atmosphere, classroom social climate, classroom social interactions and classroom social relationship are often used interchangeably when scholar's investigate the classrooms learning environment. /

Hussen, The International Encyclopedia of Educations, define the term classroom psychlogical environment is the climate or atmosphere of the class as social group that potentially influence what students learn. Because the classroom environment as it is investigated refers to the less tangible aspects of the context to the learning it is often inferred by asking student to porcine and rate the psychological characteristics of their classroom group or questionnaire items.

Mac Millan Encyclopedia of Education defines Classroom behaviour as early studies characterised the first considered the personality of the teacher and attempted to relate judgement about such character as sympathy sense of humour and enthusiasm to success in teaching, the second attempt to correlate biographical and test data such as Age, Sex, I.Q. and Social class to some measure of success in the light of which these factors considered were usually a supervision rating or evidence of achievement on the part of students.

Classroom observation is a systematic observation in a set of procedures which uses system of categories to code and quantity classroom behaviour of teachers and students. These procedures require that observed behaviour be classified by the use of non-evaluate relatively object set of categories which describe specific behaviour or actions.

G-Terry Pate and J.B. Thomas in *International Dictionary of Education* describe climate as description of the atmosphere a classroom. Where the teacher is flexible in his/her teaching and organisation and where pupil discuss syllabus and progress share in decision making and policy and show initiative during the lesson.

The classroom environment study (CES) was a cross national, observational study of classroom teaching & school learning conducted under the auspicious of the International Association for the Education of Educational achievement (IEA) during the yeas from 1981 through 1981. The CES has two primary aims. First it was intended to identify the similarities & difference in teaching practices & the conditions of learning as they occurred in a variety of countries. Second its was intended to identify those particular aspects of the classroom environment (eg., general classroom activities, teacher & students perceptions of the classroom environment & specific behaviour exhibited by teachers & students) that are likely to influenced student achievement & attitude (Anderson 1987) the classroom educational study represents a large scale cross national attempt to look beyond the classroom door.

In fact much of the credibility of the CES findings stem from their complexity. As any naive observer of classrooms will acknowledge classrooms are complex social entities within which the lives of teachers & students are entwined in a myraid of complex ways., In many respects, the classroom environment study has provided a glimps of classroom life so that a greater understanding seems necessary if substantial change is & ultimate improvement of the quantity of classroom life for both teachers & students are to be possible.

Most classroom environment research has involved students in Western Countries. The field originated in the United States with pioneering work using The Learning Environment Instrument (LEI, Walberg, 1979) & the classroom Environment Scale (CES, Moor, 1979); that was followed by work in the

Netherlands with the questionnaire on Teacher Interaction (QTI, Wubbels & Levay, 1993) & in Australia with the individualized classroom Environment Questionnaire (ICEQ, Fraser 1990) Although those instruments have been used and validated in a number of countries, many of the questionnaires overlap in what they measure's some contain items that might not be pertinent in current classroom settings.

Although a recent literature review (Fraser, 1998) shows that the majority of the classroom environment studies involve western students, a number of important studies have been carried out in non-western countries. Early studies established the validity of classroom environment instruments that had been translated into the Indian (Walberg, Singh & Rasher 1977) & Indonesia (Schibecl, Rideng & Fraser, 1987) languages & they replicated association between student outcomes & classroom environment perceptual. The Journal of Educational Research Sept./Oct. 1989 Vol. 93 No. 1.

## **1.2 Achievement Motivation : Meaning and Its Assessment**

Performance in school or college in a standard series of educational tests. The term is used more generally to describe performance in the subjects of the curriculum.

Achievement Motive (Motivation) Psychological construct developed by McClelland & his associates as important for the individual & his/her society in terms of educational and economic development. An individual with the motive to achieve is spurred by his/her needs to satisfy his/her drives to know & understand to acquire feelings of personal adequacy of self esteem and to receive approval from others as part of a desire to master his/her environment.

There has been very significant increase in the field of motivation research in the past few years.



Lewin (1935) also emphasised the important of achievement motivation in human experience. He was among the first to study the upward striving nature of human achievement aspiration and behaviour. Achievement may be defined as dissatisfaction with the present condition & an urge to improve upon the same condition of life Mc Clellan (1961) have applied the concept of need for achievement to the field of education.

As a special area of interest the study of achievement motivation was initiated when a technique was developed to assess individual differences in the need for Achievement (n Achievement) or the desire to perform in competition with a standard of excellence. The instrument was an adoption of Murray (1943) Thematic Appreciation Test (TAT) the first successful experiment was conducted by Alkinson & Mc Clelland (1948) in case of the need for hunger.

