CHAPTER II

RELATED STUDIES
2.1 In the absence of the related studies, the investigator is in the wilderness as any ship may be without a compass in the Ocean. They are just like a pole-star to him. They provide him with a lot of general understanding and deep insight into facing the problem.

In the following pages under various sub-heads those studies which have adequate resemblance to the present study are described and their findings are briefly discussed.

2.2 FACTORS AFFECTING ACHIEVEMENT

Over a score of studies have been conducted on factors affecting school achievement and results in external examinations. These factors run all the way from intelligence to physical health through the socio-economic status of the family, sex, caste, distance of the school
from the home, and leisure time activities. While most of them are post-graduate dissertations there are only a few studies which have been conducted at a higher level.

In these studies, the relationship between intelligence and academic achievement belongs largely to the Psychological domain and many of the studies attempt at replicating well-known studies on a limited scale and on the basis of a limited sampling. Bhargava (1957), Kapoor (1961), Parhi (1960), Parekh (1957), Richaria (1952), Satsangi (1960), Shivarammaya (1947), Singh (1957) and Srivastava (1955) correlated intelligence as determined by various intelligence tests with the marks obtained. While some like Srivatava found this correlation to be low, which is unusual, others found significant correlations. Kapoor tried to find the relationship for a superior group of children, and found the correlation to be very high which may be due to the narrow range of I.Q.s. Such studies, while serving as research exercises, do not add significantly to the existing knowledge in this area.

The other major group of studies are on the socio-economic status of the family and its relationship with achievement. Choudhari (1963), Gupta (1962) and Pairthraun (1963) issued questionnaires on socio-economic conditions and the scores on these were correlated with marks in school examinations. Kaur (1961) considered only the educational and economic status of the parents for her study. Banerji (1961) took scores on questionnaires, teacher reports and school records indicating the status of the family. Pairthraun and
Raghavacharyulu (1957) found a high correlation between occupational status and achievement whereas Bhatnagar (1956) did not find any significant relationship between school marks and socio-economic status. Kaur also got very low correlations. The results reflect the trends noted in other studies of this nature undertaken elsewhere. Prasad (1961) also could not find any significant relationship between distance of home or father's occupation and academic achievement.

Studies on other factors such as health of students done by Kapoor (1961), extra curricular activities conducted by Patel (1959), physical efficiency by Sole (1954), leisure time activities by Sharma (1959) and Caste by Sen (1961) in relation to academic achievement are few in number and also in most of these studies correlations have not been found to be significantly high.

Studies on aptitude, attitude and interest and their relationship to achievement have also been undertaken in a few cases. Datta (1963), Dutta (1952) and Srivastava (1959) studied interest and Purandare (1961) studied attitude to subjects. Dutta and Datta found positive correlations between interest and achievement. Purandare got very low correlation between attitude to school subjects and achievement in them.

Bajwa's (1961) study showed that participation in sports does not have any marked effect on academic achievement whereas the study by Dubey (1962) shows some deleterious
effect on students. A study by Rokade (1961) tried to establish relationship between personality and achievement. Another study undertaken by the Education Department of Kerala University went into the effect of organizational and administrative factors on achievement. The studies on the effect of medium of instruction conducted by the Maharashtra Board have been reported elsewhere. These studies no doubt reflect the wide varied interests of the research workers but many of them are not very reliable. In most of the studies in this category, unlike in other categories, the sample is extremely narrow and often biased. In some cases the studies are completed in one school, in others at the most in two or three schools. The conditions are often not carefully controlled and hence the findings and conclusions do not help in planning ways and means of improving the educational achievement of students. A series of well-planned studies leading to definitive findings are very much needed in this area.

2.3 **SOCIO-ECONOMIC STATUS AS A FACTOR**

It is quite apt and appropriate to start with a hypothesis that the socio-economic status does definitely contribute to academic performance in a stratified society of India.
Mathur (1963) attempted to see the effect of socio-economic status on behaviour and achievement of students of secondary schools. He found that socio-economic status is significantly correlated to educational achievement, intelligence and conduct of students.

Chopra (1964) saw the effect of socio-economic factors and academic achievement between themselves, keeping the effects of intelligence constant. He found that 96 per cent drop outs leave the school because of poor economic conditions of the family. On the basis of parents education, occupation, family income, type of lodging, size of the family and cultural level of home, students belonging to the higher qualitative group show significantly higher achievement.

2.4 BACKWARDNESS OF PUPILS AS A FACTOR

A group of studies tried to see the causes and effects of Backwardness in respect of academic achievement.

