

## CHAPTER - 8

### SUMMARY AND CONCLUSIONS

#### 8.0.0 INTRODUCTION

Primary education has been expanding in Bangladesh at a reasonably fast rate in 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 seem to affect on 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.

Against this overall background of poor academic performance, however, some schools are apparently performing well, although

they also face these problems. 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 the 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.

#### **8.1.0 RATIONALE OF THE STUDY**

##### **THE RESEARCH GAP**

A total of 57 researches on factors of academic achievement were reviewed in chapter 2. The review has highlighted certain trends in the use of (i) variables or correlates of achievement and (ii) research tools and methodologies.

##### **1. Variables studied in the previous researches:**

The various factors or variables used in the previous researches may be grouped into three categories; (a) Individual, (b) Home, and (c) School. The 'Individual variables' are those that relate to the student's individual attributes and characteristics, namely, motivation, creativity, intelligence, personality etc. The second group, 'Home variables' include the relevant

characteristics of the family and home environment, such as parent's educational level, occupation, income, educational facilities at home and parents attitude toward education. The last group, 'School variables' include various features and characteristics of the school, such as, facilities, administrative systems, examination systems, qualifications of the teachers, etc.

Most of the previous researches reviewed here dealt with only one group of variables; and within a particular group, only a few variables were generally considered. Most often, the variables considered were either a few Individual variables or Home variables. Very few researches investigated the impacts of the School variables on academic achievement. Moreover, those who did study the school variables did not differentiate the various types of schools; and usually focussed their attention on secondary schools and colleges; primary schools were left out of everyone's attention.

In many cases the variable defined by the investigators were complex concepts, such as Socio-Economic Status (SES), which are divisible into more discrete and better measurable units, such as family income, father's occupation and educational level.

## **2. Tools and Methodologies used**

Almost all previous investigations relied on quantitative approach however, sophisticated statistical techniques were rarely used. Anand and Padma (in Buch 1987) commented on this aspect in the following language. "The researcher selects some

variables to study their relation with achievement, selects suitable tools, administers them to some available sample, and collects the required data. This he mostly subjects to correlation techniques or at best analyses of variance. Even the sophisticated techniques of factor analysis or co-variance are rarely used".

One common methodological approach taken by most researches is the acceptance of school examination results as the measure of academic achievement. This is a questionable methodology for two reasons. First, the standard of examination questions and evaluation varies from school to school. Therefore scores received in two different schools cannot often be compared. This is why most countries have instituted nationwide school final examinations. The second reason is that wherever the school teachers are engaged as private tutors, there is a possibility of the school examination being biased. It is desirable, for the sake of objectivity of the findings, to use standard tests in the research.

#### **RATIONALE OF THE PRESENT STUDY**

The above discussion points to the need for further research on the subject and also provide a guideline for the required line of investigation. The following paragraphs outline the salient features of the study and their significance.

One: In contrast to most of the previous studies, this was a comprehensive research in which all three groups of variables (Individual, Home and school) were considered together. Moreover, in place of complex variables, the study used discrete

variables. For example, Socio-economic-status (SES) was replaced by a number of more specific variables such as Father's Education, Mother's Education, Father's Occupation and Mother's Income. These discrete variables might individually have different influences on educational achievement of pupils.

**Two:** Some variables which were included in this study were rarely or never studied (to the knowledge of the researcher) before in the context of academic achievement. These variables were, Nutritional level and Home Tutor (i.e who teaches at home), teachers' and students' behaviour in classroom situation.

**Three:** The proposed study focused on the primary grades of educational institutions which have been largely overlooked by the previous researches. The problem of academic achievement at primary level cannot be understood from the study of the secondary grades, because the same factors may have quite different degrees of impact on students at different grades. It is therefore very important to know how these factors can influence the students of the primary grades who are at an early stage of mental and educational development. If the schools have any impact, the achievement curve at grade five would be different from the curve at grade one, because grade five students have had longer period of schooling. In order to investigate into this aspect, all the five primary grades were covered in this study.

**Four:** Instead of taking school examination results as measures of academic achievement, this study measured achievements on the

basis of standard tests to be administered by the researcher. Also, instead of relying on performance in only one academic subject, the students were evaluated in all major subjects. In Bangladesh the major subjects at the primary stage are Bengali, English, Mathematics and Environmental studies. Adoption, adaptation and modification of standardized tests and other research tools, such as questionnaires on motivation and home environment, evaluation criteria for school teachers and principals might have been another contribution of this study which may benefit future researchers in Bangladesh.

Five: It is anticipated that different types of schools offer quite different academic environments to the pupils which ultimately reflect on their mental and educational development. In Bangladesh, there are mainly three types of schools: (i) Bengali-medium government schools (ii) Bengali-medium non-government school and (iii) English medium non-government schools. The study looked into the differences in levels of achievement and impacts of different variables in government and non-government Bengali medium schools. English medium schools were excluded because their different curricula and medium of instruction make it impossible to administer a common set of standard tests.

