CHAPTER-1

1.0.0 INTRODUCTION:

1.1.0 IMPORTANCE OF PRIMARY EDUCATION AND UNIVERSALIZATION OF PRIMARY EDUCATION

Literacy is a basic human right. A man differs from an animal by his ability to rationalize, synthesize and create. Literacy enhances these abilities and extends man's power of communication by bringing the printed media at his disposal. It extends one's awareness and confers access to knowledge; giving the opportunity for wider experiences and greater creativity. A man learns best in his childhood, because a child's mind is curious and alert to everything around him. Schooling at early childhood lays the foundation for personality, attitude, social confidence, habits, learning skills and communicating capabilities of pupils. The child receives some socialisation during his years of attendence at school which benefits him and the community. Recent research has produced a considerable amount of evidence to suggest that primary schooling makes a significant contribution to economic and social development. Schooling raises labour productivity by inreasing the cognitive abilities of the workers: basic numeracy and literacy at the lower occupational levels, a greater capacity for logical and analytical reasoning at higher levels (Becker 1964).

In a review of current researches on 'primary schooling and economic development' carried out in 30 countries (World Bank;

working paper, 1980), the reviewers tried to seek answers to three questions about the importance of primary schooling. The questions were:

1. How does schooling act to increase productivity?
2. How do the effects of schooling vary at primary level as compared with post-primary levels?
3. Are its effects upon output confined only to the formal sector, or does it have a wider impact upon agricultural and informal sectors?

In regard to the first question, they cited evidences from several countries to show that cognitive abilities are enhanced by schooling. Cognitive development may be almost impossible without the literacy and numeracy given by four to six years of schooling. It should be noted that more schooling does mean higher cognitive achievement in general; so schooling is important to productivity growth. Non-cognitive attributes such as attitude, values etc. can also be changed by schooling.

In regard to the second question, the important finding was the higher rates of unemployment amongst those with secondary and tertiary education than those with only primary education.

The third question was about the "productivity benefits outside the formal sector". A recent work suggests that primary education has positive effects upon farmer productivity. Lockheed et al (1979) reviewed eighteen studies conducted in thirteen low income countries on this issue and concluded that the relationship between years spent in school and agricultural output was positive and statistically significant.

Over the years, the educational situation has changed a lot. Today, education as a right of the child is almost universally recognised. Educational planners throughout the world have been giving a high priority to achieving the goal of universal primary education. The Article 26 of the United Nations Universal Declaration of Human Rights proclaims that "Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory." Throughout the world 94% of the persons in the 6-11 years age group attended school in 1982. The corresponding percentages for the 12-17 and 18-23 age groups were 48% and 12% respectively. In Asia, the proportions of the three age groups attending school were 90%, 41% and 6% respectively (Karim, 1990).

At the same time, however, almost one billion adults, two thirds of whom are women, cannot read or write. More than 100 million children (60% of them are girls) in the developing world have no access to schooling. So in the developing countries importance is being given to universalization and equalization of educational opportunities. Political will, awareness of the society, determined efforts and innovative measures are the most important factors for universalization and equalization of educational opportunities at primary level.

In the subsequent sections of this chapter, Bangladesh's endeavours in this respect and the need for the present study in this content will be discussed. The issues to be highlighted are the following.

i) The system of education, particularly primary education, in Bangladesh.

ii) Problems of primary education in Bangladesh.

iii) Plans and attempts made during different five-year plans for universalization of primary education.

iv) Various programmes (in Bangladesh) that were implemented for universalization of primary education.

v) Need for the present study

vi) Conceptual framework of the present study.

1.2.0 THE EDUCATION SYSTEM (PARTICULARLY PRIMARY EDUCATION) OF BANGLADESH.

Bangladesh is situated in the eastern part of South Asian Sub-continent. It covers an area of 143,998 square kilometers (55,598 square miles). Bangladesh is the eighth most populous country in the world. With a per capital GDP of U.S $210 and a population of 114.2 million (1990), it is one of the least developed countries. Adult literacy rate (Age 15+) is 35.3 percent (in 1990); 47 percent among males and 22.2 percent among females. Two thirds of the adult population of Bangladesh are illiterate. The country is still at a fair distance from universal primary education.

The general objectives of the formal education system in Bangladesh are:

1. To cultivate patriotism and good citizenship.
2. To promote humanity and world citizenship.
3. To inculcate moral values.

4. To facilitate social change
5. To facilitate economic progress
6. To cultivate qualities of leadership.

The Education Commission (1974) of Bangladesh formulated the following objectives for primary education:

1. To develop the physical, mental, social and moral aspects of a child's personality.
2. To arouse the sense of patriotism, responsibility, citizenship, inquisitiveness, perseverence and dignity of labour in the minds of the children.
3. To enable the children to read, to write and to keep accounts in the mother tongue.
4. To prepare the children for receiving higher education.

The education system of Bangladesh may broadly be divided into three stages, viz, primary, secondary and higher. The primary education system may be brifly described in the following manner.