Later Mehta (1969) developed a test of achievement motivation for use with the Indian children. The test consist six pictures of the TAT type. The test has been used in several Indian Studies to measure of achievement motivation (Desai 1970, Chodhary 1972, Mehta 1973, Hyngdoh 1975, Pandari Pande 1972, 1976).

Achievement test is designed to measure the effects of specific teaching or training in an area of the curriculum. Defined by Anastas, as measuring the effects or relatively standardized set of experiences (eg. a course in satisfaction on apposed to aptitude tests which measure learning under relatively uncontrolled experience.

International Dictionary of Education by G. Terry Page & J.B. Thomas. Deo-Mohan has developed a achievement motivation test of 50 items for the students of middle school.

### **1.3 Concept of Attitude : It's Nature and Measurement**

G.Terry Page & J.B. Thomas with A.R. Marshal in International dictionary of education explain "the concept of attitude that it is predisposition to perceive, feel or behave towards specific objects or certain people in a particular manner. Attitudes are thought to be derived from experience rather than innate characteristics which suggests that they can be modified".

Traits which are more persistent & general personality characteristics are thought to be more the product of innate constitution. Attitude/knowledge/skill pattern are the parameters of an individual performance in a given task or occupation. Attitude determining the approach, knowledge being the pertinent facts & skill in this sense being a measure of ability to perform.

Attitude are learned predispositions to respond positively or negatively to certain objects, situations institutions or persons. As such attitude consists of cognitive (beliefs or knowledge), affective (emotional motivational) & performance (behaviour or action tendencies) components to defined by the international Encyclopedia of Curriculum edited by ArieH Leway.

Attitude & interests are closely related concepts. The broader term is attitude which include interests. Both are descriptions of a readiness of productivity of an individual to respond in a certain way toward something for instance a child through experience or through the initiation of admired adults may have learned to dislike school & academic subject matter. He has thus acquire a readiness to resist actively school materials such as books and school activities children have such a readiness to respond to a large group of objects & abstractions.

According to woodsworth an attitude is a set of disposition (readiness, inclination tendency) to act toward an object according to its characteristics so far as we are acquainted with them. "He suggests that where an attitude is



an active it may be called a disposition & when an attitude consists of strong feeling it may be called a sentiment (Crow and Cross 1986).

Attitude Scales - measure of personality which attempts to place on individual somewhere on agreed continue with respect to a specific attitude. Attitude scales in fact tend to be used to yield quantitative measure of traits or more general personality.

Attempts to measure attitude fall into one of three categories. All such attempts require the making of inference about attitude from sum observable indicators the categories can be formed on the basis of the type of indicator on which the inference is made. The Categories are :

1. Inference made from response to a set of statement or adjective.
2. Inference made from overt behaviour.
3. Inference made from physiological responses on the basis of above categories the measurement of attitude is given below.

Thurstan 1982, First developed procedure by which one could select a pool of attitude statements these that were more relevant & ambiguous & average them in scale that would have internal properties.

Thurstan & Clave (1929) have developed a standard hand book of to measure attitude Likert (1932) developed an approach to attitude measurement that eliminated the need for having a large group of judge. The method of "simulated rating" soon become population & his remained so.

Proshansky (1943) developed studies that were very briefly exposed Guttman's (1944) scale gram techniques was introduced in order to developed unidimensional scales.

Hammond (1948) developed information test on labour & management. The three approaches to attitude measurement desired were combined by Edwards & Kilpatrick (1948) in their method of scale construction. Q-sort methodology pioneered by Stephenson (1953) involves the subjects scoring of attitude statements on the cards just as in Thurston's method. One of the simpler methods of scalogram analysis adaptable for use with a computer has been developed by Toby & Toby (1954).

Kahn & Cannell (1957) are explained "funnel technique" the inverted funnel technique & "probe questions" to measure attitude scalogram analysis. Refinements in Guttman Scaling have been reviewed by Dotson & Sumnals (1970).

A collection of sixteen measures of school related attitude has been compiled by Knapp (1972), Williams (1957) specially developed picture similar to those used in the TAT (Murray, 1943) are often used. Scott & Rehrbach (1977) list five methods for identifying suitable items and for reducing the likelihood of taking a recent review of research using physiological measures in the study of attitude has been prepared by Caripppo & Sandman (1980).

## **1.4 Statement of The Problem**

"A study of Classroom Environment Achievement Motivation and Attitude towards Mathematics."

## **1.5 Need and Significance**

The main function of educational research is to improve the educational procedures through the refinement and extension of knowledge. Each research is taken to improve the existing educational process. This study also has some need and significance in education as Academic point of view and individual and social point of view.

(A) Academic point of view

Achievement Motivation has an important role in education. AM affects the ability of the students directly and the ability of the school is dependent on the environment of the school. So the environment of school is like such that the student motivates itself.

