

Education Watch 2000

A QUESTION OF QUALITY

State of Primary Education in Bangladesh

Volume I

Major Findings: A Synthesis



Campaign for Popular Education

The University Press Limited

Education Watch 2000
A QUESTION OF QUALITY
State of Primary Education in Bangladesh

A QUESTION OF QUALITY

State of Primary Education in Bangladesh

Volume I
Major Findings: A Synthesis

Editors

A Mushtaque R Chowdhury

Rasheda K Choudhury

Samir R Nath

Manzoor Ahmed

Mahmudul Alam



Campaign for Popular Education



The University Press Limited

The University Press Limited
Red Crescent Building
114 Motijheel C/A.
P.O Box 2611
Dhaka 1000
Bangladesh
Fax : (88 02) 9565443
E-mail: upl@bttb.net.bd
Website: www.uplbooks.com

First published 2001

Copyright© Campaign for Popular Education 2001

Cover Photo: Deborah Llewellyn

All rights are reserved. No part of this publication may be reproduced or transmitted in any form or by any means without prior permission in writing from the publisher. Any person who does any unauthorized act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

ISBN 984 05 1625 6

Published by Mo:niuddin Ahmed, The University Press Limited, Red Crescent Building, 114 Motijheel C/A., Dhaka 1000. Typesetting by Mark Printing & Packaging, Printed by Elora Art Publicity, 635 North Shahjahanpur, Dhaka-1217.

Contents

<i>Foreword</i>		vii
<i>Preface</i>		ix
<i>The Contributors</i>		xi
<i>List of Tables, Figures, and Boxes</i>		xv
<i>List of Annexes</i>		xix
<i>Acronyms</i>		xxi
<i>Editors' Note</i>		xxiii
<i>Overview</i>		xxv
Chapter One	Introduction	1
	<i>A Mushtaque R Chowdhury</i>	
Chapter Two	Research Methodology	5
	<i>Samir R Nath, A Mushtaque R Chowdhury and Mahmudul Alam</i>	
	Study on pupil achievement	5
	Study on teacher education	8
	Strengths and weaknesses of the studies	8
Chapter Three	Competencies and their Reflection in Source Materials	11
	<i>Muhammad Ali, Md. Abul Kalam and Samir R Nath</i>	
	Competency-based education	11
	The Bangladesh case	11
	Reflection of competencies in source materials	12
Chapter Four	Learning Achievement of Pupil	15
	<i>Samir R Nath, A Mushtaque R Chowdhury and Altaf Hossain</i>	
	Achievement of Bangla competencies	15
	Achievement of English competencies	16
	Achievement of Mathematics competencies	18
	Achievement of Social Studies competencies	20
	Achievement of General Science competencies	20
	Achievement in Religions Studien	22
	Overall learning achievement	23
	Factors affecting learning achievement	28
	Performance on non-cognitive competencies	30
	A brief account of pedagogy in classroom	30

Chapter Five	Teacher Education	33
	<i>Mahmudul Alam and Muhammad Nazmul Haq</i>	
	Macro aspects of primary teacher education	33
	Empirical findings on training institutions, trainers and trainees	34
Chapter Six	The Crisis of Quality in Primary Education	41
	<i>A Mushtaque R Chowdhury</i>	
Chapter Seven	Conclusions and Policy Implications	47
	<i>Manzoor Ahmed and A Mushtaque R Chowdhury</i>	
	<i>Bibliography</i>	53
	<i>Annexes</i>	57
	<i>Index</i>	113

Foreword

Five years ago we organised a Conference on Universal Primary Education in Bangladesh and The *Education Watch* was born as a follow-up to it. The first report of the Watch was published in 1999 and I am happy to see that the second report is coming out. I hope the *Education Watch* continues its journey and serves the strategic need for credible information on the state of our education system.

There are two broad critical stages in the development of a nation's education system. The first is the expansion of educational facilities, viz., schools, to enrol and retain pupil. Bangladesh has made good progress in this. Nearly 80 percent of our primary school aged children are now attending school and a great majority of them continue to the end of the primary cycle. We recognise that reaching universal enrolment is not easy but we are making progress; the pace is, however, slow as found in the *Education Watch 1999* report.

The second stage which always appears to be a bigger challenge is the provision of 'education' in the schools. This is a more onerous task than the quantitative expansion of educational facilities. This year's *Watch* chose to examine the quality of Primary Education. It tried to find out what 'education' is provided in our schools. The 53 competencies which the government had formulated as the terminal competencies was chosen as the marker for quality assessment. What comes out of this and presented in these volumes is quite disquieting and is a matter of concern for us all. To put it simply, the quality could not keep pace with quantity. The fact that less than two percent of the pupils, after completion of their primary education, attained all the competencies tested is all but comforting. This, however, did not come as a great surprise. In the nineties a large number of studies using a very elementary test based on the 3R's and basic life skills, called the 'Assessment of Basic Competencies' or ABC, had also portrayed a dismal picture. It means that we did not take much cognisance of this.

In 1993 we applied the ABC instrument on the three-year graduates of BRAC's non-formal schools. To our

dismay we found that less than 60 percent had qualified. Afterwards we revised the curricula, developed new materials, and retrained our teachers. As a result of this the ABC score in 1999 stood at nearly 70 percent. But this year's *Watch* report has put a new challenge for our programme, as it does for the formal system. Although students attending non-formal schools are doing six times better than those in formal schools, there is no scope for rejoicing. That only six percent attain all competencies is worrying. It is true that we do not use all the books used in formal schools but studies have shown that our books do 'more or less' cover the 53 competencies. However, it is only since last year that we completed the transition from a three-grade primary to a five-grade cycle. This though an important point and a likely cause for poor performance, we need to rethink our strategy in terms of curricula, teaching materials, management and pedagogy. We have already instituted a few changes in our programme. We found that the textbooks, prepared by National Curriculum and Textbook Board, that we use in Classes IV and V need supplementary materials, particularly in Mathematics and English, and teachers need more training to teach more confidently. The present supervision is mainly internal efficiency oriented, emphasising on the attendance of students and teachers. A challenge is how this can be made more pedagogy oriented. We have to learn this from successful programmes in other settings. The copybooks will continue to be given to students so that they can practice writing. The assessment system is being redesigned to make it more output oriented in terms of the terminal competencies. We are also concerned about the intra-school differences in our system and we are designing a school-grading system through which we hope to be able to identify poorly performing schools. We believe that with these and other innovations we will be able to overcome the deficiencies in our system over the next five years. It is only imperative that the government also gives adequate attention to the *red alert* that the *Watch* report has signalled. As the formal system encompassing the

government and private registered and unregistered schools enrol over 82 percent of primary school students, a significant improvement in the overall national picture is tied to changes in the formal system.

The report has also documented the excellent performance by some students of the 'best' schools of Dhaka city in the same test. While this is a matter of rejoicing that a great majority of tested students of these schools attained all the competencies, this raises the question of equity. Obviously, the children who are able to attend these schools are a microscopic minority belonging to the most privileged classes of Bangladeshi society. The others who are not able to attend these are the deprived majority. The challenge for us is how do we raise the standard in the others which are not as privileged as the few in Dhaka city. This demands a thorough overhaul and reform in our education system as discussed in the last chapter of this report. Bertrand Russell had said:

If the parents are well-to-do, it is not necessary to the solution of their private problem that *all* schools should be good, but only that there should be some

good school geographically available. But for wage-earning parents nothing suffices except reform in the elementary school. (emphasis original).

("On Education", Untwin Paperbacks, 1976)

Finally, a mention of the 53 competencies themselves. The idea of having a competency-based curriculum is a great and welcome departure from what was there previously. But competency-based system is a dynamic one and to make the best use of it is to review it on a regular basis. This report has provided important leads towards this. There is an imperative to debate the relevance of each of all 53 in preparing our young population for further learning and in building a democratic modern and secular society.

Fazle Hasan Abed

Chair, Campaign for Popular Education

Chair and Founder

BRAC

Dhaka

December 2001

Preface

When the *Education Watch* project was launched in mid 1998 we were not certain whether the move would generate enthusiasm amongst the stakeholders of primary and basic education. But when the first report *Hope not Complacency* was published in 1999, it received wide acclaim of the stakeholders including development partners and funding agencies. Not that everybody fully agreed with the findings of the report, but due credit was given to the genuine efforts of monitoring the state of primary education in Bangladesh. We at the *Education Watch* feel very happy that the report has been appreciated by a large segment of the society and the international community. Some of the findings of this *Watch* have also been published internationally. It is all the more gratifying to note that some governments and civil society organisations of the region also showed interest in the *Education Watch* project. During this period the *Education Watch* spent its time not only in investigating the situation of primary education in the country but also doing advocacy for it. After publishing the first report three workshops were arranged in three cities outside Dhaka, viz., Chittagong, Rangpur and Khulna. Local school teachers, representatives from local education authority, educationists, administrators from various levels, NGO officials and civil society members were present in these workshops. The education policy formulated by the previous government generated wide discussion and debate. The *Education Watch* was in the forefront of it. Two discussion meetings were arranged on the policy which was afterwards passed by the *Jatiya Sangsad*.

We mentioned in the first report that we would bring out every year, a report on the state of primary education in Bangladesh. We have the pleasure in presenting the report for the year 2000 AD. This report is all the more relevant in the context of the recent Dakar Conference on Education for All. The first report dealt with the quantitative aspect of primary education. This report deals with the quality of education at that particular level.

Many at the policy planning level thought that our primary concern should be to increase the number of

students both at formal and non-formal primary schools and the quality aspect could wait. We respectfully disagree with this view. To us quantities without quality is of much less value, if not altogether meaningless. We have all along been emphasising the need for quality primary education. This report, therefore, appropriately deals with quality aspects of education.

There are two parts of the current *Watch*: a) Assessment of Learning Achievement of Students; and b) Teacher Education. Quality is a very broad concept. Assessment of competency of primary school graduates and teacher education are two very important aspects of quality education. This year's *Education Watch* is a venture of two stand-alone studies on the above two areas of quality education. Three volumes have been prepared from this. The first one is an extended overview taking results from both the studies and the other volumes separately present the findings of the independent studies.

There has been delay in preparing and publishing the volumes for reasons beyond our control. The researchers had to wait till October 2000 to administer competency tests to primary school graduates. Secondly, the socio-political scenario of the country during the first half of the year 2001 was not very congenial for a research project of this type which involved field survey and data collection. We regret this unintentional delay in bringing out the volumes.

The first part of this year's *Watch* viz., the assessment of competencies of the students, has been prepared by the researchers from BRAC Research and Evaluation Division under the able leadership of Dr. Mushtaque Chowdhury and Mr. Samir Nath. The second part, viz., teacher education has been prepared by the researchers from Bangladesh Institute of Development Studies (BIDS) and the Institute of Education and Research (IER), Dhaka University under the able leadership of Dr. Mahmudul Alam of BIDS and Prof. Nazmul Haq of IER. I thank all of them and their associates for the excellent works done.