1.2.1 STRUCTURE OF PRIMARY EDUCATION

Primary stage of education comprises a 5-year course (grades I to V). The academic year starts in January and ends in December. Primary education is free in government schools; and (January 1993) has been recently made compulsory for all children of 6 to 10 years by an Act of Parliament. The government primary schools are run in two shifts. Classes of grade one and grade two are held in the first shift and classes of grades three, four and five are held in the second shift.The classesin both the shifts

are taken by the same teachers. Primary education begins at the age of six. Generally, children between 6-10 years are enrolled for primary education. But a survey conducted by National Foundation for Research on Human Resource Development (NFRHAD) in 1978 revealed that in the primary schools of the rural areas majority of the students fall in the age cohort 7-13 years. In a developing country like Bangladesh this is natural as birth registration system is either absent or unreliable.

A. **Administration of Primary Education.**

There is a Directorate of Primary Education (DPE) responsible for the implementation of the decisions and plans made by the Ministry of Education. Bangladesh is divided into 4 administrative divisions, 64 districts and 490 thanas. In each of the 4 administrative divisional headquarters there is a Deputy Director. At the district level there are 64 posts of District Primary Education Officers (DPEO); and at the thana level 490 posts of Thana Education Officers with the responsibilities of supervision, control and management of primary education in cooperation with the local governments known as Union Parishad. Of the total number of about 46,000 primary schools in the country, 37,610 are managed by the Government and the rest are privately managed.

B. **Curriculam of Primary Education**

Primary school curricula for grades one and two consist of Bengali, Arithmetic and Environmental Studies (General Science and Social Studies), but there are prescribed text books only

for Bengali and Arithmetic. For other subjects there are no textbooks. The curricula for grades one and two (1991) are shown in table 1.1

In grades three and four, the students have to take Bengali, Mathematics, English, Environmental Science, Physical Education, Religious Education, Arts and Crafts and Music. English is taught as a second language from grade three. Prescribed textbooks are available for Bengali, Mathematics, Environmental Studies, Religious Education and English. For the remaining subjects there are no textbooks. Curricula for grades three, four and five (1991) are shown in table 1.2

C. **School Hour**

The total number of working days for primary schools is 225 days in a year. In Government schools classes are held 6 days a week. In grade one and grade two, total teaching time is 562.50 hours in 225 days; in grades three to five, teaching time is 762.75 hours.

Table 1.1 Curricula for Grade One and Two

Subjects	Number of periods per week (30 minutes each)	Length of time per week (hours)	Percentage of time available
Bengali	10	5.00	33.33
Mathametics	6	3.00	20.00
Environmental Studies	5	2.50	16.67
Religious Education	3	1.50	10.00
Physical Education	3	1.50	10.00
Arts & Crafts & Music	3	1.50	10.00
	30	15.00	100.00

* Source: Bangladesh Education Statistics, 1991, Dhaka.

Table 1.2 Curricula for Grade Three, Four and Five.

Subjects	Number of periods per week (30 minutes each)	Length of time per week (hours)	Percentage of time available
Mother Tongue	7	4.08	20.64
Mathametics	6	3.50	17.71
Environmental Studies	6	3.50	17.71
Religious Education	3	1.75	8.86
Physical Education	3	1.75	8.86
Arts & Crafts	2	1.17	9.90
Music	2	1.17	5.90
English	5	2.92	14.42
Total:	34	19.84	100.00

* **Source:** Bangladesh Education Statistics, 1991, Dhaka.

D. System of Examination

Promotion to the next higher grade in the government primary schools is given on the basis of satisfactory results in the annual examination held at the end of each calender year. Grades one and two are treated as one unified/ungraded class. Private schools follow their own systems, which may include frequent examinations and class tests.

E. Teacher-Student Ratio.

In 1975 the avergae Teacher-Student ratio at the primary level in Bangladesh was 1:45. In 1990 the ratio was 1:63.

F. **Teachers' Qualification**

The minimum qualification for the teachers of the primary schools of Bangladesh is Higher Secondary Certificate with one year teacher's training; i.e thirteen years of formal education.

1.2.2 STRUCTURE OF SECONDARY EDUCATION

Secondary education may be divided into three stages: Junior Secondary, Secondary and Higher Secondary. The duration of different stages are: 3 years for Junior Secondary stage and 2 years each for the Secondary and Higher Secondary stages (i.e 3+2+2=7 years). The first public examination, named Secondary School Certificate (SSC) examination, is held at the end of grade ten. The next public examination, named Higher Secondary Certificate (HSC) examination, is held at the end of grade twelve. At the end of Junior Secondary stage (i.e after eight years of schooling) optional courses such as technical and vocational education are offered. After Secondary School Certificate Examination a 3-year polytechnic diploma course is also available.