Achievement Motivation assumption is relatively enduring personality characteristic of the individual. Achievement Motivation is closely related to the school achievement. It is therefore quite useful to examine the degree of relationship between Achievement Motivation and school achievement. Achievement Motivation expressed itself unconcern with performance evaluated against a standard of excellence (McClelland 1953).

(B) Individual & Social Point of View

Achievement motivation also has an importance in education as social and individual point of view. McClelland, (Clark, Lowell, Atkinson) have discussed this theory in a broader area. McClelland, Clark, have showed that individual difference in achievement scores obtained from stories are positively related to performances of simple laboratory tasks. McClelland's investigation of achievement motivation and entrepreneurship have suggested that who is highly motivated to achieve is disposed to take moderate and calculated risks in preference to very special or very safe undertakings. Atkinson showed that recall of interrupted tasks, which is conventionally viewed as indicative of strength of motivation is positively related to the strength of n-Ach in individuals only when tasks are presented as tests on which it is important to do well. This suggested that the ach motive should be thought of as a latent disposition which is aroused and manifested in overt goal striving only when the cues of a situation clearly indicate that performance is instrumental to accomplishment.



Winter Bottom has found that n-ach. in male children is related to parental attitudes toward independence training in early independence training associated with high n-Ach. Winter Bottom was unable to study children under 8 years of age, thus it was impossible to determine exactly when the need for achievement begins to develop. By making this study of preliterate children possible the graphic expression test may provide a solution to this problem. In India we have just state thinking & understanding studies. A study of the present type would continue its share to the efforts made in improving achievement motivation & mathematics attitude of middle school students of our.

## **1.6 Definition and Explanation of the Terms Used:**

### **1.6.1 Attitude**

The theoretical definition of attitude, the commonalities of definitions of attitude have proposed that the construct of attitude can be divided into three components.

- (i) an effective component, including the emotional core or effect of liking or disliking.
- (ii) a cognitive component referring to the assumption that beliefs or 'ideas' about the category underlie an attitude and
- (iii) the predisposition to action, which is the behavioural tendency which accompanies the attitude.

Although the items used in our attitude scale are brief & holistic, they do top all three of these components of attitude.

### **1.6.2 Attitude Toward Mathematics**

The criterion variable, attitude toward mathematics, needs to be operationally defined here. Any measure which is derived from an observation or set of observations and which constitutes a valid way to represent the

construct, can be a reflection of the criterion variable, an attitude toward mathematics.

### **1.6.3 Environment**

Gisbert says, environment is anything immediately surroundings an object & exerting as direct influence unit, "Environment is any external force which influence us".

### **1.6.4 Classroom Environment**

This term is used to refer to the students perceptions of the psycho-social characteristics (Personalisation, Participation, Independence, Investigation and Differentiation of their classrooms measured by Rentrul and Fraser (1979).

Personalisation (P) : It is the emphasis on opportunities for individual students to interact with the teacher and on concern for the personal welfare & social growth of the individual.

Participation (Pa) : It is the extent to which students are encouraged to participate rather than be passive listeners.

Independence (ID) : It is extent to which students are allowed to make decisions and have control over their own learning & behaviour.

Investigation (Iv) : It is the emphasis on the skills & processes of inquiry and their use in problem soling and investigation.

Differentiation (D) : It is the emphasis on selective on selective treatment of students on the basis of ability, learning style, interests and rate of working.

### **1.6.5 Motivation**

Lindsley (1957) define motivation as a "Combination which initiate direct, and sustain behaviour towards a goal".

Accordingly not only instigates behaviour but also operates to reinforce ongoing behaviour. Applied to classroom situation, motivation is what pushes the student to try to learn or to expand his energies in other direction.

#### **1.6.6 Achievement Motivation**

According to Lindgren & Byrne (1971, P. 689) used in comparatively general sense, motivation means, "a drive to work energetically and persistently at the accomplishment of tasks and to seek additional tasks to accomplish".

McClelland defines n-Ach in terms of

- (i) Competition with standard of excellence
- (ii) Unique accomplishment and
- (iii) Long term involvement

As reflected in the items of the achievement motivation employed in the present study, n-ach. refers to the liking for adventures a desire for fame and name, a desire to excel others, a tendency of sustained labour, a desire to have better culture, readiness to take risk, strong desire for success & tendency to assert. Hence as used in the present study, the term achievement motivation operationally defined means the relative position of an individual indicated by the scores obtained on the tests.

Delimitation of the study :

The following were some of the delimitation of the study.

1. The study was delimited to VII grade students of Bhopal division only.
2. The study was further delimited to government middle schools only.
3. Only students' perception were considered for the measurement of classroom environment, achievement motivation & attitude towards attitude towards mathematics.