Six: Sophisticated statistical techniques, including univariate and multi-variate analyses were applied. Univariate analysis shows the effect of each variable on academic achievement, while multi-variate analysis reveals most significant relationship. Seven: Many factors, such as behaviour of teachers and students

in classroom situation, are not easily amenable to quantitative analysis. For this reason this study took two different approaches of investigation, namely, quantitative and qualitative. Use of two approaches also provided a reliable means to double check the significance of the common variables used in both approaches.

#### 8.2.0 STATEMENT OF THE PROBLEM

The title of the problem reads as

'A Study of the Factors Affecting Academic Achievement of Bangladeshi Primary School Children of Dhaka City'.

#### 8.3.0 CONCEPT OF ACADEMIC ACHIEVEMENT

Education aims at cultivating the qualities which are conducive to the proper development of the pupil. This goal lies at the very root of every plan and programmes of education. Through teaching-learning process, school attempts to bring changes in students in the following aspects of behaviour: (i) cognitive, (ii) affective and (iii) psychomotor. School Curricula 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 mentioned 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 one which

indicates generally the learning outcomes of pupils. Desai (1979) defined 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 (1969) defines a closely related word 'performance' to include both academic and co-curricular performances of an individual. For this study the meaning of term 'academic achievement' is restricted to the cognitive level achieved by pupils in four subjects (i.e. Bengali, English, Mathematics and Environmental Studies). The levels of achievements in these areas have been measured at the end of an academic year by some standardized achievement tests (which are based on the primary school syllabus).

#### 8.4.0 OBJECTIVES OF THE STUDY

The purpose of the present investigation was to find the answer to the four research questions mentioned in the first chapter in section 1.7.0). The main objectives of the investigation may be phrased as follows:

- (a) To identify the correlates of academic achievement of primary school students;
- (b) To understand the contribution of the primary schools in the academic achievement of the students.



The above broad objectives may be reformulated, in the light of the research questions, into the following five specific objectives.

1. To find out the relationship of the three groups of factors to the academic achievement of the primary school children of each grade (grades I to V) and each type of schools (government and non-government).
2. To study the contribution of all the selected variables to academic achievement singly and jointly.
3. To identify the variables (out of the selected 21 variables) which contribute most to the academic achievement.
4. To study the difference between the high achievers and low achievers in terms of Individual and Home factors in the same school situation.
5. To study the contribution of the schools (school variable) to the academic achievement of the pupils.

#### 8.5.0 HYPOTHESES

The following hypotheses were formulated for this study.

1. There is a significant relationship between the predicting variables (Home & Individual) and the academic achievement of the students of different grades of non-government schools.
2. There is a significant relationship between the predicting variables (Home and Individual variables) and the achievement of the students of different grades of government schools.

3. There is a significant correlation between the school variables and the academic achievement.
4. 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 non-government school.
5. There is a significant contribution of the predicting variables (Home and Individual variable) singly and jointly to the academic achievement of the students in each grade of government school.
6. There is a significant contribution of the school variables singly and jointly to the academic achievement of the students.
7. 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.
8. 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.
9. Among the school variables some are more significant in terms of contribution to academic achievement of the primary school children.
10. In any school situation, there is a significant difference between the high achievers and low achievers of each grade in terms of differences in Home and Individual variables.

11. There is a significant difference between the schools with good result and poor result due to the difference of the school variables.

#### 8.6.0 THE SAMPLE

The study was conducted in Dhaka city which is the capital and the largest city of Bangladesh. All the schools having a primary section constituted the population for this study. The sampling approach taken for this study can be described as purposive and stratified. A total of 12 schools were selected as the sample for this study.

The sample included equal numbers of government and non-government schools. Each of the schools has five grades in the primary section. Eight students were selected from each grade. Therefore the total number of sampled students was 480.

The investigation also included the responses of 120 teachers of the sampled schools, 480 parents of the sampled children of the schools and 12 principals of the schools. The number of responding teachers was not equal in each school. It varied from school to school, depending on the number and availability of the teachers in the school during data collection.

The selection procedure for the schools, students, teachers, principals and parents were as described below.

#### Selection of the schools

In Bangladesh there are basically three categories of schools: (i) Bengali medium government schools, (ii) Bengali medium non-

government schools (iii) English medium non-government schools. Two types of Bengali medium schools, namely, Government schools and Non-Government schools were selected for the study. As the standardized achievement tests were in Bengali language, so the English medium non-government schools were not included in the sample. The following sampling policies were applied to select schools from the two broad categories.

1. Two schools each were selected from four parts of Dhaka City: East, West, North, South. As good schools are concentrated in the central part of the City, four schools were selected from the Central part. Thus all together, 12 schools were selected for this purpose. The locations are shown in the map of Dhaka City.
2. The schools were selected by pairing one government school with one non-government school located in a similar environment.
3. Special attention was given to select representative schools of the city. 5 government schools and 5 non-government schools were selected on this basis. Two more schools, one government and one non-government school, were selected from among the recognized good schools. The reason for including these two schools purposefully was to identify the factors which made a good school.