The Advisory Board, the Working Group and the Technical Team were all involved in providing guidance

and other assistance to the research teams. Some members of the Technical Team and other experts (head teachers, teacher educators and national experts on curriculum and test development) who were involved in the competency based test development worked very hard. I thank the members of these committees and the others for their contribution to the *Watch 2000*. Our special thanks to Dr. Sanat Kumar Ghosh, Reader and Head of the Department of Education, Rabindra Bharati University in Kolkata for his help in the development of the tests.

Mr. Fazle Hasan Abed, Chairman, BRAC and Chairman, Board of Directors, CAMPE and a member of the Advisory Board of *Education Watch*, has been a tower of strength. His constructive suggestions and various help in times of need were invaluable. I thank him from the core of my heart. As usual Ms. Rasheda K. Choudhury, Director, CAMPE and Member-Secretary Advisory Board and the Working Group provided the logistical support to the research teams. I owe her a debt of gratitude. I should also thank again Dr. Mushtaque Chowdhury, Director of Research, BRAC and co-ordinator of the Working Group for his time and contribution to *Watch*. Dr. Manzur Ahmed, a renowned personality in the field of education was kind enough to go through the final draft and made valuable comments. I thank him on behalf of *Education Watch*. Other reviewers including Mr. Kazi Fazlur Rahman, Professor Kazi Saleh Ahmed, Professor Siddiqur Rahman, Dr. Terri Kelly, and Mr. James Knowles also deserve acknowledgements and we are grateful to them all.

Education Watch 2000 has been possible due to generous financial assistance received from The Department for International Development (DFID), UK and Novib of Holland. We are grateful to them.

Many staff members of BRAC, BIDS and CAMPE including Ms. Shaheen Akter, Mr. Abul Kalam, Mr. Mirja M Shahjamal, Mr. Shahidul Islam, Mr. Shoeb Ahmed, Mr. Jasimul Islam, Mr. Abdur Razzak, Mr. Hassas Shareef Ahmed, Mr. Ajoy K Bose, Mr. Ruhul Amin Chowdhury, and Mr. Gias Uddin were involved in various stages of preparation of the reports. They were the actors behind the scene. I shall be failing in my duty if I don't thank them on behalf of *Education Watch*. We also thank Mr Mohiuddin Ahmed of the University Press Limited for agreeing to publish the reports with CAMPE and Mr. Abdar Rahman for his co-operation.

The volumes in draft form were shared with important stakeholders, and we have benefited from their criticism and suggestions. They deserve our thanks. I hope the reports will be well received by the stakeholders, including the government, teachers, the NGOs, the civil society, and the international and funding agencies. We will be happy to receive further critique and suggestions on our work for betterment of primary education in the country.

Dhaka
December 2001

A. N. M. Eusuf
Chairman, Advisory Board,
Education Watch
and Advisor
CAMPE

The Contributors

Advisory Board

Mr. Fazle Hasan Abed
Chairperson , BRAC

Mr. Abu Ahmed Abdullah
Director General
Bangladesh Institute of Development Studies (BIDS)

Dr. Q. K. Ahmad
Chairman
Bangladesh Unnayan Parishad (BUP)

Dr. Manzoor Ahmed
Former Director
UNICEF, Japan

Mr. Mahfuz Anam
Editor, The Daily Star

Ms. Rasheda K. Choudhury
Director
Campaign for Popular Education (CAMPE)
(Member Secretary)

Dr. A. M. R. Chowdhury
Deputy Executive Director and
Director Research, BRAC

Prof. Nazma Chowdhury
Department of Political Science
University of Dhaka

Mr. A. N. M. Eusuf
Advisor
Campaign For Popular Education (CAMPE)
Former Principal Secretary, Government of Bangladesh
(Chairman)

Mr. Nurul Islam
Project Officer, Education Section
UNICEF
Bangladesh

Dr. A. K. Jalaluddin
Former Chief Technical Advisor, UNDP

Dr. Ansar Ali Khan
UNESCO Representative
Dhaka
Bangladesh

Ms. Jowshan Ara Rahman
Former Gender Advisor
UNICEF, Bangladesh

Mr. Kazi Fazlur Rahman
Former Advisor to the President
Government of Bangladesh

Prof. Rehman Sobhan
Chairman
Centre for Policy Dialogue (CPD)

Working Group

Mr. Zahin Ahmed

Executive Director
Friends In Village Development, Bangladesh (FIVDB)

Dr. Mahmudul Alam

Senior Research Fellow and Head
Human Resource Division
Bangladesh Institute of Development Studies (BIDS)

Dr. Abbas Bhuiya

Social Scientist
International Centre for Diarrhoeal Disease Research,
Bangladesh (ICDDR,B)

Ms. Rasheda K. Choudhury

Director
Campaign for Popular Education (CAMPE)
(Member Secretary)

Dr. A. M. R. Chowdhury

Deputy Executive Director and
Director Research
BRAC (Co-ordinator)

Dr. M. A. Gafur

Former Research Director
Bangladesh Institute of Development Studies (BIDS)

Mr. Muhammad Nazmul Haq

Associate Professor
Institute of Education and Research (IER)
University of Dhaka

Ms. Roushan Jahan

Former President
Women for Women

Dr. Abu Hamid Latif

Professor
Institute of Education and Research (IER)
University of Dhaka

Dr. Siddiqur Rahman

Professor
Institute of Education and Research (IER)
University of Dhaka

Technical Team

Prof. Kafil Uddin Ahmed

Management Development Field Consultant,
(ESTEEM Project)
Directorate of Primary Education (DPE)
Government of Bangladesh

Ms. Tahmina Akhter

Associate Professor
Institute of Education and Research (IER)
University of Dhaka

Mr. Muhammed Shafiul Alam

Former Director
Bangladesh Bureau of Education Information & Statistics
(BANBEIS)

Mr. Muhammad Ali

Former Member (Curriculum), NCTB
Deputy Team Leader/Curriculum Evaluation Specialist
Second Primary Education Sector Project

Mr. Ruhul Amin

Assistant Specialist
National Academy for Primary Education (NAPE)

Prof. Ali Azam

Former Chairman
National Curriculum and Textbook Board (NCTB)

Mr. Abdul Ghani

Headmaster
Motijheel Ideal Government Primary School, Dhaka

Ms. Hasina Habib

Co-ordinator, Education Programme
Gono Shahajjo Sangstha (GSS)

Dr. Shamsul Haq

ELT Advisor
Bangladesh Open University, Gazipur

Prof. Reazul Islam

Director, College & Administration
Directorate of Secondary & Higher Education
Ministry of Education, Government of Bangladesh

Dr. James Jennings

Chief, Education Section
UNICEF, Bangladesh

Mr. A. N. S. Habibur Rahman

Deputy Director and Head
Material Development Cell
Proshika

Mr. Jashim Uddin

Headmaster
Jikatola Government Primary School
Dhaka

Reviewers

Prof. Kazi Saleh Ahmed
Former Vice Chancellor
Jahangirnagar University

Dr. Manzoor Ahmed
Former Director
UNICEF, Japan

Dr. Terri Kelly
Senior Education Advisor
Department for International Development (DfID),
Bangladesh

Mr. James Knowles
Consultant
Asian Development Bank, Dhaka

Mr. Kazi Fazlur Rahman
Former Advisor to the President
Government of Bangladesh

Dr. Siddiqur Rahman
Professor
Institute of Education and Research (IER)
University of Dhaka

Chapter Contributors

Dr. Manzoor Ahmed
Former Director
UNICEF, Japan

Dr. Mahmudul Alam
Senior Research Fellow and Head
Human Resource Division
Bangladesh Institute of Development Studies (BIDS)

Mr. Muhammad Ali
Former Member (Curriculum), NCTB
Deputy Team Leader/Curriculum Evaluation Specialist
Second Primary Education Sector Project

Dr. A. M. R. Chowdhury
Deputy Executive Director and
Director Research, BRAC

Mr. Muhammad Nazmul Haq
Associate Professor
Institute of Education and Research (IER)
University of Dhaka

Mr. Altaf Hossain
Research Sociologist
Research and Evaluation Division, BRAC

Mr. Md. Abul Kalam
Senior Staff Sociologist
Research and Evaluation Division, BRAC

Mr. Samir R Nath
Research Statistician and Co-ordinator
Education Research Group
Research and Evaluation Division, BRAC

List of Tables, Figures and Boxes

Tables

Table 2.1	The study sample for achievement test
Table 3.1	Number of competencies according to Bloom's classification
Table 3.2	Extent of reflection of the competencies in source materials
Table 4.1	Competencies, test items and minimum levels for Bangla
Table 4.2	Proportion of students achieving competencies in Bangla
Table 4.3	Competencies, test items and minimum levels for English
Table 4.4	Proportion of students achieving competencies in English
Table 4.5	Competencies, test items and minimum levels for Mathematics
Table 4.6	Proportion of students achieving competencies in Mathematics
Table 4.7	Competencies, test items and minimum levels in Social Studies
Table 4.8	Proportion of students achieving competencies in Social Studies
Table 4.9	Competencies, test items and minimum levels for General Science
Table 4.10	Proportion of students achieving competencies in General Science
Table 4.11	Proportion of students achieving competency in Religious Studies
Table 4.12	Classification of the competencies according to the level of performance at the national level
Table 4.13	Mean, median and standard deviation (sd) of number of competencies achieved by the students by type of school and gender
Table 4.14	School level analysis: some basic statistics of mean number of competencies achieved
Table 4.15	School level analysis of non-formal sub-system: some basic statistics of mean number of competencies achieved
Table 4.16	Mean and standard deviation of the number of items correctly answered by taxonomic class level
Table 4.17	Mean and standard deviation of the number of competencies achieved by different socio-economic and school characteristics
Table 4.18	Mean (and standard deviation) of the number of non-cognitive competencies achieved by the students of government schools by area and sex
Table 5.1	Proportion of teachers who received basic training by gender and type of school
Table 5.2	PTI trainees' assessment of instructors in terms of three major attributes

Table 5.3	Percentage of teachers (PTI graduates) indicating subjects of C-in-Ed course that became very useful in their school teaching
Table 5.4	Percentage of teachers (PTI graduates) mentioned weaknesses of PTIs
Table 5.5	Teachers' average IRI-score by subject and gender
Table 5.6	Average time spent by the non-formal school teachers for different interactive situation in Class IV
Table 6.1	Proportion of students achieving competencies in different areas by gender
Table 6.2	Proportion of students achieving competencies in different areas by residence
Table 6.3	Proportion of students achieving competencies in different areas by type of school