Puranik and Kundley (1969) studied educationally backward pupils with regard to their intelligence, vocabulary equipment, arithmetical ability and emotional problems.

Lohithakshan (1961) tried to determine the association of behavioural tendencies and socio-environmental factors with educational backwardness.
Lulla, Shah and Darji (1966a, 1966b, 1966c) investigated the academic causes of backwardness at the elementary stage.

Fathepuria (1966) probed into different restricting and promoting factors influencing scholastic backwardness.

2.5 FACTORS RESPONSIBLE FOR OVER AND UNDER-ACHIEVEMENT

Under-achievement has been a matter of grave concern for the educationists and psychologists for long. Today, however, the factors governing the over-achievement are also being thoroughly examined.

Sinha (1965) identified factors like intelligence, anxiety, adjustment and other intellectual and non-intellectual factors associated with students' performance.

Pal and Saxena (1970) attempted to determine empirically the extent and nature of the problems of over, under and normal achieving students and to ascertain the degree to which these problems press upon the different groups of achievers, to help or retard their academic performance.

Srivatava (1967) probed into the factors related to educational underachievement. He found in his study that besides study habits, reading ability, health, social and emotional adjustments, underachievement is also related to various other background and personal factors like age, socio-economic status, number of siblings, birth order,
reading interests, failure in school examination, and participation in co-curricular activities.

Sharma (1972) compared over, average and underachievers with regard to their adjustment in school and various areas of life.

Saxena's (1972) attempt has been to discover the differences between the over and underachievers with respect to their interests, need patterns, adjustment problems, study habits and personal and other background factors.

Pathak (1972) made a study to differentiate high achievers from low achievers in science. He identified the same factors which other studies revealed.

Dhaliwal (1971) found the personality correlates of academic over and underachievement. His findings have corroborated the findings of other similar studies. His significant finding is that both over and underachievement go with higher need for achievement and greater anxiety in comparison to normal achievement.

We have seen that the academic achievement is the product variable which gets toned up or down by the positive or negative influence of a host of independent variables, the role of some of which has already been noticed in the studies quoted earlier. Yet there have
been a few studies which have investigated into this area, taking up one or two major correlates separately, for a specific enquiry.

Jain (1967) explored the relationship of study habits with students' attainment and at the same time standardized an inventory for study habits of students.

Shivaramayya (1954) concluded in his study that children's free activities significantly contribute to their better performance.

Kumar (1969) found that self concept has a positive relationship of self concept with intelligence and achievement. Certain demographic and environmental variables like sex, area of residential community, position in family and educational level of father are related to self-concept as well as achievement, though the degrees vary.

Sharma (1968) concluded that the significant relationship of positive and negative self concepts and general anxiety with school achievement.

Pandit (1969) has corroborated the fact that an overall negative relationship exists between anxiety and other independent variables of educational attainment.

Similar studies were done by Vidhu (1968), Kulshreshtha (1956), Rastogi (1964), Passi (1972), Kumar (1963) and Rao (1963) and they found the effect of one or two independent variables on academic achievement.
Above, the studies related with the identification of the factors affecting academic achievement are given. Many investigators, though not very comprehensive have also been done to isolate factors governing the prediction of academic success of the pupils.

2.6 FACTORS GOVERNING ACADEMIC PREDICTION

Two studies by J.N.P. Sharma (1958) and R.D. Sharma (1961) are concerned with finding out if it is possible to predict the performance in the school final examination from the performance in the home examinations. J.N.P. Sharma found out the correlations between the marks in each of the examinations in classes IX and X and the school final examination. They were 0.40 or above in nearly two-thirds of the internal examinations. R.D. Sharma correlated the marks in each subject in the school final examination with the marks in the five home examinations in each subject and found high correlations.

A study about the predictive validity of school final examination marks in terms of success in the college was made by Dutt (1955) for her Ph.D. She concluded that the average school marks of three years should be regarded as one of the principal criteria for admission to the university, specially for borderline cases. A similar study was also undertaken at the Sardar Vallabhbhai Vidya Pith.
Pandey (1963) undertook his study to find out whether internal assessment affected results in such a way as to render it incapable of predicting student performances in professional colleges. He found that students who had secured a first division owing to internal assessment did not fare-well in the first year of the engineering course. On the other hand, those who did not get any benefit from internal assessment did very well.

Ai (1945) investigated, while conducting a study on sex differences in school achievements in Changking that no sex differences exist in Chinese and Arithmetic computation.

