Chapter-7

CONCLUSIONS AND INTERPRETATIONS OF THE FINDINGS OF THE STUDY

7.0.0 INTRODUCTION

The present study is named as 'A Study of the Factors Affecting Academic Achievement of Bangladeshi Primary School Children of Dhaka City'.

. The rationale for taking up the study was presented in Chapter 2 (section 2.8.0). The methodology adopted for this study has been described in details in Chapter 3. The quantitative analysis of data were presented in Chapter 4 and the analysis of qualitative data were presented in Chapters 5 and 6. In present Chapter the results of this study will be discussed and interpreted. The research hypotheses which were formulated for the study and put to test through the survey will be examined in the next section.

7.1.0 TESTING OF HYPOTHESES

Hypothesis 1 state of that 'there is a significant relationship between the predicting variables (Home and Individual variables) and academic achievement of the students of different grades of non-government schools'. This hypothesis was tested by correlation analysis. From the analysis of Table 4.1, it was found that the predicting variables Creativity, Father's Education, Father's Occupation, Mother's Education were significantly related to students' academic achievement in every

grade of the non-government schools. The other three variables Home Environment, Tutor, Father's Income were found significantly correlated to students' achievement in four out of five grades of non-government schools. So among the eleven home and Individual variables it was found that seven variables namely; Creativity, Father's Education, Father's Occupation, Mother's Education, Home Environment, Father's Income and Tutor (who teaches the student at hame) have correlation with the academic achievement of non-government schools. Other four variables, such as, Motivation, Nutritional level, Mother's Occupation, Mother's Income were found correlated in three or two grades. The other interpretation of the result will be given in the section 7.2.0 under the heading Conclusions and Interpretations.

Hypothesis 2 states 'there is a significant relationship between the predicting variables (Home and Individual variables) of different grades of government school'.

This hypothesis was also tested by correlation analysis. From the analysis, presented in Table 4.2, it was found that the variables Father's Education, Father's Occupation, Father's Income, Mother's Education were significantly correlated with academic achievement in every grade of government schools. Academic achievement was found significantly correlated with Mother's Occupation, Mother's Income, Home Environment,

Nutritional level and Creativity in four out of five grades. Other two variables Motivation and Tutor were found correlated in two and three grades. The other interpretation of the result will be given in the next section 7.2.0.

Hypothesis 3 states 'there is a significant correlation between the school variables and the academic achievement'. This hypothesis was tested by correlation analysis. From the analysis shown in the Table 4.3, significant correlation was found with six variables out of ten school variables. The related variables are Staff-composition, Evaluation Procedure, Teachers' Qualification, Physical Facilities, Equipment for Cultural Program, Library Facilities. The other variables Teacher's Experience, Instructional Materials, Co-curricular Activities did not show any significant relationship.

Hypothesis 4 states 'there is a significant contribution of the predicting variables (Home and Individual variables) singly and jointly to the academic achievement of the students' in each grade of the non-government school. This hypothesis was tested by Beta cofficient of regression equations. From Table 4.5 to Table 4.9, it was seen that in the case of non-goverment schools the variables Mother's Education, Father's Education, Creativity, Tutor contributed singly and jointly in three or two grades. Father's Occupation, Home Environment, Nutritional level contributed only in one grade. Motivation, Father's

Income, Mother's Income and Occupation did not contribute in any grade.

Hypothesis 5 states 'there is a significant contribution of the predicting variables (Home and Individual Variables) singly and jointly to the academic achievement of the students in each grade of government school'.

This hypothesis was tested by Beta cofficient of regression equation. From the analysis of the Table 4.10 to 4.14, it was seen that in the case of government schools Creativity, Father's Education, Home Environment contributed singly and jointly in four, three and two grades respectively. Mother's Education and Income, Tutor contributed in only one grade. Father's occupation and Income, Mother's Occuaption, Nutritional level, Motivation did not show any contribution to the equations.

Hypothesis 6 states 'there is a significant contribution of the school variables singly and jointly to the academic achievement of the students'.

This hypothesis was tested by Beta co-efficient of regression equations. From the analysis of Table 4.16, it was seen that out of eleven school variables only one variable, 'Staff-Composition (i.e. teachers' qualification and experience together) contributed singly and jointly to the academic achievement of the students.