1.2.3. STRUCTURE OF HIGHER EDUCATION

After passing the Higher Secondary Certificate (HSC) examination, students are eligible for higher education. Two years are required for Bachelor's degree (pass) programme; three years are required for Bachelor's degree (honours) programme; four years are required for Bachelor's degree in Agriculture and Engineering, and five years for Bachelor's degree in medicine. Two years are required for Master's degree for those who have Bachelor's (pass) degree and one year for those who have Bachelor's (Honours) degree. M. Phil and Ph.D Courses in selected subjects are also offered in the universities.

There is another parallel system of education known as the Madrasah system, for Islamic religious education.

1.3.0 PROBLEMS AND ISSUES IN PRIMARY EDUCATION OF BANGLADESH

Although the educational policies and plans of Bangladesh give highest priority to primary education, the country's performance in this area is far from satisfactory. The unsatisfactory state of affairs is indicated by low enrollment rate, high rate of drop-outs, poor academic standards of most schools and a sense of apathy in the public mind about the benefits of schooling. A number of researchers and observers have depicted the various aspects of the situation in the primary education systems of Bangladesh. From their writings and statements, the following main problems and issues can be identified.

i. Drop-out and Repetition in Same Grade:

Primary education of Bangladesh is faced with the problem of drop-out and repetition in the same grade. The children from lower socio-economic groups in many cases cannot cope with the school work due to parental illiteracy and lack of guidance. As a result they often leave school after a year or two. The dropout rate is higher at the lower grades. Table 1.3 shows the drop-out rates by grade according to 1990 statistics.

* **Table 1.3 Drop-out rates at primary level (Percentage)**

Sex	Grade One	Grade Two	Grade Three	Grade Four	Grade Five
Boys	18.1	11.4	15.9	17.9	10.8
Girls	20.7	12.7	15.2	12.3	11.3
Total:	19.3	12.0	15.6	15.8	11.0

* **Source:** Bangladesh Educational Statistics, 1990, Dhaka.

50% of those enrolled in grade one dropout by the time they reach grade five. The rate of dropout is higher in the case of girls than boys. Repetition occurs due to failure in examination and poor attendance records. Repetition in the same class ultimately contributes to drop-out from school. Das (1970), Khandakar (1974), Bhatt (1975) identified social backwardness, non-stimulating social environment, parental illiteracy, domestic work load as the main causes of dropout. Apart from these social and economic causes, the academic causes of educational wastage are equally important. The academic causes are as follows.

a) Dull environment of most of the schools and their inability to attract and retain students.

b) Indifferent attitude of teachers toward students.

c) Over crowded classes (with 60-70 students) and absence of school discipline.

d) Absence of ancillary services like school meals and school health care.

ii) **Lack of Motivation of the Parents:**

Lack of motivation of the parents is the main reason for non-enrollment of their children. In primary schools 90% of the students come from poor home environment, characterised by lack of adequate facilities, economic hardship, cultural deprivation. Due to their own illiteracy and poor cultural background, the parents think that education does not contribute to their material development. They expect little more than basic

literacy & numeracy from schooling. The UNESCO report (Foure 1972) states that education suffers basically from the gap between its content and the living experience of its pupils, between the system of values that it preaches and the goals that are set by society, between its ancient curricula and modern science.

iii. Lack of Motivation of the Teachers.

The other academic problem of the primary education is the lack of interest among the teachers. Due to low salaries the teachers pursue two or more jobs in order to earn adequately. Now-a-days, private coaching as a second job is increasing among the school teachers. So the techers have very little time to give attention to classroom teaching. Unassailable security of service creates an atmosphere of complacence and lethargy, especially because service rules are neither designed to reward merit nor to punish inefficiency. Dodge (former UNICEF Representative in Bangladesh) in an interview with the Daily Star (1992) laments, "So it is also true with the education sector that the teachers' associations and unions have effectively whittled down the amount of time spent in the classroom teaching to a bare minimum".

iv. Mal-nutrition and Ill-health of Students.

Due to mal-nutrition and ill health students often remain absent from school. Ill-health reduces their ability to learn while receiving instruction. Teachers fail to generate enthusiasm among the students with impaired health.

v. **Disproportionate Teacher-Student Ratio.**

Teacher Student ratio is very low; on average 1:60. But In grade one and two it is even lower. Over crowded class rooms create a difficult situation for the teachers and result in ineffective teaching. A class with seventy to hundred students is difficult to manage and makes it totally impossible to give attention to the needs of the individual student.

vi. **Short Teaching Hours and Correcting Home Work.**

Classes are held six days a week for about 225 days each year. The planned or expected total teaching time is 562.50 hours. But experts think that in reality it is about 440 hours on an average.

vii. **Lack of Good Teachers**

Good teachers are essential to create the foundation for development of personality, cognitive ability and moral development of the students. Unfortunately competent persons, who would be good teachers, do not often take up the career of primary school teaching. They are attracted to other professions, because: (i) the rewards and incentives for teaching are relatively poor, (ii) the conditions of work are not conducive to high performance and (iii) the low status of the primary school teachers.

viii. **Lack of modern management techniques and inadequate supervision.**

School head teachers in most of the cases, lack in training and orientation to school administration and management. In

Bangladesh primary school head teacher rises to his position on the basis of seniority. This does not necessarily provide him with the necessary qualities of an effective administrator and a change agent.

ix. Lack of awakening among the community.