#### **Selection of the students**

- (1) The subjects (i.e students) were selected from grade one to grade five of each sampled schools. The justification of

taking the five grades was to make the study in-depth and comprehensive. The intensive nature of the study is expected to reveal the contributions of the schools.

(ii) Eight students were selected from each grade by stratified sampling. The sample was stratified by taking top three students, bottom three students and two students from middle of each grade (based on their results in final examination of the school in the year 1991). Thus 96 students (8 from each of twelve sampled schools) were selected from each grade, out of which 48 students were from government schools and 48 students were from non-government schools. The total number of students from all grades were 480.

#### **Selection of Teachers, Principals and Parents.**

- (1) The teachers who were involved in teaching at primary level (grade one to five) of the sampled schools were included in the study.
- (2) All of the principals of the sampled schools were included in the study.
- (3) All of the parents of the sampled children were included in the study.

### **8.7.0 INSTRUMENTATION, METHODOLOGY AND SCHEME OF THE STUDY**

#### **8.7.1 Tools and Techniques Used**

For collection of data for the quantitative part of the study the following tools were used

1. Torrance Test of Creative Thinking Non-Verbal Form B (1979)

2. Achievement Motivation Inventory (Mehta 1969)
3. Scale to Measure Home Environment (Reddy 1973)
4. Socio-Economic Status Scale (Singh & Saxena 1984)
5. Scale of Evaluation Criteria for Teachers and Principals (Mehdi 1978)
6. Pupil Achievement CR Test Batteries for UPE project Bangladesh (1985)

Nutritional status of the children was assessed on the basis of weight, height and mid-arm circumference. The evaluation of nutritional status was done on the basis of (a) Weight for age measure, (b) Height for age measure, (c) Mid arm circumference for age measure, using the US National Center for Health Statistics (NCHS) reference data.

Collection of data for the qualitative part of the study was done by observing the schools and their facilities, reviewing the systems of admission and evaluation, appraising the role of head teachers and the qualifications of the teachers, and most importantly, observing the teaching-learning process in the classrooms. Structured and non-structured interviews were conducted for case studies of high achievers and low achievers.

#### **8.7.2 The Variables**

Two sets of variables were taken for this study. The variables of this study are presented in the next two pages.

## Selected Variables for the Quantitative Analysis

INDEPENDENT VARIABLES (PREDICTOR VARIABLES)	DEPENDENT VARIABLES (CRITERION VARIABLES)
<p>i. Under Individual Factors of academic achievement three variables are selected. These are:</p> <ol style="list-style-type: none"> <li>1. Creativity</li> <li>2. Motivation</li> <li>3. Nutritional Level.</li> </ol> <p>ii. Under Home Factors of academic achievement eight variables are selected. These are:</p> <ol style="list-style-type: none"> <li>4. Home environment</li> <li>5. Father's Education</li> <li>6. Father's Occupation</li> <li>7. Father's Income</li> <li>8. Mother's Education</li> <li>9. Mother's Occupation</li> <li>10. Mother's Income</li> <li>11. Tutor (who teaches the child at home)</li> </ol> <p>iii. Under School Factors of academic achievement ten variables are selected. These are:</p> <ol style="list-style-type: none"> <li>12. Physical Facilities</li> <li>13. Staff composition</li> <li>14. Teacher's Qualification</li> <li>15. Teacher's Experience</li> <li>16. Teaching Method</li> <li>17. Evaluation Procedure</li> <li>18. Instructional Materials</li> <li>19. Library Facilities</li> <li>20. Equipment for Cultural programme</li> <li>21. Co-curricular Activities</li> </ol>	<ol style="list-style-type: none"> <li>1. Achievement of the selected government primary school students in four academic subjects (Bengali, English, Mathematics, Environmental Science) together.</li> <li>2. Achievement of selected non-government primary school students in four academic subjects (Bengali, English, Mathematics, Environmental Science) together</li> <li>3. Achievement of selected Grade one students of government &amp; non-government schools in four subjects together.</li> <li>4. Achievement of selected Grade Two students of government &amp; non-government schools in four academic subjects together.</li> <li>5. Achievement of selected Grade three students of government &amp; non-government schools in four academic subjects.</li> <li>6. Achievement of selected Grade four students of government &amp; non-government schools in four academic subjects together.</li> <li>7. Achievement of selected Grade five students of government &amp; non-government schools in four academic subjects together.</li> </ol>