Hypothesis 7 states 'Among the home and Individual variables,

some are more significant in terms of contribution to academic achievement' of the primary school children of non-government schools'.

This hypothesis was tested by step wise regression technique. From the table 4.17 to 4.21, it was seen that in the case of non-government schools the variables Father's Education and Occupation, Mother's Education, Tutor and Creativity contributed most in two to three grades. Mother's occupation, Nutritional level contributed only in one grade. Father's Income, Mother's Income and Motivation did not contribute in any grade.

Hypothesis 8 states 'among the home and Individual variables, some are more significant in terms of contribution to academic achievement of the primary school children of government schools'. This hypothesis was also tested by 'Step wise regression technique'. From the analysis of Table 4.22 to 4.26, it was observed that in the case of government schools the variables Tutor, Mother's Education, Father's Education, Home Environments, Creativity contributed most in two to four grades. Nutritional level and Motivation Contributed only in one grade. Father's Occupation and Income, Mother's Occupation and Income, did not contribute in any grade.

Hypothesis 9 states 'among the school variables, some are more significant in terms of contribution to academic achievement of the primary school children'. This hypothesis was tested by 'step wise regression technique'. From the analysis of the Table

4.27, it was found that the variable 'Staff-Composition' contributed most to the academic achievement out of eleven variables. The list of school variables are in table 3.1

Hypothesis 10 states 'in any school situation there is significant difference between the high achievers and low achievers of each grade in terms of the difference in Home and Individual variables'. This hypothesis was tested by quantitative and qualitative analyses. For quantitative analysis t-test was used. From the analysis of the Table 4.29 to 4.38, it was seen that the two categories of pupils in the same school situation differ significantly in terms of Father's Education, Mother's Education, Home Environment, Motivation and Tutor in three to four grades. Father's Income and Occupation showed significant differences in one grade. Mother's Income and Occupation did not show any difference between the two groups. In the case of qualitative analysis, it is seen from the analyses of the Tables 6.5.1, 6.5.2, 6.5.3 and 6.5.4 that in the same school situation the two categories of students differ significantly in terms of Father's Education, Mother's Education and Tutor (who teaches the student at home) and Types of family. The other interpretation of the result will be given in the section 7.2.0.

Hypothesis 11 states that 'there is a significant difference between the schools with good result and poor result due to the difference of the school variables'. This hypothesis was tested

by both quantitative and qualitative analysis. For quantitative analysis t-test was done. From the analysis of Table 4.39, itwas found that the top schools (schools with good result) and the bottom schools (schools with poor result) differed significantly on six variables out of ten variables, these variables are. Staff-composition, Teacher's qualification, Evaluation Procedure, Physical Facilities, Library facilities, Equipments for cultural programme. The variables which were not found significant are : Teacher's Experience, Teaching Method, Instructional Materials, Co-curricular activities. The hypothesis was also tested by qualitative analysis. The difference between the two types of schools (schools with good result and schools with poor result) was found due to the differences in teachers' qualification (including head of the school) and some personal characteristics of the head and the teachers, selection procedure of the students, school hour, evaluation system, academic syllabus, assignment giving and follow up. The other interpretations of the result will be given in section 7.2.0 under the heading conclusions and Interpretations.

7.2.0 CONCLUSIONS AND INTERPRETATIONS

The conclusions and interpretations of the findings of the study will be discussed under two headings:

i. Conclusions and interpretations of quantitative data

ii. Conclusions and interpretations of qualitative data.

7.2.1 CONCLUSIONS AND INTERPRETATIONS OF THE QUANTITATIVE DATA

The quantitative analysis was done at both individual and school levels. Both univariate and multivariate analyses were done to analyse the data. The quantitative analysis was done in four steps. In the first step Correlation and Multiple Regression Analysis were carried out. In the second step, 'Step-wise regression' was done. In the third step high achievers and low achievers of each school and each grade were compared by testing the significance of the difference of means of the two groups. In the fourth step the top and bottom schools were compared by testing significance of the means of the school variables. The findings of the quantitative data can be summarized as follow:

(1) An analysis of correlation (table 4.1, 4.2) indicates that variables, Father's Education (r=.44 to .70), Father's Occupation (r=.32 to .72), Mother's Education (r=.46 to .70), Creativity (r=.35 to .69), Tutor (r=.42 to .51) are correlated with academic achievement almost in each grade and in both types of school (i.e government and non-government). When school variables were taken into account, significant correlation was found between certain variables and academic achievement. These variables are Staff. Composition (r=.87), Evaluation Procedure (r=.85), Teacher's Qualification (r=.84), Physical Facilities (r=.80), Equipment for Cultural Programmes (r=.78), Library facilities (r=.57). The non-significant variables are : Teacher's Experience, Instructional Materials, Teaching Method, Co-curricular activities. Negative correlation was found in the

case of the variable Teaching Method.