Figures

Figure 1.1	Quality of education: an analytical frame
Figure 2.1	Map showing the location of sample spots
Figure 4.1	Percentage of students achieving all three competencies in Bangla by school type and gender
Figure 4.2	Percentage of students achieving all three competencies in Bangla by school type and area of residence
Figure 4.3	Percentage of students who did not attempt or complete a single sentence in English
Figure 4.4	Percentage of students achieving all three competencies in English by school type and gender
Figure 4.5	Percentage of students achieving all three competencies in English by school type and area of residence
Figure 4.6	Percentage of students correctly answering different items under problem solving competency by gender
Figure 4.7	Percentage of students achieving all three competencies in Mathematics by school type and gender
Figure 4.8	Percentage of students achieving all three competencies in Mathematics by school type and area of residence
Figure 4.9	Percentage of students achieving all three competencies in Social Studies by school type and gender
Figure 4.10	Percentage of students achieving all three competencies in Social Studies by school type and area of residence
Figure 4.11	Percentage of students achieving all three competencies in General Science by school type and gender
Figure 4.12	Percentage of students achieving all three competencies in General Science by school type and area of residence
Figure 4.13	Percentage of students achieving all 27 competencies by type of school
Figure 4.14	Percentage of students achieving all 27 competencies by type of school and sex
Figure 4.15	Percentage of students achieving all 27 competencies by type of school and area of residence
Figure 4.16	Mean number of competencies achieved by the students by school type and area of residence
Figure 4.17	Percentage of items correctly answered by the students by taxonomic class level of items
Figure 4.18	Percentage of items correctly answered by the students by taxonomic class level of items and school type
Figure 4.19	Percentage of sample and 'best' students achieving all the competencies by subject area
Figure 5.1	Number of teachers trained at PTIs, 1991–2000

-
- Figure 5.2 Distribution of trainees by government and private schools, 1994-95 to 1998-99, for Gazipur PTI
- Figure 5.3 Interactive and other learning situations in the government and private primary schools
- Figure 5.4 Interactive and other learning situations by male and female in the government and private primary schools
- Figure 5.5 Interactive and other learning situation in government primary schools
- Figure 5.6 Interactive and other learning situation in private primary schools
- Figure 5.7 Teachers mean IRI-score for different subjects of non-formal schools

Boxes

- Box 3.1 Cognitive competencies 'excellently' covered in both the source materials
- Box 3.2 Cognitive competencies 'excellently' covered in the teachers guides, but not in the textbooks
- Box 3.3 Cognitive competencies needing improvement in coverage in both the source materials
- Box 4.1 'Excellent' performing competencies by type of school (very easy)
- Box 4.2 'Excellently' covered competencies by level of performance of the students

List of Annexes

- Annex 1.1 The 53 terminal competencies (Bangla version)
- Annex 1.2 The 53 terminal competencies (English version)
- Annex 2.1 List of participants who attended in source materials evaluation workshops
- Annex 2.2 Cognitive competencies assessed by Education Watch 2000 by subject area
- Annex 2.3 Non-cognitive competencies (or parts of a competency which is non-cognitive) assessed by the teachers
- Annex 2.4 Participants of different workshops organised for test instrument development
- Annex 2.5 Major events of the development of test instrument for cognitive competencies
- Annex 2.6 Questionnaire for educational and socio-economic information of students
- Annex 2.7 Questionnaire for survey of educational institutions
- Annex 2.8 Questionnaire for educational and socio-economic information of students (English version)
- Annex 2.9 Questionnaire for survey of educational institutions (English version)
- Annex 2.10 Sample size determination and weighting
- Annex 2.11 Percentage of cases that matched between the main survey and the re-interview for selected socio-economic and educational variables
- Annex 2.12 Some results from the tests of the students of the best schools of Dhaka city
- Annex 4.1 Percentage of students correctly answering various items in the cognitive test by school type
- Annex 4.2 Classification of the competencies according to the level of performance of girls
- Annex 4.3 Classification of the competencies according to the level of performance of boys
- Annex 4.4 Classification of the competencies according to the level of performance of the students of government schools
- Annex 4.5 Classification of the competencies according to the level of performance of the students of private schools
- Annex 4.6 Classification of the competencies according to the level of performance of the students of non-formal schools
- Annex 4.7 Frequency distribution of number of competencies by level of achievement and stratum
- Annex 4.8 Classification of the competencies according to the level of performance of the students of rural government schools
- Annex 4.9 Classification of the competencies according to the level of performance of the students of rural private schools

Annex 4.10	Classification of the competencies according to the level of performance of the students of rural non-formal schools
Annex 4.11	Classification of the competencies according to the level of performance of the students of urban government schools
Annex 4.12	Classification of the competencies according to the level of performance of the students of urban private schools
Annex 4.13	Classification of the competencies according to the level of performance of the students urban non-formal schools
Annex 4.14	Classification of the competencies according to the level of performance rural students
Annex 4.15	Classification of the competencies according to the level of performance urban students
Annex 4.16	Competencies those 'excellently' covered in the teachers' guide but not in the textbooks by level of performance
Annex 4.17	Percentage of students achieved all the 27 competencies by school type, area of residence and sex
Annex 4.18	Some basic statistics of number of competencies achieved by the students by type of school, area and sex
Annex 4.19	Socio-economic, school related and extra educational input variables considered in learning achievement study
Annex 4.20	Measurement of the variables used in the multivariate analyses
Annex 4.21	Multiple regression model (stepwise approach) predicting number of competencies achieved by the students
Annex 4.22	Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of rural schools
Annex 4.23	Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of urban schools
Annex 4.24	Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of government schools
Annex 4.25	Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of private schools
Annex 4.26	Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of non-formal schools
Annex 4.27	Multiple regression analysis predicting number of cognitive competencies achieved by the students
Annex 4.28	Classroom situation at primary level at a glance
Annex 4.29	Case Studies of a government and a BRAC school
Annex 5.1	C-in-Ed course contents in terms of learning outcomes and practical work, 2001

Acronyms

ABC	Assessment of Basic Competencies
AEO	Area Education Organiser
ATEO	Assistant Thana (Upazila) Education Officer
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BBS	Bangladesh Bureau of Statistics
BIDS	Bangladesh Institute of Development Studies
BRAC	A national NGO (formerly Bangladesh Rural Advancement Committee)
CAMPE	Campaign for Popular Education
DPE	Directorate of Primary Education
EFA	Education for All
ELC	Essential Learning Continuum
HSC	Higher Secondary Certificate
ICES	International Curriculum Evaluation Specialist
IDEAL	Intensive District Approach to Education for All
KG	Kindergarten
KR	Kuder-Richardson
LEA	Local Education Authority (here Upazila/Thana level education office)
MCQ	Multiple Choice Question
NCES	National Curriculum Evaluation Specialist
NCSC	National Curriculum and Syllabus Committee
NCTB	National Curriculum and Textbook Board
NGO	Non-governmental Organisation
PMED	Primary and Mass Education Division (Government of Bangladesh)
PO	Programme Organiser
PPS	Probability Proportional to Sizes
PSPMP	Primary School Performance Monitoring Project
PTA	Parent Teachers Association
PTI	Primary Teachers Training Institute
SD	Standard Deviation
SMC	School Management Committee
SPESP	Second Primary Education Sector Project
SSC	Secondary School Certificate

TEO	Thana (Upazila) Education Officer
UK	United Kingdom
UNDP	United Nations Development Programme
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
UPE	Universal Primary Education
USA	United States of America
WCEFA	World Conference on Education for All

Editors' Note

The *Education Watch* purports to provide an objective assessment of the state of primary education in Bangladesh based on first-hand empirical evidences. Since primary education encompasses many components, an assessment of the whole sector in one study is neither possible nor necessary. Under *Education Watch 1999*, we investigated the internal efficiency of primary education in the country. The publication, *Hope not Complacency: State of Primary Education in Bangladesh 1999*, presented latest statistics on enrollment, cycle completion, absenteeism, supervision, and achievement of basic competencies. Beside this publication, a few other publications based on the secondary analysis of the *Watch 1999* data were published. We were pleasantly surprised to see the unprecedented enthusiasm among the various stakeholders about this work.

The *Education Watch 2000* presented in this report takes a deeper look at the quality aspect of our primary education. 'Quality' is an all-encompassing concept and we covered only a part of it. Unlike the previous report where we assessed children's basic competencies in terms of the 3 R's and life skills, the current report assessed the competencies of students completing the five-year primary cycle in terms of the terminal competencies. The competency-based primary curriculum was introduced in Bangladesh in 1992 and this is the first major assessment based on this. We believe that this will be used by the government and other interested parties in furthering the debate on the relevance of the various competencies and their learning effectiveness.

As mentioned in the previous report, the purpose of the *Watch* is to present a global view of the overall system of primary education in the country. Primary education in Bangladesh is pluralist in the sense that there are various providers. The government remains by far the most important and largest provider with two-thirds of all primary school-going children attending a government-run educational institution. But there are others too, whatever small they may be. In doing an assessment based on

terminal competencies we have covered three types of school systems: government, private with or without government subvention, and non-formal schools run by non-governmental organizations (NGOs). These three systems together cover over 90 percent of the enrollments. The Madrassas, which provide education with a religious focus, though an important system, could not be included because of some technical reason as explained in the methodology section. We have presented the data separately for each of the three systems. It is true that in many ways the three types are not comparable since they follow different approaches and strategies, but the broader goal of all of them is the same: provision of quality primary education. There is no intention to critique one against the other or vice versa; we have tried to be objective in our analysis, interpretation, and presentation of the data. In essence, we, as representatives of the civil society, have tried to perform a citizens' role for instituting transparency and accountability of the various school systems. Some of the findings may come as a shock but if it transpires action our efforts will be deemed to have been successful. We must not forget that time is running out in our race to provide quality education to all children.

We are mindful of our responsibility and accountability. We have already shared the results of this study with a cross-section of the civil society in the capital as well as the donor representatives. We also have shared the salient findings with representatives of teachers and Upazila-level government and NGO functionaries. Their insights have been very useful in getting to understand the 'why' of some of the results. We plan to take the results of the study to a much larger number of various stakeholders over the next few months.

The study as reported here is the result of the painstaking efforts of a large number of individuals. They include interviewers, supervisors, quality controllers, coders, editors, data entry technicians, and word processing assistants. Besides, the members of the Advisory

Board, Working Group and Technical Committee of the *Education Watch*, and writers of various chapters have been extra-ordinarily helpful. Without their hard work and support this report would have remained only a dream. Last but not least, we acknowledge the spontaneous support and cooperation provided by the various respondent groups including the students, teachers,

parents and guardians. However, we remain responsible for the remaining errors and inadequacies.

A M R Chowdhury

R K Choudhury

S R Nath

M Ahmed

M Alam

Dhaka

December 2001

Overview

The *Education Watch* was set up in 1998 by a group of institutions and individuals aiming to provide annually an independent assessment of the primary education situation in Bangladesh. The first *Watch* report on the overall status of primary education was published in 1999. The second *Watch* looks more closely at the quality aspects of primary education. *Education Watch 2000* has two foci: (i) Assessment of achievement of students in terms of terminal competencies at the end of the primary cycle; and (ii) Assessment of the state of teacher education at the primary level.