## Selected Variables for Qualitative Analysis

INDEPENDENT VARIABLES (PREDICTOR VARIABLES)	DEPENDENT VARIABLES (CRITERION VARIABLES)
<p>i. Under Individual and Home factors of academic achievement the following variables are selected</p> <ol style="list-style-type: none"> <li>1. Father's Education, Occupation and Income.</li> <li>2. Mother's Education, Occupation and Income.</li> <li>3. Number of sibs</li> <li>4. Tutor (Who teaches the child at home)</li> <li>5. Type of family (Nuclear or joint)</li> <li>6. Health and Nutritional level of the students.</li> <li>7. Regularity in attending school</li> </ol> <p>ii. Under school factor of academic achievement the following variables are selected:</p> <ol style="list-style-type: none"> <li>1. Physical condition of the school</li> <li>2. Selection of the students for admission</li> <li>3. Syllabus followed</li> <li>4. School hour</li> <li>5. Evaluation procedure</li> <li>6. Characteristics and services delivered by the head of the school</li> <li>7. Qualities and composition of teaching staff.</li> <li>8. The classroom environment and the behaviour of the students and the teachers in the classroom situation</li> <li>9. Methods of teaching followed by the teachers in the classroom</li> <li>10. System of giving assignment and correction of homework and classwork.</li> </ol>	<ol style="list-style-type: none"> <li>1. Achievement of the students of five grades (1 to 5) of the selected four schools in four academic subjects (Bengali, English, Mathematics, Environmental, Science)</li> </ol>



### 8.7.3 PROCEDURAL DETAILS AND TECHNIQUES OF DATA COLLECTION

The survey was conducted in three stages,

- 1) Adaptation and Translation of the tools for data collection.
- 2) Pilot study for the finalization of the tools.
- 3) Full scale survey.

#### Adaption and Translation of the Tools

The tools mentioned in Section 8.7.1 were adapted and translated. In the first stage, the tools were adapted, modified (according to the necessity) and translated into Bengali language.

#### Pilot Study

The pilot study was conducted in the month of April 1992 in a Government school. The tests were administered on a small group of students from each grade (Grade One to Grade Five). The pilot study showed that the grade one and grade two students were unable to fill up the 'Home Environment Questionnaire' and 'Motivation Inventory'. So it was decided to fill up these two questionnaires for grade one and grade two by directly interviewing the respondents.

#### Full Scale Survey (Collection of Data)

Collection of data was done in three phases:

In the first phase of data collection, the questionnaires on Creativity, Achievement Motivation and Home Environment were administered on the students. Interview technique was used for

the grade one and grade two students. It took 5 consecutive days to collect the data in the first phase. The procedural details of the first phase is presented below.

Five Research Assistants (All of them graduates) were appointed to assist during data collection. They were given proper instructions and training before data collection. A separate room was arranged in every school to administer the tests. Grade one and grade two students were surveyed on the first day of data collection. First, 8 sampled students (detail of sampling is in Section 3.4.2) were taken from grade One. They were seated on four benches in the study room. Two students sat on each bench, with one Research Assistant sitting in between them. The two students sitting on any bench were given two different tests. For example, while one of them took the test of Creativity, the other answered Home Environment and Motivation Questionnaire. When they finished, the student who took the Creativity test was given the Motivation test and the other student was given the Creativity test. After completing the test, students were interviewed one by one by the researcher. The interview of each student began with ice-breaking questions, like 'What is your name' or 'How many brothers and sisters you have'. The purpose of the interview was:

- a) To validate the information which they provided in the questionnaire.
- b) To form some ideas about the teachers and their teaching method.

The interview was a structured one. The questionnaire used in the interview is shown in the Appendix 11. After the interview, the scripts of both homework and classwork were checked to see whether the teachers were giving written classwork and homework, and whether they were correcting the scripts or not. During the interview, the smartness and cleanliness of the students as well as the neatness of their hand-writing were also observed. The investigator recorded the information as soon as the student left the interview table.

The fifth Research Assistant who did not take part in the interview took measurements of weight, height and mid-arm circumference and examined the eye sight of the student (i.e. whether he could read the blackboard from the last bench of the classroom). The Socio-Economic Status (SES) scale questionnaire was given to the students with the advice to give it to their parents and return it on the next day.

On the second day of the data collection, the sampled students from Grade three to Grade five (8 students from each grade) were taken for the study. They were first given instruction to answer the 'Home Environment Questionnaire'. After that the Motivation Inventory Questionnaire was administered to the students. The Research Assistants helped the students to understand the questionnaire.

On the third day, 'Test of Creativity' was administered to the same students. After the completion of the test, the students were interviewed in the same manner as was done for the grades

one and two students. Each and every script of the students were checked by the investigator.

On the fourth and the fifth days, the investigator came alone to the school; sat in the staff-room with the permission of the teachers; checked the Remark Book of the school inspectors (in the case of government primary school); and recorded the attendance of the sampled students. The main purpose of visiting staff room, however, was to observe the teachers in their normal school environment and also to make rapport with the teachers. Rapport was developed by discussing the common problems of primary school teachers, such as teaching load, overcrowded classrooms, inadequate salary, etc. After such discussions, the teachers were given the questionnaire on 'Evaluation Criteria for the Teachers' and were requested to give the real picture. 'Evaluation Criteria for the Principal' were given to the principals. The first phase of data collection was done during the months of April to June, 1992.