(2) An analysis of multiple regression (Table 4.15, Table 4.16) indicates that Father's Education, Mother's Education, Creativity, Tutor (who teaches the child at home) contributed singly and jointly to the academic achievement of the students almost in each grade of non-government school. Similarly Father's Education, Mother's Education, Creativity, Tutor, Home environment contributed to the academic achievement of the students of government school. An analysis of Beta Co-efficient of regression equations of school variables indicates that among the school variables, Staff Composition (i.e teachers' qualification and teachers' experience) contributed singly and jointly to the academic achievement of the students. The other school variables were found non-significant .

(3) An analysis of step-wise regression (Table 4.28) indicates that out of eleven 'Home and Individual variables', Father's Education, Father's Occupation, Mother's Education, Tutor and Creativity contributed most to the academic achievement in most of the grades of each type of schools (i.e government and non-government). In government schools, Home environment contributed in three out of five grades. Other variables such as Father's income, Mother's occupation, Nutritional level, Motivation contributed only in one grade. Mother's Income did not not contribute in any of the grades. Step-wise regression of school variables with achievement indicates that 'Staff Composition' contributed most among the school variables.

Motivation and Creativity, can be better handled in terms of quantitative indicators, while class-room processes and home environment can be better defined and understood through descriptive languages.

The variables considered in the qualitative study to understand the causative factors of academic achievement may be grouped under the following three categories:

1. Home and Individual Variables.
2. School Facilities and Systems.
   (Institutional Facilities)
3. Teaching - Learning Process.

1. HOME AND INDIVIDUAL VARIABLES

The variables considered in this group are, (i) parents' educational level, occupation, and income, (ii) type of family, (iii) home tutor, (iv) number of siblings, (v) health and nutritional levels and (vi) regularity in attending school.

Case studies were conducted on selected students, mainly by interviewing the students. From each of these four schools, the students who scored highest as well as the ones who scored lowest in the five primary grades were selected for case studies. The case studies provided a basis for (i) comparing the home and individual characteristics of the top and bottom students of each schools, and (ii) studying the differences between the top two schools and the bottom two schools in term of home and individual backgrounds of their students.

A. Comparison of High and Low Achievers Within the Same Schools.

All the students of the top school have very similar socio-economic backgrounds. Their parents have similar occupational, educational and income levels; they have similar nutritional levels; they all have few siblings and they are regular in attending schools. There are only two noticeable differences between the high achievers and low achievers of this school:

(i) High achiever are taught at home by their mothers (in some cases, also by their fathers), while the low scorers are taught by private tutors; (Table 6.5.1), (ii) high achievers live in nuclear families while the low scores generally live in joint families.

The Second top school is not much different from the top school in terms of home and individual factors. Here too, the high achievers and the low achievers have many things in common. However, these two categories of the students of the second top school also differ, like the students of the top school, in terms of (i) who teaches at home (family members versus private tutors), and (ii) the kind of family they hail from (nuclear or joint). High scorers of the second top school, however, enjoy one additional advantage, their parents are relatively more educated than the parents of the low scorers (Table 6.5.2).

There is a very interesting difference between the scoring patterns of the top school and the second top school. In the top school, the gaps between the scores of high achievers and low achievers in different grades are very small. But the gaps are

much larger in the case of second top school, although the high achievers of this school performed neck to neck with the high achievers of top school (Table 5.5.8 and Table 5.5.9). The wider gaps between the high achievers and low achievers in the second top school is probably explained by the fact that the social levels of the low achievers of this school are much lower than the corresponding students of the top school. The top achievers of both schools have similar social backgrounds.