Under the guidance of an Advisory Board and a Working Group, two separate research teams worked on the above. The first study (Focus 1) was undertaken by a group of researchers from BRAC Research and Evaluation Division. The second one (Focus 2) was jointly done by researchers from Bangladesh Institute of Development Studies (BIDS) and Institute of Education and Research (IER) of Dhaka University. Under the umbrella of the first study, primary source materials (viz., textbooks and teachers' guides) were evaluated, two separate tools were developed, a national survey was conducted, and pedagogical practices in classrooms were observed. For the second study, documentation of current stock of trained teachers, curriculum, course content, pedagogy, duration and cost of training courses was done, and relationship between classroom practices and training was investigated.

As *Education Watch 2000* consists of two independent stand-alone studies, these are published separately (Volumes II and III). The present publication (Volume I) draws on the two other volumes. It reports on quality of primary education as it is reflected in competencies acquired by students and the factors, including skills and performance of teachers, that affect quality.

Methodology

Since 1992 a curriculum with 53 competencies was introduced at the primary level in Bangladesh. This study examines achievement of competencies by students at the end of the primary stage. A technical team which was formed to advise on the methodological issues included

schoolteachers, teacher educators, curriculum experts, education psychologists, sociologists, statisticians and national level experts in education. The textbooks and teachers' guides prepared by the National Curriculum and Textbook Board (NCTB) were analysed to discover how much of the 53 competencies are covered or reflected in these source materials.

Because of the nature of the competencies, two separate tools were developed: one for cognitive and another for non-cognitive competencies. Of the cognitive competencies, 27 lent themselves to a paper-pencil test and were thus included in the test instrument. Students of Class V of three sub-systems, viz., government, private, and non-formal institutions were assessed with this instrument just before the end of their five-year cycle of primary education. A total of 2509 randomly selected students from 186 schools were tested in October–November 2000. For the non-cognitive competencies, teachers appraised their own students using another tool developed for the purpose. In addition, in-depth classroom observations were carried out in the above three types of schools, two schools in each category, to document pedagogical practices.

For the teacher education study, we depended on case study, field level discussion, focus group discussion, and classroom observation. In total 114 teacher educators at Primary Teacher Training Institutes (PTIs) and 336 trainees were interviewed, and 233 classrooms were observed in 30 government and non-formal schools. Secondary data were collected from Bangladesh Bureau of Educational Information and Statistics (BANBEIS), National Academy for Primary Education (NAPE), Primary and Mass Education Division (PMED) and Centre for Policy Dialogue (CPD).

Major findings

Overall performance in cognitive competencies

Less than two percent of the students completing five years of primary education acquired all 27 competencies tested. Students did better in those competencies which depended on recall and did not involve much thinking and reasoning.

on recall and did not involve much thinking and reasoning. The following shows the overall subject-wise achievement of the terminal competencies (percent of students achieving all competencies).

Bangla	36.5
Social Studies	19.2
General Science	17.3
Mathematics	11.6
English	9.4
All 27 competencies	1.6

By types of institutions, one percent of the students in government schools, 0.9 percent in private schools and 6 percent in non formal institutions achieved the 27 competencies. The analysis was also done in terms of the average number of competencies achieved. On average, the children achieved 16.1 competencies (or 60% of all competencies) which varied between school type, residence and gender of students. The students of non-formal schools, urban students, and boys achieved higher averages than their respective counterparts in other categories.

At the national level, students showed 'poor' performance in three competencies, 'mediocre' in nine, 'satisfactory' in 12 and 'excellent' in only three. The competencies which the students found to be very difficult are 'writing English', 'problem solving in Mathematics', and 'life history of prophet Mohammed (SM) or the preachers of own religion'. On the other hand, the competencies that the students found very easy are 'listening Bangla', 'duties as a member of society' and 'importance of good health'. The students of non-formal institutions showed 'excellent' performance in six competencies; it was three for government and only one for private school students. The students did better in items which can be described as acquisition of knowledge rather than gaining understanding and applying knowledge and skills in specific situations. School level analysis showed a wide intra-school variation in performance. Highest variation was observed in rural non-formal institutions and lowest in urban government schools.

With nearly 80 percent enrolment, 72.7 percent completing the primary cycle, and 1.6 percent attaining the competencies, less than one percent of the children leave their primary school age with the nationally determined competency. In 2001-02 budget terms, the country will be spending Tk. 14.3 billion (US\$250 million) in primary and mass education sector. If the above statistics hold true, 99 percent of this resource may be going nowhere.

Reflection of terminal competencies in the source materials

Of the 53 terminal competencies, 19 were reflected 'excellently', 21 'fairly well', eight 'well', and five 'satisfactorily' in the textbooks of Class I to V. On the other hand, in the teachers' guides 36 competencies were reflected 'excellently', 10 'fairly well', four 'well', and three

'satisfactorily'. None of the competencies were found 'poorly' reflected in the source materials.

Learning achievement in Bangla and English languages

Three competencies each under Bangla and English languages— reading, writing, and listening — are included in the test instruments. These were tested with 10 question items for Bangla and 7 for English.

Bangla being the mother tongue, students did better in Bangla than in English in all three areas of assessment. All the competencies in Bangla were achieved by 36.5 percent of the students, whereas 9.4 percent achieved the same result in English. In both subject areas, students did best in listening, less well in reading and worst in writing. Urban students did significantly better than their rural counterparts in all the six competencies. The girls did significantly better in writing English and the boys in reading Bangla. No gender difference was observed in other four competencies. Statistically significant variation according to school type was found in four competencies. The students of non-formal schools did better in two competencies, viz., writing Bangla, and reading and writing English; the students of government schools did better in listening English but the students of private schools could not show such performance in any. Students of all school types did equally well in reading and listening Bangla. Seven percent of the students achieved none of the Bangla and 15.5 percent achieved none of the English competencies.

Learning achievement in Mathematics

Competencies in Mathematics include arithmetic skills and knowledge of geometric shapes. The five competencies assessed under this area included basic numbers, four basic rules, problem solving in everyday life, measurement units, and identification of geometric figures. A total of 15 question items were included in the instrument.

Performance in Mathematics was worse than that in Bangla, but slightly better than that in English language. Only 11.6 percent of the assessed students achieved all five maths competencies and 13.3 percent achieved none. Urban students did significantly better in four competencies than the students of rural areas. No area-wise difference was noticed in 'measurement units'. Boys did better than girls in all the math competencies. Performance of students varied by school type in three competencies including 'basic arithmetic', 'problem solving', and 'measurement units'. Nineteen percent of students in non-formal schools achieved all five Mathematics competencies compared to 10.6 percent in the government schools.

Learning achievement in Environmental Studies

Environmental Studies include Social Studies and General Science. Six competencies under social studies and nine under general science were tested. The General Science

section includes health and hygiene, and science and technology. A total of 31 question items were put in the instrument under these areas.

Less than a fifth of the students achieved all competencies in Environmental Studies. The students of non-formal centres performed better in both the subjects compared to other students. In Social Studies, boys outperformed girls in all the six competencies. On the other hand, in Science, boys did better in five competencies and no gender difference was noticed in other four competencies. The students of urban areas did significantly better than those of rural areas in all the competencies of Environmental Studies. The achievement level varied significantly by type of school for most of the competencies. In Social Studies, students in non-formal institutions showed best performance in three competencies, the students of government schools did best in one and both of the sub-system did equally well (or equally worse!) in one competency. On the other hand, in Science, the students of non-formal schools were ahead in six competencies, and the students of government schools were so in one competency.

Learning achievement in Religious Studies

Only one competency was considered under this area. This was 'life history of prophet Mohammed (SM) or the preachers of own religion'. Only 26.7 percent of the students achieved this competency; 30.3 percent for boys and 23.3 percent for girls. On average, 42.5 percent of the students of rural areas and 22.7 percent of the students of urban areas achieved this competency. Analysis by school type showed that 28.3 percent in government, 18.4 percent in private and 29 percent in non-formal schools achieved this competency. Gender difference favouring boys prevailed in all three types of institutions. Students of urban areas did better than their rural counterparts in two sub-systems, viz., government and private urban government schools.

Classroom observations

The case study of pedagogical practices in classrooms reveal that poor physical facilities, inadequate teaching materials (including textbooks and copybooks), memory-based teaching style and lack of remedial measures in the classroom for slow learners are the reasons for poor performance in the primary schools. Such inadequacies are more prevalent in private schools and least in non-formal schools. An outcome-oriented effort by teachers focusing on acquisition of competencies by students is in general absent in classroom transactions and pupil assessment.

Performance in non-cognitive competencies

Assessment of non-cognitive competencies of students relate to attitudes and values was undertaken only in government schools. The methodology followed was to have teachers rate their own students on the basis of a

structured questionnaire. The degree of subjectivity of this method is a weakness of this assessment. Sixteen percent of the students satisfactorily achieved all the non-cognitive competencies—15.8 percent girls and 16.1 percent for boys; and 16.3 percent for rural and 14.6 percent for urban students. On average, the students achieved 68 percent of the competencies; this was 67 percent for rural and 73 percent for urban students. The average achievement was 67 percent for girls and 69 percent for boys.

Background characteristics and learning achievement

How far the socio-economic and educational characteristics of the students affect their learning achievement was examined. A negative relationship between age and learning achievement was observed. On the other hand, performance of students increased with the increase in parental education, self-perceived food security status and access to mass media.

Access to private tutor contributed in learning achievement. Students whose guardians discussed academic matters with their teachers, whose parents provided tutoring at home and whose guardians participated in school meeting achieved more competencies compared to those who did not do such things. However, unexpectedly, students' participation in co-curricular activities had a negative relationship with their learning achievement.

Schools with 40 or fewer students per teacher showed better performance than those with higher student-teacher ratio. The performance of students increased with the increase in the educational qualification of the teachers, but it decreased with the increase in the length of their service. Schools with more teachers having professional training did better than those with a lesser proportion of the teachers having such training. Distance between school and the local education authority had negative relationship with the achievement of the students. The performance of students increased with the increase of visits made by such authority. Multivariate regression analyses confirmed relationship of various socio-economic and educational variables on competency-based learning achievement of students. Except for a very few cases, statistically significant correlation of these variables were noticed on the achievement of students in all types of institutions. This indicates that their learning achievement is influenced to a considerable extent by their family background, the support they receive from their families and the school environment.

Teacher education

Two types of teacher education are commonly found for primary school teachers in Bangladesh. The most common is the 10-month Certificate-in-Education (C-in-Ed) course offered by Primary Teacher Training Institutes (PTI). The other is the foundation training offered by different non-governmental organisations (NGOs) for non-formal school

teachers, the duration of which is usually 15 days. An overwhelming majority of the teachers in the government and the non-formal schools received basic professional training; however, very few teachers of the English medium schools got such training. There are 54 PTIs and training capacity of these is increasing. Learning outcomes defined in the PTI curricula vary by subject. Outcomes are largely descriptive and theoretical; scope for activity-based learning being limited. Lecture method is predominant in the PTI classrooms and practical skills are not emphasized. Total cost for producing a C-in-Ed was estimated at approximately Tk. 72,000. Majority of the educators in PTIs had professional training like M. Ed or B. Ed.; but, none had any practical experience of primary school teaching or even received training on primary education. Physical facility in the PTIs is largely unsatisfactory. PTI instructors considered themselves overburdened and class sizes were large. On average, an instructor had to take 17 classes per week. Classroom observations linking teachers' training and pedagogy practices revealed that interactive classroom practices were more prevalent in government schools than in the private ones. However, the non-formal classes were more interactive than the classes of above two sub-systems. The degree of interactivity apparently made some difference in student achievement as revealed in the competency scores, but overall performance of students remained low in all categories of institutions. There is a need for a systematic review of the relevance of PTI training and develop workable models for teacher's professional preparation and their effective performance in the classroom.