In Bangladesh community's involvement in primary education is almost non-existent. The community does not think that the schools belong to them.

1.4.0 EFFORTS MADE UNDER DIFFERENT FIVE YEAR PLANS FOR UNIVERSALIZATION OF PRIMARY EDUCATION (1972-1992)

After Bangladesh was born as an independent state on the 16th December 1971, one of the first actions of the new government in the field of education was to nationalise the primary schools in 1973-74 by an act. There are three statements in the constitution of the People's Republic of Bangladesh regarding education (Quadir 1985). It says that the state shall adopt effective measures for the purpose of:

(a) establishing a uniform, mass-oriented and universal system of education and extending free and compulsory education to all children to such stage as may be determined by law.

(b) relating education to the needs of society and producing properly trained and motivated citizens to serve these needs.

(c) removing illiteracy within such time as may be determined by law.

The First Five Year Plan (1973-78) had ambitious targets regarding the development of primary education. Eight major objectives were specified in the First Five Year Plan:

i. The total enrolment would go up about 2.5 million from a base of 6 million to 8.5 million.

ii. The percentage of the primary age group students attending schools would increase from 58% to 73% in 1978.

iii. Ninety percent of the boys of the primary age group would be given access to primary education during the plan period.

iv. Participation of girls would be accelerated. At present 40 percent of the girls of primary school age-group attended schools, this would be raised to 55% during the plan period.

v. The curriculum at the primary level would be revised to make it more relevant to the real life.

vi. Text-books as well as writing and instructional materials would be supplied to all children free of cost or at subsidised rates.

vii. Drop-out rate would be reduced from 63% to 52% by undertaking supplementary and non-formal measures.

viii Educated housewives would be encouraged to teach in the primary schools.

Soon after launching of the First plan, the country's economy was affected by a number of adverse external events, like increase in the prices of foodgrains and oil; as well as domestic events, like draughts, devastating flood and famine. On the completion of the First Plan, a Two Year Plan (1978-80) was taken up in July 1978 with a view to meeting the short falls of

the First Plan as well as to carry out studies for the preparation of the Second Five Year Plan (SFYP, the 1980-85). In the SFYP, the highest priority was given to universalization of primary education; and 46% of the total budget for education sector was allocated for this purpose. During the Second Five Year Plan the following measures were taken (Quadir 1985)

a. Introduction of universal primary education with particular emphasis on the development of cognitive skills.
b. For ensuring a primary school at a walking distance of every child, provision was made for a primary school for every 2,000 people or for an area of 2 square kilometers.
c. For encouraging enrolment and preventing drop-out at the primary level, 8.84 million text books were distributed by the Government free of cost to first, second & third graders during the first three years of the second plan period.
d. Steps were taken to accord preference to women in recruiting teachers at primary level.
e. A total enumeration of all primary schools through a computerised questionnaire was completed.
f. The duration of primary teacher training was extended from one year to two years.

In the Third Five Year plan (1985-90), for implementation of universal primary education the following objectives were set:

1. To enroll 70% of the primary age group children by 1990 and ensure their retention for completion of primary school education.

2. To provide in-service training to primary, secondary & technical education teachers.

In the Fourth Five Years Plan (1990-95) highest priority has been given to the introduction of compulsory primary education (CPE) for the 6-10 year age group. Bangladesh National Education Commission (1987) recommended that once the target of five years compulsory schooling was achieved, the next step would be to extend gradually the duration of CPE from 5 to 8 years.

1.5.0 ACHIEVEMENTS IN RESPECT OF UNIVERSALIZATION OF PRIMARY EDUCATION

1. Compulsory primary education for all children of 6 to 10 years has been introduced in January 1993 by an act of Bangladesh's parliament.
2. Enrollment of students in primary schools has increased. Enrollment of girls has also increased. In 1985, the total enrollment in government schools was 7,939,059 and enrollment of girls was 3,175,621. These figures increased in the year 1990 to 10,128,293 and 4,555,584 respectively. The enrollment rate was 79% in 1991.
3. Enrollment of women teachers has also increased. In 1985 the number of women teachers in government schools was 12,579, which increased to 30,795 in 1990.
4. Number of trained teachers has increased from 1,42,765 in 1987 to 1,43,602 in 1990.
5. The number of schools has increased; including separate schools for girls. In 1985 the number of government schools were 36,698 which has increased to 37,655 in 1990.

6. Government Revenue expenditure on primary education was higher than other major sectors of education during the period 1985 to 1992. During 1989-90 it was 45.30%, and it has increased to 46.80% in the year 1991-92.
7. Enrollment figures as well as provision of facilities can be of little importance if the children do not continue their education. Increasing retention is one of the major thrusts of Fourth Five Year Plan in the education sector. Retention/survival rate at the primary level 1990 was 49.0%. For boys it was 47.2% and for girls it was 51.3%.
8. Importance of early childhood education has been recognised by the Government. Already some government schools offer "baby class" facilities.
9. In order to combat educational wastage and stagnation in primary schools, non-graded system has been introduced. According to this system, children in grades one and two enjoy automatic promotion.
10. Text-books as well as writing and instructional materials are supplied to all primary school children free of cost.