In the second phase of data collection, a standardized achievement test (Pupil Achievements CR test batteries for UPE project Bangladesh) of Bengali, English, Mathematics, Environmental studies (science) were administered on the students in two sessions. Bengali and Mathematics tests were taken on the first day and English and Environmental Studies (Science) test were taken on the next day. Seven days before taking the tests, the students were informed about the examination. The tests were different for different grades. The

standardized tests were based on the whole syllabus of the respective grades. The tests were administered in the months of October and November 1992, because in Bangladesh the final examinations are held in November and December.

In the third phase of data collection, classrooms in four schools were observed by the researcher. The four selected schools included the top two schools and bottom two schools determined by the results of the aforementioned standardized tests. The researcher used to go to a classroom fifteen minutes before the class started, take a seat on a back bench and remain in the same classroom from the first period through the last period. In this way she observed all the five grades of a school in five consecutive days. A total of 20 days were taken to complete this phase. The classroom observations were done in the month of May, 1993. The information schedule which was used during classroom observations is presented in Appendix 10.

#### **8.8.0 TECHNIQUES USED TO INTERPRETATE DATA**

The research involved both quantitative and qualitative approaches of investigation and analysis. So different techniques were used to analyses the two sets of data.

In the quantitative approach the factor endowments of each student and each school were measured by using standardized questionnaires. The data obtained through the calibrated questionnaires in the quantitative study were subjected to statistical analyses. The analyses were done at both the individual and the school levels. Both univariate and

multivariate analyses were done to interpret the data. The quantitative analyses were done in four steps. The steps were as follows:

Step One: Correlation analysis and beta co-efficient of regression equations

Step Two: Step-wise regression analysis

Step Three: Testing significance of means of high achievers and low achievers by t-tests.

Step Four: Testing significance of means of the school variables of the schools with good result and poor result by t-test.

In the qualitative approach, the contributions of the various factors were evaluated through observations, interviews and discussions.

#### **8.9.0 MAJOR FINDINGS AND DISCUSSION**

In both quantitative and qualitative approaches certain factors or features of students' characteristics, family, home environment as well as several features of the schools were assumed to be the possible correlates of academic achievement and these factors were then subjected to evaluative processes. The data obtained through the calibrated questionnaire in the quantitative study were subjected to statistical analyses; and the information obtained in the qualitative study was subjected to logical analysis.

There is an important difference between the ways in which significant correlates were identified in the quantitative study and the qualitative study. In the former, the selected factors were subjected to correlation analysis, multivariate regression,

step-wise regression and Student's t-test. Many of the factors were found to have positive correlation with academic achievement, but those factors which were finally chosen as significant correlates of academic achievement were the ones that showed relatively greater explanatory or predicting power compared to other factors. The significant factors are collectively able to account for achievements of the students of most of the grades in most of the schools. Another aspect of quantitative study is that at all stages of analysis, the achievement as well as factor endowments of individual students constituted the basic units of consideration. On the other hand, the qualitative study was structurally and methodologically less rigorous. Many of the variables such as 'Evaluation System', 'Classroom Behaviour' and 'Characteristics of Principals' are not very precisely defined and calibrated like the quantitative variables. Important variables were chosen by simple comparison. If a certain factor was found to be similar for both top schools and missing in both bottom schools, it was presumed to be important. The qualitative study had no means to evaluate the relative significance of a variable. Also, qualitative study did not always focus on the individual teacher. often the whole class or the whole school was observed as an unit of consideration. However, qualitative study afforded direct and first hand observation of factors in action in the real life situation. Instead of depending on questionnaires filled in by the teachers, actual behaviour and performance of

the teachers were observed in the classroom. Therefore what is missing in terms of analytical rigor, was offset by increased reliability of data.

The variables used in the two approaches were not exactly identical, although there was a large area of overlap. This was a necessity because certain variables could be investigated only through one approach. For example Torrance Test of Creativity is the widely used standard quantitative test for creativity. An equally validated qualitative approach to evaluate creativity is not available. As a result some of these variables which showed up as important **factors** in one approach, could not be tested through the other approach. It may be recalled that Dengin (1970), Texor (1977), Supang et al (1978) stressed on the need for merging qualitative and quantitative techniques in a single study or design.

**FACTORS IDENTIFIED AS IMPORTANT IN BOTH QUALITATIVE AND QUANTITATIVE APPROACHES.**

The variables which showed up as significant in both the approaches are:

1. Father's education
2. Mother's education
3. Home tutor (who teaches the child at home)

**Father's Education**

Father's education emerged as a significant correlate of academic achievement in every statistical analysis done under the quantitative study. It was found significant for almost every grade of both government and non-government schools. The



mean educational level of the fathers of the high achiever was found to be consistently higher than the mean educational level of the fathers of the low achievers in every grade of every school. (Table 5.5.1). The difference of the means was found significant by t-test in most cases.

This finding was confirmed by the qualitative study. It was found that the fathers of the top students were more educated than the fathers of the bottom students almost in all grades of the four schools included in the qualitative study. On the other hand, fathers of the students of the top two schools were generally well educated, while the fathers of the students of the bottom two schools were found to be poorly educated, many of them being illiterate.