Makeachie (1958) found that women are highly motivated, achieve more nearly, upto their abilities and potentialities and are more greatly affected by chances in the class room situation than are men.

Pruett (1960) studied the achievement in Science and Mathematics by school boys and girls and found that girls did better in Mathematics than boys did. This result is in contradiction to the studies done by Webb (1933), Jordan (1937), Middleton (1938), Blackwell (1941), Ai (1945) and Makeachie (1958).

Showater (1966) revealed that from grade V to grade IX girls show a rising trend in academic achievement. In a study conducted by Joshi and Passi (1965), with the help of
a numerical ability test, found the means of boys are slightly higher than that of the girls.

Studies with factorial designs as conducted by Blackwell (1941) using Centroid Method as suggested by Thurstone in factorial designs were rare.

Achievement is the result of many types of factors and Mathematical ability is one of them. Blackwell (1941) had mentioned four specific factors in case of boys and three in case of girls in Mathematical ability. These were:

1. Quantitative reasoning in both the cases like Spearman's (g).
2. A component involving operation in imagery and manipulation of verbal and spatial data having greater influence in boys than in girls.
3. Factor of variability among girls and verbal reasoning factor in boys, and
4. Precision and exactness is one factor found in girls.

Like Mathematical ability, other investigations have found some factors of achievement. Joshi and Malik (1965) revealed five factors of achievement.

1. General scholastic factor.
2. Verbal factor.
3. Logical memory.
4. Memorization of factual information, and
5. Extraneous factors.

Joshi and Pathak (1964) extracted six factors:
1. Complex factor of general mathematical ability.
2. Mechanical ability.
3. Verbal ability.
4. Non-symbolic memorization of general memory.
5. Symbolic memorization, and
6. Experiment or extraneous factors.

But Joshi and Passi (1968) refuted the aforesaid factors by Joshi and Pathak (1964) and suggested three factors instead as given below:
1. General factor of scholastic achievement.
2. Scientific aptitude, and

The above synoptic review demonstrated that achievement is a complex phenomena which is described through many different types of achievement factors. Moreover, it is also observed that there are marked differences in achievement by different persons of different age, sex, standard, area or group etc.

The related studies described above have all been in the direction of establishing a few factors which may describe
the academic success or failure. In most of them limited samples were used the tools applied were not very scientifically planned. Opinionnaires or questionnaires asking the teachers, pupils or parents as what they consider responsible for high or low academic performance were used. Hence their results though were significant did not throw much light on the various personality factors and social factors in the environment which affect the academic achievement. To overcome this shortcoming many investigators used the terminology of personality studies and made attempts to isolate the correlates of academic achievement with improved tools.

2.7 GENERAL CORRELATES OF ACADEMIC ACHIEVEMENT

In the studies given below, an attempt has been made to see the effect of a number of independent variables on academic achievement. Comparatively large number of tools have been used and the sample taken was large enough.

Rao (1965) tried to study the relationship of intelligence, study habits, attitude of pupils towards school and socio-economic status with academic achievement. He has found that the first three variables jointly contribute sixty six per cent of the predictability of scholastic achievement whereas the contribution of the socio-economic status did not come to be significant.
Singh (1965) attempted to find out non-intellectual correlates of academic achievement. He found that academic achievement has a positive correlation with restraint, thoughtfulness, parents education, home and health adjustment and n-Achievement, and negative with ascendance, anxiety, social adjustment and extraversion.

Nayar (1971) tried to find out some predictors of achievement in science subjects. He saw the effects of six variables – verbal reasoning, numerical ability comprehension and interpretation, problem solving, critical thinking and spatial ability. He identified three factors – General Factor (g), Conceptual Facility and Numerical Facility.

Jha (1970) found that science is positively related to general intelligence, science aptitude and adjustment and negatively to anxiety and socio-economic status is not significantly related to achievement.

Bager (1965) has tried to find out whether any differential pattern of factors required for successful performance in different courses after the delta class – VIII in the higher secondary schools to help the students to take up different courses. He found in his study that inductive reasoning is important for science courses whereas verbal meaning is good enough for arts and commerce courses.
Bhatt (1961) devised an assessment procedure of achievement in Basic Education. He compared the Basic and non-Basic schools and found that the achievement in the Basic schools is better than their counterparts.

2.8 PERSONALITY CORRELATES OF ACADEMIC ACHIEVEMENT

Cattell (1965) and Cattell, Sealey and Sweney (1966) and many other educationists and psychologists made efforts to find out certain, Personality correlates of academic achievement. A brief description of the studies done in this area of personality correlates is being given in this section.