1.6.0 NEED FOR THE PRESENT STUDY

The statistics presented in the last section indicate that primary education has been expanding in Bangladesh at a reasonably fast rate in the recent years. Compared to the adult literacy rate of 35.3 percent, primary school enrollment rate was 79% in the year 1991. Unfortunately, however, this expansion of primary education seems to have been achieved at the cost of educational quality. Government primary schools of Bangladesh

are beset with a number of problems which seems to directly impact on with the quality of education provided by these schools. Examples of these problems are: lack of motivated teachers, low educational levels of the teachers, unsatisfactory teacher-student ratio, short teaching hours and unacceptable situation in respect of homework correction and teaching time. What Federico, M,Director General of UNESCO said about the least developed countries (LDC) in general, seems to apply, "The quality of education provided - - - is sometimes so distressingly poor that even pupils who persist in school for several years may never achieve an enduring level of literacy." (Federico, M. 1993). But there has not been any systematic comparative study to measure the erosion of educational standard in quantitative terms, although there is a widely felt perception of this fact among the educationists and educational researchers.

Some scholars pointed to short teaching time as the main cause of the poor quality of education. Cole P. Dodge, who was the UNICEF representative in Bangladesh from 1989 to 1991, observed the following: "But educational experts tell us that the 440 hours of classroom time which Bangladeshi children receive each year, is sufficient to teach the basics of primary education if the teachers teach for the full time. But studies have shown that teachers do not spent the entire 440 hours teaching. A time breakdown of a typical first period 35 minutes class for primary schools show as that five minutes are taken up by roll call, five minutes by teachers moving from class to class, a further

fifteen minutes are spent on checking the housework assigned the day before --which leaves only ten minutes for teaching." (Dodge 1992)

It is naturally a baffling question as to how a teacher can teach an average class of 60 students in ten minutes or examine and review their homeworks in fifteen minutes. But, some schools are apparently performing well, although they also face the problem of short teaching time. These are the schools which are consistently securing the top positions in competitive tests, such as primary scholarship examination and secondary school certificate examination. Of course, here, the performance of a school is being understood in terms of the performance of its students in competitive examinations. It is quite possible that in many cases, exogenous factors play crucial roles in determining the students' performance. A comparative study of several schools, including some of those which are known to be good schools and some of those known for their poor performance, would be a logical way to test this possibility and also to identify the significant factors behind students' performance. This research has taken such an approach. The questions which have been addressed in this research are those as mentioned in section 1.7.0.

1.7.0 RESEARCH QUESTIONS OF THE PRESENT STUDY

1. What are the contributions of the various factors affecting the academic achievement of primary school students?
2. Which factors are contributing most in academic achievement of primary school students?

3. Is there any significant difference between the high achievers and low achievers from the same school in endowment of different factors of academic achievement?
4. Is there any significant difference between the schools with good results and poor results in terms of different school factors?

The problem of the investigation is worded as under caption, 1.8.0.

1.8.0 TITLE OF THE STUDY

A STUDY OF THE FACTORS AFFECTING ACADEMIC ACHIEVEMENT OF BANGLADESHI PRIMARY SCHOOL CHILDREN OF DHAKA CITY.

1.9.0. CONCEPTUAL FRAME WORK OF THE STUDY

This study attempts to identify the correlates of academic achievement at the primary level. Three major categories of factors of achievement which have been examined in the study are: (i) Individual, (ii) Home Environment and (iii) School. The category of 'Individual factors' includes motivation, creativity and health/nutritional level, regularity in attending school etc. The second category 'Home Environment' includes parents education, occupation, income, number of sibs, type of family, tutor (who teaches the child at home) etc. The third category 'school' includes facilities and human resources of school, academic and administrative systems, and the characteristics of the teaching-learning process adopted in the school. In the next sections, the concepts denoted by some of these factors will be elaborately explained.

1.9.1 CONCEPT OF CREATIVITY

Thurstone, Taylor, Guilford and their associates were the pioneers in research in this field. Between 1957 and 1961 a number of studies were conducted on creativity. Sometimes a confusion is made between creativity and productivity. 'Creativity' implies innovativeness and originality while 'productivity' implies increased quality and quantity. So it can be said that creativity is a unique, novel and divergent product rather than a conventional, routine one.

Creativity is not giftedness. Creativity can be distinguished from giftedness in this way: giftedness is the power but creativity is the product or result. The gifted can be static, but the creative is always dynamic. Torrance (1965) defined creativity 'as a process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies and so on; identifying the difficulty; searching for solutions, making guesses or formulating hypotheses about the deficiencies, testing and retesting these hypotheses and modifying, and retesting them and finally communicating the results'.