Policy implications

The findings about overall low pupil achievement and consequent wastage of scarce resources; the differences in achievement between urban and rural children, between boys and girls, among different types of schools and among domains of learning; teachers' skills and performance; and school-related and social factors affecting children's learning do point to policy issues which must be addressed to improve the quality of teaching and learning in primary education.

A focus on quality: The deplorably low achievement in terms of competencies acquired by students in primary education clearly points to the need for the highest priority to quality improvement in primary education development efforts. The progress made in enrolment and closing of gender gap in enrolment are liable to be totally negated if rapid and substantial improvement cannot be made in quality reflected in learning outcomes of students. The priority to quality needs to be focused on specific ways of overcoming obstacles to quality improvement, many of which has been identified in this study. Current primary education development activities supported by external assistance (such as the multi-faceted Primary Education Development Project and various quality-related projects)

appear not to have much of an impact on quality. The plethora of projects and to what extent they address the root causes need to be critically reviewed as a starting point for developing a comprehensive and effective quality improvement strategy. Important elements of such a strategy are indicated by the findings of the study as noted below.

Urban-rural difference: With the overwhelming majority of primary school age children living in rural areas, educational policies and programmes need to give special attention to specific conditions in rural areas causing lower achievement of rural children. The focus of attention should include per capita resource allocation, distribution of school facilities, direct and indirect costs of schooling to poor households, enforcing performance standards of schools and teachers through stronger supervision and accountability to the community, and introducing an objective system of monitoring and assessing learning achievement of children.

Gender gap: The trend towards narrowing the gender gap in participation in education and learning achievement has to be maintained. It has to be kept in view that the overall achievement remain very low for all children and the effort to improve total achievement has to continue along with combating traditional attitudes about gender roles and expectations reflected in classroom practices, teachers' behaviour and attitudes and the content of learning material.

The formal and non-formal education divide: The policy question is how the advantages of the non-formal schools can be incorporated into formal schools, even when the differences in the circumstances of the two are recognised. There are no simple answers, but establishing a stronger performance accountability of teachers and schools specifically focusing on learning outcome, re-examining the effectiveness of teacher training and supervision, ensuring that learning materials and textbooks are available on time to all children, meaningful involvement of parents in school and better communication between parents and teachers of their children have to be important items on any quality improvement agenda. Another important move would be to promote local-level comprehensive planning (at the village, union and upazila level) for educational services of acceptable quality for all children, involving in the process all stakeholders including NGOs, government and government-assisted institutions, community leaders and the local government structure. The aim would be to identify and implement essential quality improvement measures in all primary education institutions in the area.

Achievement in different domains: It is essential that the curriculum, definition of competencies and learning objectives, preparation of learning materials and textbooks,

teacher training (especially in respect of teaching language and Mathematics to young children) and supervision, and assessment of learning outcome accord a high priority to equipping children with the basic tools of literacy and numeracy. It is necessary to reconsider the list of competencies and the relative emphases on them in order to ensure that necessary time and effort are directed to acquiring the core literacy and numeracy competencies by students.

Teachers' skills and performance: Mere tinkering with the curriculum of the existing model of formal teacher training and its expansion will not help improve the quality of primary education. The premises and assumptions of the current programme regarding training objectives, training methods and conditions for use of training in classroom – in other words, why training is not making the expected contribution to better learning outcome – have to be probed rigorously, followed by a fundamental rethinking about effective teacher training and creating the conditions for use of the training in classroom. The non-formal teacher training method is not necessarily the model to be replicated for all schools, if only because the better student performance of non-formal primary education still falls short of an acceptable national norm for achievement in primary education competencies. However, a serious rethinking of teacher training will have to take into account many relevant lessons from the approach followed by NGOs in training their teachers.

Family-related factors: The policy implication, from the point of view of national and state obligation to provide quality basic education to all children, is that the school programme needs to be designed and other ancillary measures taken to compensate for serious family-related deficiencies impeding children's learning. NGOs, targeting specifically disadvantaged groups, have applied this approach with positive results. Among the measures that can be contemplated are: providing learning materials to students and eliminating direct and indirect, official and informal, costs to poor parents; eliminating the need for paid private tutoring; flexibility in school programme and routine to suit seasonal agricultural workload for families and situations of working children and so on. A pertinent policy issue is whether the substantial government spending on 'food-for-education' and the stipend programme, which consume over a third of the recurring budget of primary education, would not be better spent directly on improving teaching-learning condition, such as providing learning materials to poor children and supporting volunteer tutors for children who need extra help in their lessons.

School-related factors: The important policy message here is the need for establishing a system of accountability of school and teachers' performance to parents and the community. The community, in turn, needs to be

encouraged to be involved in creating the condition for the school and the teachers to function properly.

Decentralisation of educational management: Autonomous district education authorities should become the pivotal entity for overall planning and management of primary and secondary education. The district authorities should manage educational resources provided by the government and other resources derived from other sources and support community and school-based plans and programmes for quality primary education for all. The decentralization process and district-based management should be initiated on a trial basis in a few districts to help capacity-building and to learn how the decentralised system can be protected from corruption and politicization, two major problems in the education system, which have crippled various reform efforts.

Resources: More than doubling of the share of GNP to education in the next five years to 5 percent from the present level of over 2 percent will be an essential measure for quality improvement in primary education. Even this increase, if achieved, will bring Bangladesh to the average level among developing countries' spending for education in GNP share. However, the distributional aspect of this increased allocation will be important. This must be diverted to activities that enhance quality of education.

Recommendations

Short-term measures

- Undertake an independent review of the quality improvement aspects of the major primary education development projects including various separate quality improvement projects in order to develop a comprehensive and coordinated quality improvement strategy and programme, addressing root causes of poor quality.
- Begin increasing public budget for primary education (within the framework of a goal of doubling the share of education expenditure in GNP), targeting the new resources to quality improvement measures.
- Revisit the list of the 53 competencies, retain those which are competencies in real sense of the term, and redefine these, as necessary, in terms of measurable pedagogic outcomes.
- For the new list of competencies, design fresh orientation programmes for teachers and their supervisors in terms of both teaching-learning and assessment processes. Devise and introduce measurement indicators and standards for the competencies.
- Raise awareness among teachers and their supervisors about the existing state of the quality of primary education in terms of the attainment of the terminal competencies, and the need to improve it.
- Consider deferring the introduction of English until Class IV.

- 7 Introduce new materials and books to engage students in creative and problem solving exercises in various subject areas. Also train teachers to handle this new demand on them.
- 7 Re-examine existing and required capacities in the supervisory system from a perspective of improving learning outcome of students; and monitor the performance of teachers, their supervisors and schools from this perspective; consider instituting incentive and reward systems for better performing schools.
- 7 Supply textbooks on time and Khata (copybook) and pencils free of cost to students, particularly those who are disadvantaged. If resource is a constraint (which we believe is a matter of priorities and choice rather than scarcity), divert resources from the Food-for-Education and stipend programmes.
- 7 Support and encourage more interaction between the formal and non-formal systems and institutions including those for teacher training in order to build on and make best use of the strengths of each other.

Medium and long-term measures

- 7 Hold implementation of the proposed eight-year primary cycle until the existing system is more responsive to the need of the students; priority should be to improve quality and performance standards in existing institutions rather than engage in a major institutional restructuring venture with consequent strain on resources and management capacity .
- 7 Create autonomous district education authorities for overall planning, management and accountability of primary education; begin with a trial in a number of districts to ensure success and learn lessons.
- 7 Improve the reach and outcome performance of secondary school system to create aspirations among primary students and their parents.
- 7 Double the GNP share of public resource allocation for education to five percent in the next five to seven years. Distribute this increased resource to quality enhancing measures.

Chapter One

Introduction

The decade of the 1990s saw many international conferences and summits including the World Conference on Education for All (1990), the International Conference on Population and Development (1995), the International Conference on Women (1994), the World Social Summit (1995), and the World Summit for Children (1990). One common message that came out of all these was the imperative to ensure education for all children. The 1990 declaration of the World Conference on Education for All (WCEFA), held in Jomtien, Thailand, had reaffirmed the right of all people to education (UNESCO 1992). Ten years later the 2000 declaration of the Dakar (Senegal) conference on education has set a new goal for the world to reach education for all by the year 2015.

Over the decade some progress has been made in making education accessible to a large segment of world's children and this has been documented widely (UNDP 1999). The decade has also been very significant in the history of primary education development in Bangladesh. A number of new initiatives have been undertaken by the public, private, and non-governmental organisation (NGO) sectors to promote primary education in the country. Among these policies and programmes are:

- a. Free and compulsory education for all children;
- b. Free education for girls up to grade eight; free books for all children at primary level;
- c. Scholarship for girls reading in rural secondary schools including financial incentives to the schools themselves;
- d. A food-for-education programme that provides a food ration to about 20 percent of poor primary school children in rural areas;

- e. A proliferation of non-formal education programme by NGOs¹, and
- f. Creation of a separate Primary and Mass Education Division (PMED) headed by a secretary to the government.

A recent development that has happened in the country is the adoption of an education policy. Through the Education Policy 2000 the government has given more commitment to education and plans to uplift the primary education from the present five-year cycle to an eight-year cycle by 2010.

Bangladesh also made commendable progress in recent years on various indicators of primary education. The decade of the nineties has seen the enrolment rates rise, the primary completion rate improves, the attendance rate in school enhances, and gender gap in enrolment disappeared. According to latest field level data, the net enrolment rate has reached 77 percent, with the girls going to school as much as the boys. Over 70 percent of the students now complete the five-year primary cycle and 60 percent are present in school on an average day (Chowdhury et al 1999). Interestingly the improvements that took place in the past decade had a positive equity dimension. It has been found that the gains went disproportionately in favour of hitherto disadvantaged groups such as girls, children from rural areas, and those from poorer families (Chowdhury et al 2001).

The above gains in numbers are all impressive and encouraging. However, mere improvements in quantitative terms is not enough to attain 'education for

¹ Bangladesh has a large NGO sector working for the development of the disadvantaged groups including the poor and the women. They have been particularly engaged in education, particularly in adult education. From the mid-1980's, they started involving themselves in primary and basic education. As well be seen later, NGO schools now claim 8.5% of all primary enrolments in the country

all' (EFA). The goal of EFA assumes a minimum level of quality in education. Available evidences suggest that Bangladesh has not done equally well in guaranteeing quality education to its children. For example, the *Education Watch* of 1999 administered an elementary test on 'basic education' encompassing the basic elements of reading, writing, arithmetic and life skills knowledge. It found less than a third of the children aged 11–12 years old qualifying in this test. As quality education is the aim of a nation's educational strategy the *Education Watch* project decided to devote its report for the year 2000 to selected aspects of the quality of primary education in Bangladesh.