#### **Mother's Education:**

Like father's education, mother's education also showed up as a significant explanatory variable in all statistical analyses for every school under the study. In the qualitative analysis, mothers of the high achievers in all four selected schools were found to have higher education than the mothers of low achievers. In some grades of the bottom school, however mothers of both high achievers and low achievers were found to be illiterate.

In the top school 60 percent of the mothers are highly educated and the remaining 40 percent have read up to secondary school certificate level. In the second top school the percentage of highly educated mothers was 3.5 and the percentage of mothers

with SSC or lower level of education is 57.3. In other words the mothers of the top school students have better education than the second top school. This may explain why low achievers of top school are much ahead of low achievers of the second top school (See table 5.5 .9)

Among the two bottom schools, 80 percent of the mothers in the second bottom school and 97.5 percent of mothers in the bottom school are illiterate.

Ojha (1979), Khanna (1980), Homchaudhuri (1980), Sutradhar (1982), Razouki (1987), also found positive correlation with socio-economic status and academic achievement. Although the factor SES in their studies incorporated the weight of parental education, they however did not explicitly study the effect of father's and mother's education.

#### Home Tutor

It has been found that academic achievement of a student significantly depends on whether he is taught at home by a parent or by a private tutor. The general picture is that the high achievers are taught by parents and the low achievers are taught by private tutors. In the case of top schools, mothers are educated and it is they who normally teach their children at home. But whenever a mother fails to play this role due to occupational or family problems and the responsibility is given over to a private tutor, the child's academic performance is affected. (See Bar Charts 5 and 6)

In the case of the bottom schools, most mother are illiterate. But those fortunate students whose parents are a little educated and able to coach their children, are performing better than others.

The qualitative study revealed that low income families who send their children to the bottom schools employ private tutors to coach their children at home; but these private tutors themselves are not much educated and not regular in attendance. They also earn very small fee. For the students of these schools, the private tutors are poor substitutes for uneducated mothers.

Revealing of the benefit of coaching by parents at home helped throw light on the true significance of parental education. Earlier research evidences also supported this finding. Broxie (1988), Austin (1989) found parental assistance are good predictors of academic achievement. The more educated the parents the better they can coach their children. Without this connection with home coaching, parental education would probably have far less significance as an independent variable. In other words, Home Tutor may actually be the most crucial factor of academic achievement at primary level in the present context of Bangladesh.

#### **FACTORS IDENTIFIED AS IMPORTANT IN ONE APPROACH**

As mentioned earlier, certain factors were studied under one approach only due to methodological constraints. When some of these factors were found important as correlate of academic

achievement, they naturally could not be confirmed or rejected by the other approach. These factors are:

1. Creativity (Quantitative)
2. Staff-composition (Quantitative)
3. School hours (Qualitative)
4. Selection procedure (Qualitative)
5. Evaluation system (Qualitative)
6. Characteristics of principal (Qualitative)
7. Assignment giving and follow up (Qualitative)
8. Type of family, joint or nuclear (Qualitative)

Creativity was found, in the quantitative approach, to be the most significant Individual Variable. It was found significant in all grades of both government and non-government schools.

Acharyulu (1978), Dhaliwal (1979), D, Lima (1979), Meron (1980), Basu (1983), Chanadra (1987), Rodriguez (1987) also found positive correlative between creativity and academic achievement.

Staff Composition was found as the most significant School Variable in the quantitative study. It is actually a complex variable being a combination of teachers' academic qualifications and experience. As a result this variable is missing in the qualitative study where teachers' academic qualifications and experience have been separately taken into consideration. However, the findings of the qualitative study also strongly suggest that superior academic qualifications of the teachers of the top schools may have contributed to the academic achievements of their students. The superior classroom

behaviour of the teachers of the top schools cannot be explained without considering their academic background.

#### **School hour**

The length of school hours has bearing on the amount of teaching received by the students. In general, primary schools in Bangladesh work for fewer hours than most countries of the world. This study showed that the bottom schools have shorter working time compared to the top schools. Due to very short school hours, teachers do not have free time to examine homework and classwork scripts. As a result, everything is done during class hours which leaves very little time for teaching.

#### **Selection Procedure**

Formal admission tests in the better schools ensure selection of relatively superior students. The top school holds a very rigorous admission test through which it selects some of the most talented children who subsequently show high level of academic performance in all competitive examinations. By contrast, the bottom schools offer admission to anyone who has the right age. It may be noted here that every school cannot get the most talented children and if the students' academic performance is basically due to their inherent talent, the school can claim very little credit for that performance.

#### **Evaluation System**

Evaluation system as understood in this research consists of the frequency and types of examinations held in a school to measure the academic achievements of the students. The top two schools

hold a half-yearly examination, an annual examination and regular monthly class tests. The bottom schools hold three major examinations, but not class tests. Top schools believe that class tests are a very effective means to keep the students alert throughout the year. They are possibly right. Rao (1982), Tenoschok (1986) in their studies also found that frequent testing had positive influence on learning.