According to Passi (1972) creativity is a multidimensional attribute differentially distributed among people and includes chiefly the factors of solving problems, fluency, flexibility, originality, inquisitiveness and persistency.

Flanagan (1963) believes that creativity is the newness and lack of previous existence of the idea or product. Flanagan further distinguishes creativity from productivity and ingenuity.

Newness or uniqueness seems to be a prominent feature of the creative product. Bruner (1960) found newness, surprise and originality in creativity. Jackson and Messick (1965) suggested four criteria to judge creativity in the product, novelty being the first criteria. Other criteria are appropriateness, transformation and condensation.

Guilford (1962) considers creative potential as a collection of abilities and other traits that contributes towards successful creative thinking. He believes that the degree of creativity shown is directly proportional to the degree of novelty.

Creativity appears at all ages, in all cultures and fields of human work though there are natural differences in the frequency, level and type of creativity. It is not limited to certain fields, such as arts and sciences. There is a distinction between the creative product and creative process. From a product-oriented standpoint, the creative activity is dominated by an emphasis on achieving the product. The process-oriented conceptualisation of creativity shifts the habitual pre-occupation and emphasis on striving towards achievement of a product to the experience of the process itself. The process-centered person will actually forgo the temptation to create a product.

The assessment of the product is much more important and acceptable for several reasons than the assessment of the process. Guilford was able to demonstrate 'divergent thinking' as one of the most important intellectual operations by which

the product or end result in the thinking process is reached. Guilford relates divergent thinking to certain well known ability factors which seem to go with creative output. The three factors are fluency, flexibility, and originality.

Torrance (1962) interpreted creativity as follows : ..... the process of sensing gaps or disturbing, missing elements; forming ideas or hypotheses concerning them; testing these hypotheses; and communicating the results, possibly modifying and retesting the hypotheses'.

He has made attempts to construct test activities that are models of the creative process. Torrance made an attempt to assess the products verbally and figurally that result from these test activities in terms of Guilford's divergent factors (fluency, flexibility, originality and elaboration). The factors of creativity as viewed by Torrance is given below:

Fluency: It represents the test taker's ability to produce a large number of ideas with words or figures.

Flexibility: It represents the test taker's ability to produce variety of ideas, to shift from one approach to another or to use a variety of strategies.

Originality: It represents the test taker's ability to produce uncommon or unique responses that require creative strength.

Elaboration: It reflects the subject's ability to develop, embroider, embellish, carry out or otherwise elaborate ideas.

For the present study fluency, flexibility, originality, elaboration, resistance to premature closure together are taken as a measure of creativity.

1.9.2 CONCEPT OF ACADEMIC MOTIVATION

The major concern of the home and school is how to motivate the child to learn, how to arouse his motivation towards school and the learning that is imparted in it. Conceptually motivation is a psychological construct. The concept of motivation does imply some kind of internal driving force in the organism itself. This driving can have either a positive or negative direction. Wants, needs or desires indicate positive direction and they imply the individual's learning toward the achievement of some object, position and goal. The negative direction is indicative of fears and aversions that the individual feels and he tends to move away from the achievement of a certain object, position or goal. Clark (1972) differentiates 'motivation' and 'ability'. According to him 'ability' denotes what an organism can do or is able to do, while 'motivation' denotes what an organism 'wants to do'. Anderson et al (1975) defined motivation as the arousal, direction and continuance of behaviour. Motivation theories typically distinguish between intrinsic and extrinsic motivation. Intrinsic motivation refers to some state of the learner and is usually considered to be an individual difference variable (e.g achievement motivation) or is manipulated by varying the level of deprivation or arousal. Extrinsic motivation typically refers to the incentive value of the reward or reinforcement. These types of motivation and perhaps others, combine to form some level of overall motivation. Ball (1977) argues that motivation is clearly multidimensional. In the

classroom, teachers motivate students by stimulating interest (intrinsic motivation) and by providing rewards for the desired behaviours (extrinsic motivation). According to Deci (1975) cognitive evaluation of rewarded task changes the locus of control from individual to reward. According to him, rewards induce the individual to feel controlled by external contingencies rather than directed by his or her own choices. Frymier (1970) clarifies the concept of 'motivation' in another way by stating that 'motivation' is that which gives direction and intensity to behaviour and 'motivation to learn' is that which gives direction and intensity to human behaviour in an educational context; and 'motivation to learn in school' is that which gives direction and intensity to students' behaviour in a school situation. Direction implies that children should be helped to learn, to learn how to learn, to value knowledge, to acquire knowledge, to understand knowledge, to behave according to knowledge. Motivation in this sense becomes learned behaviour at least in part and it can be taught or developed in school children. Previous research in U.K and USA has indicated that motivation in education has several dimensions. Besides academic achievement motivation, there are also dimensions reflecting fear of failure, extrinsic motivation related to external rewards and intrinsic motivation out of personal interest in the subject matter itself. In Hungary extensive interview studies have led to the development of an integrated description of school motivation involving nine distinguishable

motives in affective, cognitive and moral domains. Over a 10 years period Kozeki (1984) has attempted to identify a set of motivational dimensions. Kozeki's work not only establishes integrated framework to describe school motivation, but it also avoids the exclusive reliance on cognitive motives.