The *Education Watch* was set up by a group of like-minded institutions and individuals concerned with education in Bangladesh. Co-ordinated by Campaign for Popular Education (CAMPE), a supra body of non-governmental organisations engaged in education, the *Watch* is an annual event through which various aspects of education in the country are highlighted and published. The first *Watch* report entitled *Hope Not Complacency: State of Primary Education in Bangladesh* was published in 1999. The report dealt with the "internal efficiency" of primary education in Bangladesh and reviewed progress in indicators such as enrolment, completion and dropout, attendance, and community participation through nationally conducted field surveys. As mentioned above, quality of education in its simplest form was addressed by administering a pre-designed test called the "Assessment of Basic Competencies" or ABC. As the ABC is a curriculum-independent test, the actual impact of instructional inputs cannot be reflected through such tests.

team assesses the competencies of primary school graduates, as determined by the government". Partly in response to the Education Minister's request and partly for the overall assessment of the situation that the *Watch 2000* was devoted to the study of quality of primary education.

But quality is an all encompassing concept. It represents not only an assessment of competency of primary school graduates but also a plethora of other factors. Figure 1.1 reproduces a framework which is recommended for a comprehensive analysis of the quality of education. It follows a 'input, process, and outcome' format. It is clear that a full appraisal of the quality based on such a framework is overarching and is probably too ambitious at this moment. The *Education Watch* project decided that for its *Watch* report 2000 it would concentrate on two aspects of the quality framework: pupil achievement and teacher education. Teacher education though only one of the input factors but has bearing on several others as it crosscuts into aspects like curriculum, contact time, management and supervision, classroom organisation, learning process, pupil evaluation, and so on.

An exhaustive discussion on the quality aspects of education should begin with, as suggested by this framework, the 'vision' and include other inputs such as curriculum, teaching-learning materials, management and supervision, financing, and equity in access. The education processes, which expedite transformation of the inputs into outcome, are also inseparable in a discussion on quality. Such processes include the teaching-learning process, continuing education of teachers, leadership, and co-curricular activities. There are several parameters through which the outcome of an education system is assessed and

FIGURE 1.1

Quality of education: an analytical frame

Inputs/programme	Process	Output/outcome
Vision	Teaching learning processes	Pupil achievement
Policy	Co-curricular activities	Enrolment, attendance, retention and successful completion
Financing	Activity and pupil records	Quantum and quality of the assistance received from the local community
Curriculum	Classroom organisation and management	General upkeep of the school
Contact time	Community involvement	Student mobility to higher levels and the world of work.
Quality of teachers	Academic leadership role of the head teacher/supervisor	
Management & supervision	Quality of in-service training of teachers	
Physical facilities		
Teacher-student ratio		
Teaching-learning materials		
Equality of access		

Source: Chowdhury et al. (1997)

The then Minister of Education of the Government of Bangladesh while launching the *Education Watch 1999* report invited the *Watch* project to do more in this area. He said, "It would be of help to the government if the study

the framework presents some of these. Pupil achievement is a popular measure for gauging outcome. It may be recalled that *Education Watch 1999* addressed many aspects of this analytical frame including supervision, physical

facilities, teacher-student ratio, access, community involvement, enrolment, attendance, completion, and mobility to higher levels.

Pupil achievement

As mentioned above, the earlier report *Education Watch 1999* assessed the outcome of education by administering a curriculum-independent test called the ABC. It was a very preliminary test that assessed a child's knowledge of the 3R's (Reading, Writing, and Arithmetic) and selected life skills that constituted 'basic education'. Primary education goes much further than basic education and builds a child's foundation for future learning and excellence in life. The government in 1992 introduced a system of competency-based learning system for primary education in Bangladesh. According to this, a child going through the five-year cycle should at the end of the cycle achieve a pre-determined set of 53 competencies (Annexes 1.1 and 1.2 for Bangla and English version respectively). These competencies are of cognitive, psychomotor, and affective type and the students acquire these in a continuum. Although it is nearly ten years since the system was first introduced, there has not been effort worthy of mention that looked at these any systematically. The few studies that were carried out looked at either a few competencies or were restricted in geographical coverage or lacked scientific rigour (Alam 1997; Rahman et al. 1999; Banu 1997; Ray et al 1995). A recent study carried out by a consulting firm with support from National Curriculum and Textbook Board (NCTB) and UNICEF looked at the competencies achieved at the end of Class IV (Rahman 2001). The *Education Watch* decided to examine the achievement of pupils at the end of Class V and to explore the performance of students in terms of the terminal competencies. The *Watch* also decided to bring the three major primary school streams under the assessment: Government Primary School, Registered (and unregistered) Non-government Primary Schools (Private) and Non-formal Primary Schools run by non-governmental organisations. It may be recalled that these three types together constitute 91 percent of primary enrolments in Bangladesh (Chowdhury et al 1999). It may be mentioned that the study by Rahman (2000) did not include the non-formal. In reporting achievement of the competencies by the pupils this study analysed the results

- 1 by finding out what proportion of students achieved mastery in individual, subject wise and all competencies; and
- 2 by computing the average number of competencies achieved.

In order to understand why some students achieve the competencies and others not, this study also looked at the correlates and factors affecting the achievement. This has been done by resorting to bivariate and multivariate

analysis and also by doing ethnographic observation of teaching-learning processes in classrooms. Finally, after the results were analysed these were shared with various stakeholders including the school teachers and their supervisors in all three types of schools. Such sharing not only helped establish the accountability and transparency of the research but also provided important insights on the results.

Teacher education

'Effective school' is a short-term, output-oriented concept. According to Lockheed et al. (1991) an effective school is a function of many factors including implementable curriculum, availability of physical facilities, instructional materials, trained and motivated teachers, and socio-economic background of pupils. It is clear that in such a production function approach the teaching staff play the most central role. Since the teacher plays the pivotal role in an educational institution, her/his motivation and teaching skills determine to a great extent the 'teacher effectiveness' aspect in that institution.

The teacher directly influences the achievement of learners and contributes to their intellectual and all round development. While the school provides the setting where learning takes place and curriculum is transacted, the key in this process is the teacher. According to Govinda and Varghese (1993), "the teacher who plans, directs and participates in the teaching - learning process is the key figure influencing the nature and quality of the activities that take place in any school". It is thus quite likely that the education of the teacher her/himself affect the learning achievement of the students. Studies done in different countries have reported mixed results on the influence of teacher education on students' achievements. A study in Madhya Pradesh in India documented a positive relationship between teachers educational background and learners' achievement (Govinda and Varghese 1993). Another study done in Thailand found a significant impact of pre-service and no impact of in-service training on learning outcomes (Fuller and Clarke 1994). On the other hand, the achievement of the students in BRAC non-formal schools is attributed, among others, to both the in-service and refreshers training. Whatever be the empirical evidence on its effectiveness and outcome the need for and importance of teacher education is well recognised and beyond question. Bangladesh has 54 teacher education institutions for the primary level, 53 of which are run by the state. In addition, the NGOs, have their own training programmes for teachers of non-formal schools. The state and NGOs spend a good amount of resources to maintain these. The *Education Watch* thus decided to look at the state of teacher education in the country. In this, we have done an inventory of trained teachers and their supply, and the practices of pedagogical processes in classroom.

The world has revised its goal of reaching 'Education for All'. Like other countries Bangladesh also plans to achieve EFA by the year 2015. It is expected that the results of this year's *Watch*, like its predecessor, will help take pragmatic steps to reach the goal. The very purpose of the *Watch* project is essentially to contribute to the process for the run up to EFA 2015.

The *Education Watch 2000* is a major venture with two independent stand-alone studies. These are published as two separate volumes: Students' Learning Achievement (Volume II) and Teacher Education (Volume III). This is Volume I and it presents the salient features from the two other volumes. One thus may find repetition of many of the results and analysis in this volume. In other words, Volume I is a concise but extended summary of the two other volumes. In addition, an effort is made here in this volume to link the two studies in an integrated framework of quality of education.

This volume has seven chapters. Chapter I introduces the *Education Watch 2000* and the contents of this volume. The theoretical framework for the analysis of quality in primary education is also presented. Chapter II gives an

overview of the methodology used in the two studies. An assessment of the reliability and validity of the data is also presented here. Chapter III introduces the competency-based system of education and the origin of the 53 competencies for primary level in Bangladesh. This chapter also reports on an exercise in which the two source materials, viz., textbooks and teachers' guides, are examined for their coverage of the competencies. Major results from the evaluation of the competencies are presented in Chapter IV. Pupil performance against each of the tested competencies separately and their overall performance for all competencies are examined. This also examined the factors that affected pupil performance. Chapter V presents a brief summary of the findings from the teacher education study with a particular emphasis on the Primary Teacher Training Institutes (PTI). The findings from the pupil achievement and teacher education components are discussed in chapter VI with an eye on the likely explanations for the results obtained. The final chapter presents the conclusions and policy implications of the results.

Research Methodology

As mentioned already, the broad objective of this year's *Education Watch* is to take a closer look at the quality of primary education in the country. The issue of quality has been addressed from two different but inter-linked angles. One of them is students' achievement in relation to the attainable terminal competencies specified by the National Curriculum and Textbook Board (NCTB) and the other is teachers training. Although they are related as part of an overall quality frame, the methodology chosen to address these were different. We thus present the methodology separately.

Study on Pupil Achievement

The working objectives for this were to:

1. Evaluate the source materials (textbooks and teachers' guides) for Classes I to V prepared by NCTB in terms of graded attainable terminal competencies;
2. Assess the learning achievements of the students at the end of Class V in different school systems based on a nationally representative sample test;
3. Examine relationship between learning achievement and selected background characteristics of the students such as socio-economic status, school related variables and receipt of extra educational inputs; and
4. Observe classrooms to get a picture of the way the teaching takes place vis-à-vis the stated competencies.

Methods applied

In order to achieve the first objective the textbooks and the teachers' guides prepared by the NCTB for Classes I to V were evaluated. Two workshops were arranged for this, each of three days duration. Eighteen persons including

schoolteachers, teachers' educators, NCTB members, other professionals and education researchers participated in the workshops (List of participants in Annex 2.1). The groups discussed each competency and came to a consensus about its coverage in the source materials in percentage terms.

Although there are 53 competencies (see Chapter III) but some of these have more than one dimension (according to Bloom's classification 1956) which implies more than one competency. For example, the competency of 'know about the country and love her' bears two parts. Competency of *knowing the country* belongs to cognitive domain and to *love her* belongs to non-cognitive domain. Separate tools were devised to address these. Of the competencies, 29 belong to the cognitive domain fully or partially, and 40 belong to the non-cognitive domain. For the cognitive competencies, a paper-pencil test was administered and for the non-cognitive ones the teachers were asked to assess their students performance. Although vocabulary in Bangla and English belong to cognitive competencies but because of difficulty in paper-pencil tests these taken with non-cognitive part. Two lists of competencies based on above classification are provided in Annexes 2.2 and 2.3.