#### Characteristics of the school principal

The characteristics of a school principal include his qualifications, personality and management style. The principals of the top two schools have superior academic backgrounds than the principals of the bottom schools. However, what is most distinctive of them is their management style. The following may illustrate this aspect. The principals of both the top schools go on a round to inspect the schools at least once a day, and stay in the schools 90 percent of time during the school hours; but the principals of the bottom schools never go on inspection round and do not spend more than 50 percent of time in the schools. In the bottom schools the principals do not intervene or even say anything if the class teachers are late or seen elsewhere during class time. One incident clearly demonstrated what difference a right kind of principal can make even in a bad school. While this researcher was observing one of the bottom schools, a new head teacher took over for a couple of days. He cared to go on rounds and the other teachers suddenly became punctual.

### **Assignment giving and follow-up**

All four schools under the qualitative study give homework and classwork assignments, but in the bottom schools. these are treated as perfunctory. In these schools, the assignments are not given in a systematic manner and the scripts are not properly examined, mistakes are not pointed out and corrections are not suggested.

### **Type of Family (Nuclear or Extended)**

Most of the high achievers of all the four schools live in nuclear families, While the low achievers are generally from joint families.

### **PROBLEMS OF QUANTITATIVE APPROACH**

Data for quantitative study were collected by applying standard tools. For example, Prayag Mehta's Achievement, Motivation, Inventory were used to collect data on motivation, Sabiha Mehdi's Evaluative Criteria (Teachers, Principal) were used to collect data on teaching method and school facilities. The questionnaires were filled in by the appropriate respondents, such as the students and the teachers. During the qualitative phase of the study which was done after the completion of the quantitative phase, it was revealed that even the standardized tools can generate misleading information due to either incompleteness of data specification or supply of motivated data by the respondents. The problem is illustrated below through three examples.

Motivation came out as a most significant variable in only one or two grades in quantitative analysis. This was because students of both top schools and bottom schools indicated nearly similar motivational levels while filling out the questionnaires. However, during classroom observation, it was found that while most of the students of the top schools showed keen interest and enthusiasm to learn and work, the situation was quite the opposite in the bottom schools. If the teacher gave a classwork, the students of the top schools would put all their attention to it and concentrate their mind to do the work, In the bottom school, less than half of the students in a class would attempt to do the assignment and many of them gossiped in the presence of the teacher. If Mehta's questionnaire could capture this difference, motivation would be identified as a significant variable.

To Mehdi's questionnaire on teaching method, most teachers responded by indicating that they used a diversity of methods of teaching, In fact the teachers of the bottom schools claimed to be using the widest range of teaching methods. During classroom observation it was found that none of the schools used any thing other than the lecture method. Furthermore, text books and black board were the only teaching aids used in the classrooms. Obviously the teachers were insincere in filling out questionnaire. But as long as they will be more concerned about their self interest than truthfulness, the data collection approach will remain ineffective.



In the case of physical facilities, the standard questionnaire looked for data on facilities available in the schools. The data showed that top schools were much richer in library facilities, instructional materials, tools and equipment for cultural activities than the bottom schools. But the qualitative study showed that these facilities were not being used by the top schools. Therefore, actually these facilities had no impact on the performance of the students.

It may be concluded here that the qualitative study not only complemented the quantitative study, but it also provided a means for validation of some data collected for quantitative analysis. The combination of the two approaches not only made the research richer in content, the approach has also increased its reliability.

#### CONTRIBUTIONS OF THE SCHOOLS

Most of the variables identified by the quantitative analyses as significant correlates of academic achievement belong to the category of Home factors. Only one of the variables belonging to the school category, namely staff composition, was found significant by the quantitative study. This finding would naturally raise doubt about the real contribution of the schools in educating the children of Bangladesh. Fortunately, the qualitative study throws adequate light on this issue.

The key factor in a school is the quality of the teachers. 'Quality' encompasses much more than academic qualifications, it includes teacher's motivation, discipline and teaching

capability. The teachers of the top schools are superior to the teachers of the bottom schools in respect of all these qualities. They try to make best use of the short class hours. In every class of the top schools, the teacher gives homework and classwork, and as far as possible, check the assignment scripts. The teachers of the second top school were seen checking classwork scripts even after class hours. Assignments are also given in the bottom schools, but there the teachers are not so sincere about checking the assignments. These teachers also appear unconcerned about classroom discipline.

The emphasis given by the top schools on homework has profound implications. Homework compels the students to study at home, which compensate for inadequate classroom teaching due to short class hours. Those students who are tutored well at home perform better in the examinations than those who are not. Frequent examinations and the motivating influence of the teachers create a very competitive state of mind among the students and their parents. Class tests, which distinguishes the top schools from the bottom schools, provide a regular feedback on students' performance.