1.9.3 CONCEPT OF NUTRITIONAL LEVEL

Assessment of growth, health or disease by means of anthropometry is an ancient practice. Older methods include general inspection, particulary a subjective judgement of 'thinness' or 'fatness', a single measurement, for example, height, in the selection of military recruits, or serial measurements e.g. using weight to monitor the growth of children.

In developing countries, anthropometry appears to be the greatest use in the detection of growth, failure and undernutrition, principally from lack of calories and protein. There are two basic problems in studying health and nutritional factor. The first problem relates to identifying proper indicators for measurement. It is essential that the selected anthropometric indicators must be directly related to health and nutrition. Generally height and weight are considered to be two such indicators which have been shown to be higher for better nourished children than malnourished children. Many nations have gained in height over a long period of time, apparently due to improvements in food and nutrition. Records of military recruits of Norway suggest that a upward secular trend in height began in

the 1830s. As a whole, there has been an increase of 1 cm per decade in adult height in western Europe and the USA till in 1960s (Bakwin and Mclangnlin, 1964). A similar positive trend has been observed in post world war II Japan (Sujuki, 1981) and in China (Chinese Academy of Medical Sciences 1977).

On the other hand, for this kind of study, the selected indicators should be simple and quick to measure. It must be possible to carry out the measurements by affordable instruments. Considering all those issues, the indicators adopted for this research are,

i) Height

ii) Weight

iii) Mid upper arm circumference

The arm circumference was first used in community nutritional assessment in a 1958 country wide survey of protein energy mal nutrition (Jelliffee and Jelliffee, 1960). The reason for its selection was the long recognized thinness of the limbs of malnourished individuals. During the past three decades much information has been collected on the value of this measure.

The second problem lies in defining optimal growth. It is well-known that due to genetic influences different ethnic groups have varying body proportions (Eveleth & Tanner, 1976, Marshall, 1981). For example, Tanner (1982) notes that presumably optimal Japanese adults are less tall than similar groups in Northern Europe, mainly due to different body proportion. In may cases it becomes difficult to know whether a certain low average height

or weight of an ethnic group is due to malnutrition or genetic adaptation. Many developed countries have determined through extensive survey, the optimal height and weight for children of various age groups. For example, the United States have the National Centre for Health Statistics (NCHS) reference data. Unfortunately there are no such data for Bangladesh. For this study nutritional status of the children was assessed on the basis of weight, height and mid arm circumference using the US National Center for Health Statistics (NCHS) reference data, Waterlow Criteria and Gomeg Criteria (Jelliffee and Jelliffee 1962).

1.9.4 CONCEPT OF HOME ENVIRONMENT:

Research on home environment essentially comprised two main components, the home aspect of it and the individual or the child who is developing in this context. Consequently both the individual and the home environment have progressively acquired more complex definitions. Bloom (1964) explained this proposition. Accordingly environment is regarded as a network of forces and factors which surround, engulf and play on the individual. This environment is viewed as composed of sub-environments which affect different human characteristics differently. For example a sub-environment of a set of social-psychological variables and processes may be related to the development of verbal ability. While another sub-environment may be related to the achievement motivation.

Home environment factors can be divided under three headings: [1] Socio-economic status [2] Parent child relations [3] Educational climate.

(1) Socio-Economic Status (SES) includes parents education, occupation and income. Most of the studies on SES and academic achievement revealed that SES has positive relationship with academic achievement.

(2) Parent child relationship includes praise, approval, closeness to the child, family belongingness, over-restriction, punishment, pressuring demands, sharing of ideas, confidences, trusting, affectionate, home discipline, conflict on child rearing, parent pupil agreement on vocational plans, sex-role identification, family expectations from the child etc. Studies reveal that a healthy emotional climate makes the child relaxed, co-operative, happy, motivated to study and disciplined. An unhealthy emotional climate makes the child tense, nervous, irritable, disinterested in studies and prone to troublesome behaviour.

3. Educational Climate

Dave (1963) and Wolf (1964) in their studies attempted to identify a different set of variables operating in the home. These variables presumed environment at home. The process characteristics for these variables were identified as:

1. Press for achievement: [a] nature of intellectual expectations of child; [b] nature of intellectual aspirations

for child; [c] amount of information about child's intellectual development; [d] nature of rewards for intellectual development.

2. Press for language development: [a] emphasis on use of language in a variety of situations; [b] opportunities provided for enlarging vocabulary; [c] emphasis on correctness of uses; [d] quality of language models available.

3. Provisions for general learning: [a] opportunities provided for learning in the home; [b] opportunities provided for learning outside the home (excluding school); [c] availability of and encouragement for use of supplies; [d] availability of and encouragement for use of books including reference works, periodicals and library facilities, [e] nature and amount of assistance provided to facilitate learning in a variety of situations.