A 13 member Technical Team of experts was formed, representing different academic, government and non-government organizations, to help and advice in test development. An expatriate expert from the Indian State of West Bengal worked as a consultant. The persons who took part in the test development included primary school teachers from various streams, teacher educators from the primary teacher training institutes (PTI) of the government, textbook writers, curriculum experts of NCTB, education psychologists, sociologists and statisticians (see Annex 2.4 for list of experts). Annex 2.5 provides a brief summary of major events of the

instrument development process. For more details see Nath et al. 2000.

The final instrument consisted of 64 items, of which 10 were on Bangla language, seven on English language, 15 on Mathematics, 31 on Environmental Studies (incorporating both Science and Social Studies), and one on Religious Studies. Taxonomic analyses of the test items (Bloom et al. 1956) showed that 45 items (70% of the total items) are of knowledge level, 6 of comprehension level, 7 of application level, 3 of analysis level, 3 of synthesis level and none of evaluation level. Test items and minimum qualification level against each competency will be available in Chapter IV while presenting the results.

The tool for the non-cognitive competencies was an 11-point measurement scale which the teachers use regularly in their classes. Separate tools were used to collect socio-economic, educational and school related information of the students (Annexes 2.6 to 2.9).

For the fourth objective three types of schools, located in the rural areas, viz., government, private and non-formal were observed. Two schools for each type were identified for the purpose with the help of the local education authorities. Four researchers with extensive experience in qualitative research carried out the non-participant observation of the classroom activities for five consecutive days for the entire school hours. The classes observed included Bangla, English, Mathematics, and Environmental Studies. A checklist was used for this.

Sampling

Children at the end of Class V in government, private, and non-formal schools comprised the population for the national sample survey. Students studying in the primary sections of the secondary schools were also included with the respective type. For each type, provisions were made for separate estimates for rural and urban areas. This resulted in having six strata for the study.

TABLE 2.1

The study sample for achievement test

Type of school	Rural		Urban		All	
	No. of schools	No. of students	No. of schools	No. of students	No. of schools	No. of students
Government	30	412	30	420	60	832
Private	31	417	33	414	64	831
Non-formal	31	422	31	424	62	846
All	92	1,251	94	1,258	186	2,509

The rural sampling frame included all the rural areas under the six administrative divisions and the urban frame included the four metropolitan cities and the non-metropolitan urban settlements. Following a multi-stage sampling strategy a total of 60 union/ward (30 unions for

rural and 30 wards for urban areas) was selected for the study (see Figure 2.1 for location of the sample spots). In each union/ward separate lists of schools of different types were prepared and then one school of each type was randomly selected. In each selected school seven girls and seven boys in Class V were selected for administering the test through a systematic random sampling procedure.

A total of 2,509 students of Class V from 186 schools were included for the assessment (Table 2.1). Since the number of students in Class V varied substantially among different type of schools and by gender¹, weights were used in pooling estimates for rural and urban Bangladesh, and for the national level using standard statistical procedure (Cochran 1977). See Annex 2.10 for technical details on sample size determination and weighting.

Field investigation

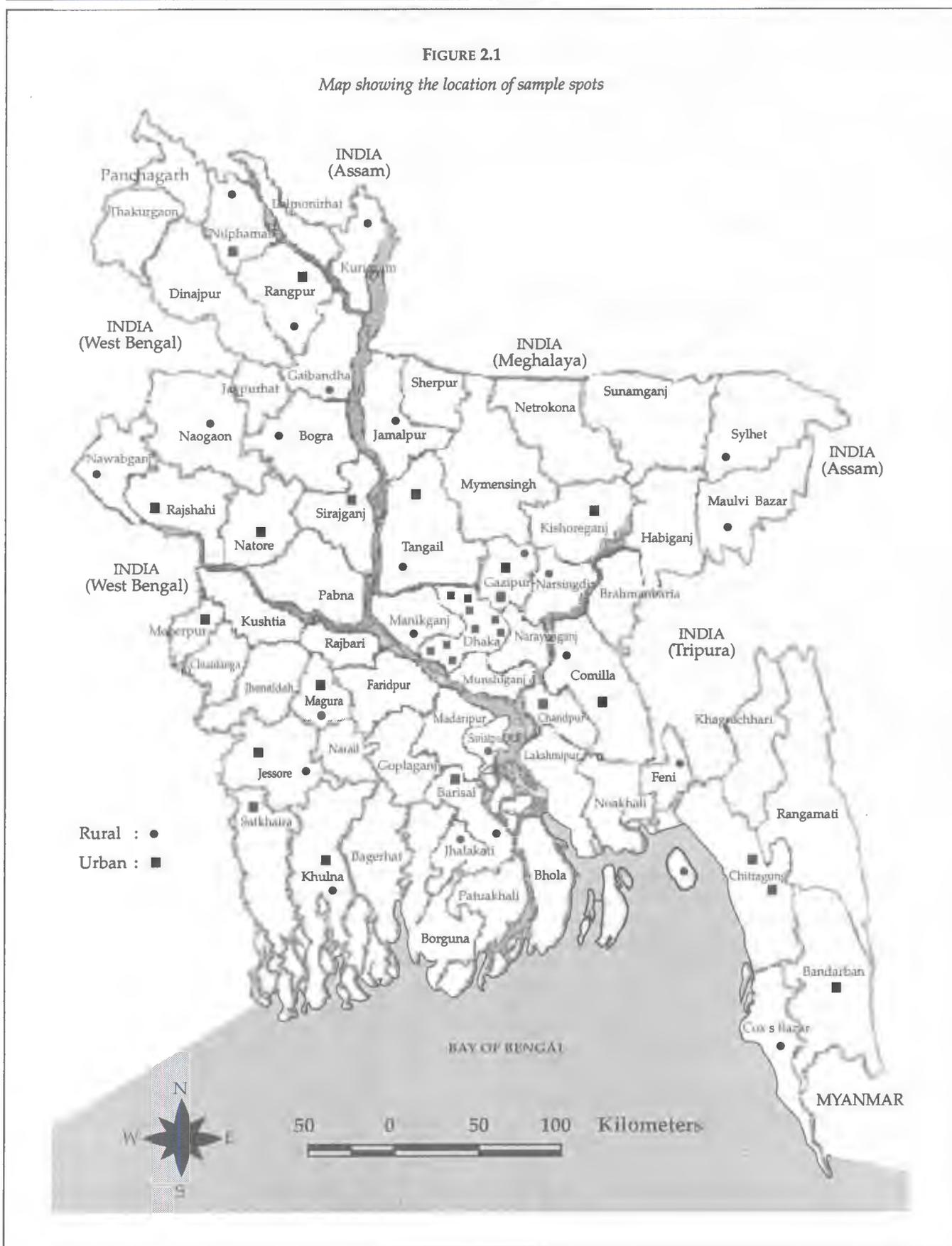
A total of 47 investigators (10 females and 37 males) were engaged in testing and other data collection for the study. They were trained for six days. A detailed instruction manual was used for this (Nath 2000). Twenty teams of test administrators were formed with two persons in each. Seven supervisors oversaw the work of 20 teams. The tests were held in students' own classrooms. After completing tests in a school the test administrators interviewed the headteacher for school information and parents for socio-economic information. Interview for school survey was held in the school premises and the parents/guardians of the students were interviewed at their houses. For more details on testing procedure and other data collection techniques see Volume II of this series. The field work was done from mid-October to mid-November, 2000, just before the annual examinations commenced.

Data quality, validity and reliability

Several steps were taken to ensure the quality of the data. These included random visits to the teams by field level supervisors and researchers from BRAC head office, and post-enumeration check. The comparison of enumerated and post-enumerated data showed that their quality was good as most of the indicators matched in about 90 percent of the cases (Annex 2.11). Since the instrument reflects the national terminal competencies, the items were drafted by a group of practitioners, and national level experts did the revalidation, these confirm the content validity of the instrument. To test the external validity of the instrument the 'best students' of 10 'best schools' in the capital were administered the same

¹ For instance, number of girls in non-formal schools is about double that of boys.

FIGURE 2.1
Map showing the location of sample spots



instrument. The excellent performance of these students confirm the external validity (Annex 2.12). Reliability of each of the items was ensured, during test development, through test-retest method. The reliability of the whole set of items, which was assessed through Kuder-Richardson formula 20 was 92 percent (Kuder and Richardson, 1937; Carmines and Zeller 1979). For more details see Volume II of this series and Nath et al. 2000.

Study on Teacher Education

The objectives for this were to:

1. Do an inventory on the current stock of trained teachers at the primary level belonging to different types of schools and their distribution;
2. Document the supply of trained primary teachers through different government and non-governmental institutions including the curriculum, course contents, pedagogy, duration, and costs; and
3. Document the relationship between the classroom practices and the training originally offered to them.

Methods of research

Secondary data from different institutions including the Bangladesh Bureau of Statistics (BBS), Bangladesh Bureau of Educational Information and Statistics (BANBEIS), National Academy for Primary Education (NAPE), the Primary and Mass Education Division (PMED) of the government and the Centre for Policy Dialogue (CPD) were used. Primary data collected through qualitative and quantitative methods including focus group discussion (FGD), case study and field level discussion were done. Quantitative data through structured pre-designed questionnaires and schedules were also used.

Sample size

There are 54 primary teacher training institutes (PTI) with 53 in the government and one private. As these are spread all over the country samples for the study came from all six administrative divisions. In each selected PTI and training centre, instructors and their trainees were selected for interview. A total of 86 instructors in the government PTIs, five in the private PTI and 23 in NGO training centres were interviewed. Likewise, 255 trainees in government PTIs, 26 in private PTI and 55 in NGO training centres were also interviewed.

To understand how well the trained teachers are able to practice what they learned in PTIs, 69 government primary and 16 non-formal schools with trained teachers were visited. For comparison, 50 schools where no trained teachers existed were also visited. In these schools, a total of 233 classrooms were observed to document the behaviour of the teachers vis-à-vis their training.

Data collection

Field investigators were recruited to collect the data. They were university graduates with previous experience in similar kind of studies. However, they were adequately trained by the researchers on this particular research. The questionnaires and other tools used were adequately tested and discussed with the members of the *Education Watch* Working Group.

Strengths and Weaknesses of the Studies

Like any other study this also bears some strengths as well as weaknesses. The strengths and weaknesses of the studies are presented below.