Longer school hours in the top schools probably permit more teaching. It seems if the schools taught for more hours every day, the need for home tutoring would be diminished. This would reduce the disadvantage of the children of the poorer and illiterate parents, who are compelled to seek the services of incapable private tutors.

The use of additional books, and particularly, higher level books in some subjects seem to set the students of the top schools ahead of others. While in the bottom schools the teachers think the textbooks on English and Mathematics to be too difficult, the students of the second top school learn from books meant for students two grades above them. This again shows the role of the teachers of the top schools who are motivated as well as much better qualified academically.

It is true, however, that the top schools give admission to very selected students who also hail from families having higher incomes and educational levels.

It was **assumed** in the beginning that if the schools had any positive and consistent contribution in every grade, the students' achievement level would increase at every higher grade. But this **assumption** could not be verified. The table 5.5.8 shows the scores of the students of the top and the bottom schools. The table shows a ~~declining~~ trend in scores obtained with increase of grade level. However, students of the lower grades normally get higher scores than the higher grade students. The standardized tests administered by the researcher did not give age or grade independent scores like the I.Q. test.

One very interesting thing in the table 5.5.9 is that the top students of grade five of the second bottom school scored 70% which is a very high score compared to their classmates as well as the students of the previous grades. It was found that these students had been given special coaching by the school to

prepare for the inter-school scholarship examination. The teachers took coaching fee of 180 taka for that from each student. The incident demonstrated that if the schools wanted, they could contribute much more.

#### 8.10.0 RECOMMENDATIONS

In chapter one, it was stated that expansion of primary education had taken place in Bangladesh at the cost of educational quality. This study has shown that today in Bangladesh Home factors are more important than School factors in making successful students. This implies dysfunctioning of the schools. The study has revealed that in the low grade schools of Dhaka city, the teachers are apathetic and teaching-learning process hardly takes place in the classrooms. It is not difficult to imagine that an overwhelming majority of the country's primary schools resemble the low grade schools of Dhaka. The question that naturally comes at the end of the study is how the conditions of these schools can be improved.

Obviously, the Home and Individual factors of millions of students cannot be improved in the near future. The focus of policy attention should therefore be on the School factors and the teaching learning process. The strategy should be to increase the role of learning at school and reduce the present dependence on teaching support from home which the country's millions of poorer families in any case cannot provide to their children. Based on the findings of the study, the following actions are recommended with a view to addressing the problem.

1. **Quality of teachers is to be improved:** The teacher's educational standard as well as their moral and motivational levels need to be upgraded. Training in teaching should be made compulsory, and this should be supplemented with periodic refresher's courses, professional seminars, etc. Head teachers should be given special training in school administration. Career in teaching needs to be made more attractive by offering better salary and other benefits. However, in order to keep pressure for performance, their services should not be made permanent.

2. **Good Management systems should be introduced:** Students' performance evaluation and school supervision are the two areas which require special attention. Frequent class tests should be introduced and the possibility of introducing standardized tests for yearly examination may be looked into. There should be more community participation in school management and supervision.

3 **School hours should be longer:** Short teaching time is one of the root causes of deterioration of educational standard. Each period should be sufficiently long to teach as well as complete a classwork exercise. Teachers should have extra time to examine homework and classwork scripts. The total working hours in a year need to be increased in order to accommodate all these.

4. **Teaching-Learning process should be improved:** Different schools seem to have adopted their approach to teaching-learning in the classroom to the various limitations, such as short

teaching time and low teacher-student ratio. No school has any proper lesson plan for the academic session. What is needed is a complete plan of teaching which would detail out everyday's lessons and exercises, teaching methodology, and leave nothing for the parents or the private tutors. Text books should be written accordingly, so that teachers are not left to themselves to devise teaching methods.

**5. Private tutoring by school teachers should be prohibited:** This practice has destroyed the moral fabric of teaching profession and deteriorated the standards of teaching in schools.

**6. Parental education should be emphasised:** Parents have been found to have great roles to play. This role is not limited to home tutoring; the parents need to provide encouragement, educational environment at home and monitoring of their children as well the school. There should be more communication and coordination between the parents and the schools. There should be frequent parents' days and consultation with parents.

#### **8.11.0 SUGGESTION FOR FURTHER RESEARCHES**

The study points to the need for further research on two problem areas facing the primary education system of Bangladesh. These two areas are:

i) **Teaching-Learning Process:** The teaching approach at the primary level need to be thoroughly revised in order to make it more interesting to the students and less dependent on home coaching. At present, different schools and teachers take

different approaches. During classroom observation, some classes were found very stimulating, which many others were dull. There is a need to carry out a series of action research to design appropriate teaching-learning process models in necessary detail. School teachers could then be trained to use those models.

ii) **Curriculum Development:** School curriculum prescribed by the National Curriculum and Textbook Board (NCTB) consists of syllabus and textbooks. It is felt that primary level curricula should also include various teaching aids and manuals for their use. Besides all the components should be integrated in an effective manner, so that school teachers will not have to take extra initiative to use teaching aids. A lot of applied research will be necessary to develop the proposed curriculum.