Fraser's study (1959) has revealed that achievement is related to ten items of home environment (1) parents education (2) reading habits of parents and children, (3) income, (4) occupation of father, (5) family size, (6) living space, (7) parents' attitudes to education of the child, (8) parental encouragement, (9) abnormal home background, (10) general impression of the home background.

In this study 'home environment' means the 'educational environment' of the children at home. It may be noted here that the exact meaning of 'educational environment' varies from age group to age group. The kind of support a primary school student needs is not necessary for a college student.

Reddy's (1973) concept of 'home environment' has been taken as a guiding principle to define the variable 'home environment'. The 'home environment' covered by the present study includes four aspects of home environment that determine 'educational environment' provided for the child at home. The four aspects of the home, namely, (1) Parental value on education (2) Educational facilities provided at home (3) Parental encouragement to the children in the process of education (4) Emotional climate in the home.

1.9.5 THE CONCEPT OF SCHOOL

What it is that schools do and what it is that affects what schools do? Nowhere it is defined with precision, but schools are expected to transform pupils on a large number of dimensions. A wide variety of attitudes, skills and knowledge are supposed to be given to each pupil by the educational system. It is not yet understood well as to what mechanism inside the human body enables one to 'learn' these things. Whatever the process or processes are, they are quite complex. It still seems reasonable to expect the schools to have an effect. School develops desirable attitudes, skills to gain knowledge. To measure the output of the school, academic achievement is one of the ways. The school factors which affect the academic achievement include size of the class, size of the school, quality of building, methods of education, progressiveness, instructional factors, organizational and

administrative factors, social and educational conditions, teachers' characteristics such as sex, marital status, qualification, experience etc. and attendance of the students. Pillai (1965) categorizes the school factors into : (1) Instructional factors, (2) Organizational and administrative factors (3) Environmental factors.

(a) Instructional factors or Teacher Factors.

(1) Composition work

(2) Exercises and home work

(3) Periodical tests

(4) Evaluation of tests

(5) Issue of progress reports

(6) holding extra classes

(7) giving special attention to examination subjects.

(b) Non-instructional factors or organizational and administrative factors.

(8) laboratory facilities.

(9) provision of audio visual aids

(10) library facilities

(11) parental cooperation

(12) Keeping cumulative records

(13) awarding prizes and medals for academic distinction.

(14) nature of punishment

(15) facilities provided for sports and games

(16) literary and other school associations

(17) size of the class division in standard X

(18) classroom accommodation for standard X

(19) facilities provided for correction work by teachers.

(20) The number of qualified teachers in the school

(21) frequency of the transfer of teachers

(22) promotion criteria in lower standards.

(c) Environmental factors on social and educational conditions

(23) time taken to reach the school

(24) educational status of parents

(25) availability of separate room for study

(26) study habits

(27) availability of tuition at home

(28) interest taken in films

(29) provision for noon meals

(30) attitude towards the school

(31) attendance at school.

For this study the 'school variables' considered to predict academic achievement are: physical facilities and other facilities of the schools, staff composition, teachers' qualification, teachers' experience, teaching method, evaluation procedure, instructional materials, library facilities, equipment for cultural and co-curricular activities, characteristics and services delivered by the head of the school, qualities and composition of teaching staff, teaching learning process of the school.

1.9.6 CONCEPT OF ACADEMIC ACHIEVEMENT

Education aims at bringing about the changes which are conducive to the proper development of the pupil. This goal lies at the very root of every plan and programme of education. Through teaching-learning process, schools attempt to bring changes in students in the following aspects of behaviour : (i) cognitive, (ii) affective and (iii) psychomotor. School Curriculums are designed in order to achieve this goal. But in the process of achieving change in behaviour, all pupils do not reach the same level of change during the same span of time. Different individuals achieve various levels of success in the three domains (cognitive, affective and psychomotor). Due to individual differences and other factors all children are not capable of reaching the same achievement level. The term 'academic achievement' is a very broad term which indicates generally the learning outcomes of pupils. Desai (1979) defied academic achievement in the following words "Learning outcomes are the changes observed in the behaviour pattern of pupils as a result of learning that takes place in schools, through the teaching of school subjects".

Mehta (1973) explains that the word 'performance' includes both the academic and co-curricular performances of an individual. For this study the term 'academic achievement' is restricted to the level of achievement of pupils in the cognitive areas of

school in four subjects (i.e. Bengali, English, Mathematics and Environmental Studies).

In this study the term 'academic achievement' refers to the scholastic or academic achievement at the end of an academic year evaluated by some standardized achievement tests (which are based on the primary school syllabus).

With the help of tests, verbal or written of different kinds, the teachers of the schools measure how far the students are successful in bringing about the desired changes in students.

1.10.0 CONCLUSION

In this chapter the need for this study has been explained in the context of the primary education system, necessity of primary education and the problems of primary education. Concepts of the variables of the study have been discussed in this chapter. In the next chapter, recent researches on this study are reviewed in order to identify the research gap and the rationale of the study.