In the **Second bottom school**, both high achievers and low achievers have many similarities. For example, fathers of both the categories have low level occupations and low incomes; their mothers are not employed; and they have many brothers and sisters. On the other hand, dissimilarities exist between the two groups in the following areas:

(i) Parents of high achievers have better educational backgrounds.

(ii) Most of high achievers live in nuclear families, while the low achievers are generally from joint families.

(iii) Although both categories of students depend on private tutors, the high achievers are often assisted by their parents or other family members.

(iv) High achievers are regular in attending school, while low achievers are not so regular (Table 6.5.3).

In the **bottom school**, the high achievers and the low achievers have similar social backgrounds, which are not different from the case of second bottom school. The differences between the two categories of students of this school are:

(i) the parents of the higher scorers havesome formal education, while the parents of the low scorers are illiterate.
(ii) both categories of students depend on private tutors, but higher scorers are also assisted by other family members.
(iii) high achievers are regular in attending school, but low achievers are irregular (Table 6.5.4).

B. Comparison Between Top Schools and Bottom Schools.

The difference observed between the two pairs of schools are:
(i) parents of the top schools students are much better educated, the minimum level of education being secondary school certificate. By contrast, the parents of the bottom schools students are mostly illiterate, and a few read upto primary or secondary grades (Table 5.5.1).
(ii) parents of the top students are in higher occupations and earn more, while the parents of the students of bottom two schools are in lower occupations and have lower income levels (Table 5.5.2).
(iii) the nutritional levels of the top schools students are better in comparison with the students of the bottom schools.
(iv) the families of the top school students are characterised by small number of siblings (1 or 2), while the families of the bottom schools students have larger number of siblings.
(v) a majority of top school students are tutored by parents, while most of the students of bottom schools are tutored by private tutors (Table 5.5.3).

There is one interesting similarity between the two groups of schools. In both the cases, the parents of the high achievers

take part in home teaching. The low achievers in both cases miss that parental care, they are totally dependent on private tutors for home teaching.

CONCLUSIONS FROM THE ANALYSIS OF HOME AND INDIVIDUAL VARIABLES:

It transpires then, from comparison between high achievers and low achievers within schools as well as comparison between top and bottom schools, that the three most important correlates of academic achievement of primary grade students are:

1. Educational level of parents.
2. Home tutor (whether parents or hired teachers)
3. Type of family (nuclear or extended)

2. SCHOOL FACILITIES AND MANAGEMENT SYSTEM

This set of variables include location of school, type and size of school building, availability and size of play ground, number and sizes of class rooms, number of students per class, seating arrangement, library facilities, instructional materials, aids for cultural activities, selection procedure for admission, evaluation system, characteristics of the head and the teachers, syllabus, school working time and management system etc.

All four schools under the quantitative study are housed in multi-storied buildings made of concrete and brick and the classrooms are of similar sizes. The top school and the second bottom school have large compounds. Except for the second bottom school, the other three have similar numbers of students and good seating arrangements. On the other hand, the top two schools have, in comparison with the two bottom schools, better library facilities, aids for cultural activities, instructional

materials etc (Table 5.5.4). It would appear, on first glance that these superior facilities contributed to the academic achievement of the students of the top schools. However, subsequent classroom observations showed that none of the schools actually used any of the facilities. Therefore, school facilities can not explain the superior academic performance of the top schools.

Far more significant differences have been observed between the top and bottom schools in respect of management systems which are discussed below.

i. Selection of Students for Admission:

The top school is regarded as the best Bengali medium school of the city. As a result, some of the best boys of the city compete for admission to the school at the entry point (grade one). Over three thousand candidates sit for a two hour long admission test every year and only 150 are selected for admission. The second top school also holds admission test at the entry level (nursery), but the test is oral. In contrast, the bottom two schools do not select students through any tests. These schools supposedly check only the age of the applicants, although many students appeared to be much older or younger than the officially prescribed age.

ii. School Hours:

The top schools have longer school hours than the bottom schools. In the top most school, classes are held from 7 A.M. to 9 A.M for grade one and grade two; and from 7 A.M to 11 A.M for grade three to five. In the second top school classes are held

from 8 A.M to 12:00 A.M for all five grades. Both of the bottom schools hold classes from 7 A.M to 8.45 A.M for grade one and grade two, and from 9 A.M to 12 A.M for grade three to grade five.