Bhatnagar (1967) reported in his findings that need for autonomy, intraception, succorance, dominance, nurturance, endurance and aggression correlate positively whereas need deference, affiliation and abasement correlate negatively with academic achievement of students.

Abraham (1969) through factor analysis found three factors — scholastic aptitude, neuroticism and extraversion-introversion as correlates of academic achievement. The last two factors showed sex differences in academic achievement.

Rao (1963) and Mishra (1962) tried to establish a direct link with personality variables and high and low academic achievement. Both of them showed that high and low achievers had no difference in their mental make-up but Rao
laid much stress upon academic background whereas Mishra laid emphasis upon non-academic factors.

Banerjee (1972) found that students of Basic schools achieve more scores in mother tongue, studies of environment and speed of handwriting. The difference on the basis of their personality make-up was found to be insignificant.

2.9 THE THEORY OF SOCIAL PERCEPTION

(a) It has highlighted that the same phenomenon may be viewed in a different perspective by different individuals performing different role function or placed in different situations. Hence the investigations started planning their studies towards the perceptual aspects of academic achievement.

(b) Teachers Perceptions of Correlates of Academic Achievement:—Charleta J. Dunn and Gerald T. Kowitz (1970) respectively Assistant Professor of Counsellor Education, University of Houston, Tex and Chairman, Department of Guidance, University of Oklahoma did a study under the caption, "Teacher Perceptions of correlates of Academic Achievement". They prepared a list of forty adjectives believed to relate academic success and the same was submitted to 100 participating teachers of Gulf Coast District of Texas. They employed five point rating scale as technique of collection of data.
The adjectives which received a rating of five, "Extremely important", by one-third or more of the teachers present a picture of very hard working, if less than typical student. He must be 'industrious', 'conscientious', 'reliable', 'alert', 'open-minded', 'thorough', 'self-controlled', 'efficient' and 'emotionally stable'. With the exception of the last trait, all are learnt behaviour patterns which suggest an unusually high level of maturity for the student and reflect a common index of the American Middle Class Value System. Thus the results provide some understanding of teacher expectations of the antecedents of academic achievement.

The list of eighteen adjectives which had a teacher mean value of 3.07 to 3.91 included student characteristics such as 'purposeful', 'imaginative', 'healthy', 'fair', 'sensible', 'punctual', 'learned' and 'polite'.

Teacher mean value which ranged from 2.66 to 2.98 were assigned to seven of the stimulus variables presented. These included 'pleasant', 'cheerful', 'socially accepted' and 'agreeable'.

Ratings on the forty stimulus variables were subjected to the factor analysis programme. The heaviest loading 5.12 is a factorial one, presenting, a cluster of eight adjectives, 'considerate', 'friendly', 'sympathetic' etc.
Second factor accounted for 3.05 and presents three stimulus words, 'tolerant', 'leadership' and 'appearance'. These characteristics are given high social approval.

The stimulus variables composing the third factor has a loading of 2.08, and has variables — 'pleasant', 'kind', 'warm' and 'humorous'.

The fourth factor contributed loading of 1.98 and consists of two traits only — 'imaginative' and 'original'.

Raters could only agree to the personal adequacies of the students and socially desirable values but there could not be possible any agreement on the correlates of academic achievement.

2.10 THE STUDY BY THE INVESTIGATOR

The investigator did a study in 1972 on "Teachers' Perceptions of Correlates of Academic Achievement". The list of correlates (stimulus variables) of this study was different from that list of correlates, used by Charleta J, Dunn and Gerald T, Kowitz, in their study referred above because the values, beliefs, whims and notions are different in India. This study was on the lines of Dunn and Kowitz's study.

The findings of both the studies have brought many similarities and dissimilarities in perceptions of the
correlates of academic achievement. The teachers in the American study perceived the social values as more important for academic achievement. In the Indian situation, the mental equipment of the student was given a higher weightage. The factor of personal adequacies was found to be a common correlate of academic achievement in both the studies.

Since the study by the investigator has been conducted on a limited sample and has not used any standardized list of correlates the present extensive study was planned.

2.11 THE PRESENT STUDY

In the earlier study by the investigator the perception of only fifty secondary school teachers formed the core of the study. No effort was made to classify the teachers on the basis of their intelligence and personality make-up. In the present study a larger sample of the teachers was taken and the data was classified in accordance with different categories of the teachers. Moreover, the perception of the students of the correlates of their academic achievement was also studied. Thus an effort was made to get a correct picture of those personality qualities which the teachers and students consider as of vital importance for their higher academic performance.