iii. Evaluation Procedure:

The top two schools hold two comprehensive examinations in a year, known as the half yearly examination and the annual examination. Besides, there are also frequent class tests. In the top schools, the marks obtained in the class test are not added to the final result, but in the second top school class test marks are added to the final result. The bottom two schools hold three comprehensive examinations in a year, but no class test. It may be noted here that except the second top school, the other three are government schools, but they follow different evaluation systems. According to the teachers of the top school, the class test system was introduced in their school because it makes the students more attentive.

iv. Academic Syllabus:

All four schools follow the syllabi prescribed by the National Curriculum and Text Book Board (NCTB) and use books published by NCTB. The top schools, particularly the second top school, also use additional books. During classroom observation it was found that the bottom schools do not follow text books systematically. They think that the text books on English and Mathematics are too difficult for the students.

v. Characteristics of the School Principal:

The head teachers of the top schools are educationally more qualified than the heads of the bottom schools. The heads of the

top schools go on a round of inspection as soon as the classes start. They also occasionally pay surprise visits to check attendance and whether classes are being held properly. By contrast, the heads of the bottom school rarely go on inspection. Lastly, while the heads of the top school are almost always available in the school, the heads of the bottom schools remain out of the school over 50 percent of the time (Table 5.5.5).

vi. Characteristics of the Teaching Staff:

The top schools have, in their primary sections, almost twice the number of teachers employed in the bottom schools. The teacher of the top schools have Master's or graduation degrees along with educational degrees (B.Ed or M.Ed), whereas the teachers of the bottom schools are non-graduates and have only certificates in education (Table 5.5.6).

CONCLUSIONS FROM THE ANALYSIS OF SCHOOL FACILITIES AND MANAGEMENT SYSTEM

It is observed that the top schools have (i) a rigorous selection procedure for students admission, (ii) the system of class tests, (iii) longer school hours, (iv) more qualified head teacher and other teachers and (v) more strict supervision of activities. It is logical to expect that these factors contributed to the better performances of the students of these two schools. The highly competitive admission test of the top school seems to explain the fact that the students of this school scored highest mark in every subject in every grade in the standardized test administered under this study .

3. TEACHING-LEARNING PROCESS

This group of variables include classroom condition, behaviours of the teachers and the students in the classrooms, methods of teaching, procedures for giving and correcting homework and classwork assignments.

i. **Classroom Condition:**

Classroom conditions in the top two schools are similar. Students' desks are placed in such a way that the teachers can go to every desk easily. By contrast, the second bottom school is so overcrowded that the classrooms are packed with desks, so the teachers can reach only the first row of students. The bottom school has about the same student density as the top schools, but its teachers are unwilling to go from desk to desk to check student's activities.

ii. **Behaviour Pattern of Teachers and Students:**

In the top two schools, the teachers appeared motivated and prepared to teach. They also had control over the classes. If a student looked inattentive, the teacher would immediately draw his attention and provide guidance. On the other hand, the teachers of the bottom schools appeared unprepared to teach and lacked control over the class. The students of these schools gossiped in the classroom in presence of the teachers and neglected classwork assignments but the teachers Seemed unconcerned about these. Most of the students of the top schools appeared eager to learn, but the majority of the bottom schools students seemed listless

iii. **Method of Teaching:**

In all four schools, the teachers mostly used the lecture method. Text books and the blackboards were the only instructional materials used by them.

iv. **Assignment Giving and Follow-up :**

Class work and home work assignments are regularly given and followed up in the top schools. The teachers of these schools generally go through the assignment scripts and provide guidance to the students regarding mistakes.

The bottom schools give far less importance to assignments. One of the schools gives only homework. while the other only gives classwork. But in both the schools, teachers do not check more than 30 percent of the assignment scripts. Even that is done very superficially without pointing out mistakes and making corrections (Table 5.5.7).

CONCLUSIONS FROM THE ANALYSIS OF TEACHING AND LEARNING PROCESS OF THE SCHOOLS:

It may be concluded from classroom observation that teaching - learning process in operation in the two categories of schools are qualitatively different. The top schools have similar effective teaching-learning process which are far superior to those in the bottom schools in terms of every factors considered in this study. This qualitative difference seems partly to account for the difference in academic achievement of the students of two categories of schools.