Strengths

1. The instrument used for testing the learning achievement of the students was developed by a team of professionals from different levels, including grassroots practitioners to national experts. This ensured a practical measurement instrument.
2. Reliable as well as valid data could be generated through this study.
3. There are other studies on NCTB adopted terminal competencies, but these are limited in scope and coverage. Since the implementation of the competency based primary education in the country was done in 1992, *Education Watch 2000* tried for the first time to address all the national terminal competencies in the assessment process at the end of primary cycle.
4. Data for the learning achievement study was generated through a national sample survey with provision of separate estimates for rural and urban schools. Comparison of three different sub-systems provided an added value to this study.
5. The teacher education study is a first of its kind in Bangladesh. It provided valuable information on the teacher education scenario.
6. The teacher education study provided a basis for assessing the role of teacher education in quality enhancement of primary education.

Weaknesses

1. No complete list of schools was available nationally for use in sampling for the assessment of pupil achievement. Thus, cluster wise sampling had to be done. This might have added some error in the estimates.
2. Competency study did not cover all the streams of primary education. The Madrassa and English medium kindergartens were kept out of the study. As these two types of institutions cover about 7.3 percent of all students at primary level, the aggregate estimates of this study might not be considered as national estimates.

-
3. The students were not informed about the achievement test aprior. Although such a situation did not create any barrier in the purpose of their physical representation in a statistical sense, it might have influenced in the performance of the students. Again, there may be ethical question on taking a learning achievement test without allowing any time for preparation.
 4. No formal paper-pencil test could be developed for the assessment of non-cognitive competencies. Although it was tried to ensure similarity in the assessment process through adopting a set of criteria for the competencies, teachers' assessment of their own students are subject to biases.
 5. No direct assessment of the impact of teacher education on pupil achievement could be made.
 6. The sample for some parts of the teacher education study was rather small.

Competencies and their Reflection in Source Materials

Competency-based Education

Competency-based education is an education that focuses on students' acquisition of specific competencies. Such an educational programme includes a set of learning objectives that are clearly specified so that their accomplishment can be understood in the form of specified learner behaviours and knowledge. Minimum levels of achievement of these objectives are established as a criterion of success. The students know in advance the levels of mastery to be used as criteria of successful achievement (Hall and Jones 1976).

A competency-based teacher education programme specifies the competencies to be demonstrated by the students, makes explicit the criteria to be applied in assessing the students' competencies, and holds the students accountable for meeting those criteria (Anderson et al 1983). The concept of a competency-based education system is both an old and an ever-evolving idea. The concept was first introduced in America in the late 1960's in teacher education. It was later adapted to other professional education in USA and to vocational training programmes in UK and Germany.

Although the imperatives for the introduction of competency-based education have been different in different countries, and the ways in which this concept has been operationalised have changed over time, the basic principles and intentions of competency-based education have remained essentially unchanged since the 1960s. The reasons and need for this are the followings.

- gives focus on outcomes
- greater workplace relevance
- outcome as observable competencies
- assessments as judgements of competence
- improved skills recognition and
- improved articulation.

The Bangladesh Case

In Bangladesh competency-based curriculum development was attempted as a process for curriculum renewal. This was a major departure from the highly centralised curriculum development/renewal efforts that were in practice earlier. It was an integrated exercise in which the various components of curriculum development and its implementation were planned as integral component of the total process of primary education improvement.

A distinguishing feature of this new venture was the scientific and detailed exercise of identifying a set of 53 essential terminal competencies to be attained by most children through the five-year cycle of primary education. These essential competencies were based on the Constitution of the Peoples Republic of Bangladesh and other important national documents and devised through the involvement of reputed educationists of the country. The 53 essential competencies are claimed to provide the profile or the vision of the all round development of a child who completes the five-year cycle of primary education. Based on this a stepwise sequence of the learning continuum was worked out for each of the terminal competencies subject-wise. The Essential Learning Continuum (ELC) thus developed provides a national framework in the context of universalisation of primary education (UPE). Annexes 1.1 and 1.2 provide the competencies and their English translations.

In 1986 a qualitative reform of primary education through the curriculum renewal programme was initiated at the National Curriculum and Textbook Board (NCTB). As a result of this Bangladesh introduced a competency-based curriculum at the primary level, identified as ELC, which was fully implemented in an incremental way in 1992-96 in Classes I to V. It has been found that most of the

learning competencies in five subject areas (Bangla, English, Mathematics, Social Studies and Science) reflect the lower cognitive level, viz., knowledge, comprehension and application.

A recent review looked at the competencies and recommended some further work. It called for an examination of possible enhancement, re-examination of the terminal and class-wise competencies to focus the development of higher order thinking skills and critical thinking. It also called for inclusion of additional competencies in the affective and psychomotor domains which are least reflected in the Class-wise and subject-wise competencies.

Reflection of Competencies in Source Materials

The source materials recommended by NCTB to transact the competencies to learners are the textbooks and teachers guides. Needless to mention that the achievement of the competencies is a direct function of how well these are covered in the said materials, particularly the textbooks.

Bloom and colleagues (1956) categorised learning outcomes (or competencies in our case) into three major domains: cognitive, psychomotor, and affective. *Cognitive domain* includes the area of knowledge and thinking. Physical activities, habit formation, skills development, performance in real life are all under *psychomotor domain*. On the other had *affective domain* includes belief, faith, outlook, attitude, interest, etc. Not all 53 competencies are readily and directly identified with one or the other domain. Some are exclusively cognitive, psychomotor, or affective but others are a combination of two or three domains. For example there are 29 cognitive type of competencies of which 13 are exclusively cognitive but the rests are mixed with other types. Thus although there are 53 competencies in theory, the actual number of competencies in practice is 76. Table 3.1 shows the number of competencies according to Bloom's classification.

As mentioned in the previous chapter, a group of experts analysed the source materials for each competency

to assess the extent of coverage. The assessment was then categorised qualitatively into the following five categories:

- *Excellent*: Covered over 90 percent of the relevant competency in the textbooks/ teachers' guides.
- *Fairly well*: Covered 81-90 percent of the relevant competency in the textbooks/ teachers' guides.
- *Well*: Covered 71-80 percent of the relevant competency in the textbooks/ teachers' guides.
- *Satisfactory*: Covered 51-70 percent of the relevant competency in the textbooks/ teachers' guides.
- *Poor*: Covered 50 percent or below of the relevant competency in the textbooks/ teachers' guides.

Table 3.2 shows that the competencies are well reflected in source materials. It seems that the competencies are better covered in teachers' guides than textbooks. None of the competencies is poorly covered in either the textbooks or teachers' guides.

Of the 29 cognitive competencies, 11 were excellently

TABLE 3.1

Number of competencies according to Bloom's classification

Classification	No. of competencies
Cognitive	29
Affective	19
Psychomotor	31
Total	76

covered in textbooks and 24 in teachers' guides. Box 3.1 presents the ten cognitive competencies that are 'excellently' reflected in both the textbooks and teachers' guides.

Likewise, Box 3.2 gives a list of 12 competencies which are 'excellently' reflected in teachers' guides but not in textbooks. There were three competencies which were 'well' reflected in both source materials, and hence needs further improvement (Box 3.3).

TABLE 3.2

Extent of reflection of the competencies in source materials

Extent of reflection	Cognitive		Affective		Psychomotor		Total	
	Text -book	Teachers' guide	Text -book	Teachers' guide	Text -book	Teachers' guide	Text -book	Teachers' guide
Excellent	11	24	5	10	10	18	26	52
Fairly well	15	3	7	03	15	8	37	14
Well	3	2	3	03	2	1	8	6
Satisfactory	-	-	1	-	4	4	5	4
Poor	-	-	-	-	-	-	-	-
Total	29	29	16	16	31	31	76	76

Box 3.1

Cognitive competencies "excellently" covered in both the source materials

- Know the life history of prophet Mohammad or the preachers of own religion
- Know about the country
- Understand the importance of good health
- Prevention of common diseases
- Reading skills in Bangla
- Basic number skills
- Four basic rules of arithmetic
- Observation skills to understand social and natural environmental
- Scientific investigation skills
- Reading skills in English

Box 3.2

Cognitive competencies "excellently" covered in the teacher's guides, but not in the textbooks

- Duties as family member
- Duties as member of society
- Duties as citizen of Bangladesh
- Physical and environmental health systems
- Writing skills in Bangla
- Listening skills in Bangla
- Problem solving in Mathematics
- Measurement units
- Identification of geometric figures
- Identification of cause and effect relationship
- Importance of science and technology in everyday life
- Know about the children of other countries

Box 3.3

Cognitive competencies needing improvement in coverage in both the source materials

- Information collection ability.
- Listening skills in English; and
- Vocabulary in English

Table 3.2 also shows that of the competencies under affective domain five were 'excellently' covered in the textbooks and 10 in the teachers' guides. On the other hand, of the psychomotor competencies 10 were covered

'excellently' in the textbooks and 18 in teachers' guides. Four competencies of the former type and six of the latter type were identified which needed improvement. For more details see volume II of the series.

Chapter Four

Learning Achievement of Pupil

This chapter presents learning achievement of the students. Students performance in each of the competencies separately and overall performance in each subject area are presented here. Overall performance of the students in all 27 competencies including average number of competencies achieved are also presented. Finally, relationship between learning achievement and selected background characteristics such as socio-economic status of the students, school related variables and receipt of extra educational inputs are provided. The results are presented according to school type (government, private, and non-formal), residence (rural, urban), and gender (girls, boys).

Achievement of Bangla Competencies

The students start learning Bangla language from Class I. Bangla is the mother tongue. There are four competencies in Bangla but only three have been tested for this study. These are *reading*, *writing* and *listening*. Ten items formed the basis for the assessment. Table 4.1 gives a summary of the competencies, the test items and the minimum level needed to qualify for each.

TABLE 4.1

Competencies, test items and minimum levels for Bangla

Competency	Test items	Minimum level
Reading	• Answer two MCQ items from a printed paragraph	Answer one correctly
	• Answer two MCQ items from a handwritten paragraph	Answer one correctly
Writing	• Describe a given scenery in four sentences	Answer correctly
	• Describe own home in four sentences	any three on the left

Contd

Contd. Table 4.1

Competency	Test items	Minimum level
	<ul style="list-style-type: none"> • Fill out a given form with eight blanks (any six is acceptable) • Write an application with date, salutation, and closing (message with any two acceptable) 	
Listening	Answer two MCQ items based on a pre-recorded paragraph	Answer one correctly

Reading of Bangla

Students' ability to read from printed and hand-written materials was assessed. Nearly 65 percent of the students satisfied the minimum requirement. There was no difference between the school type. However, significant differences were found between rural and urban areas and between girls and boys. Children in urban areas were ahead of their rural counterparts and boys were ahead of girls (Table 4.2).

Writing of Bangla

There are a number of competencies to be achieved in terms of writing of Bangla. The children were asked to write on seen and unseen objects and were also expected to fill out a form and write an application. Over 55 percent of the students satisfied the minimum requirements. There was no gender difference but there were differences between the school type and between rural and urban children. Urban children did better than rural children. The students going to private schools did worst and those of non-formal schools the best (Table 4.2).

Listening Bangla

A very large proportion (around 80%) of students achieved this competency. The urban children's achievement was significantly better than that of rural children. However, there was no difference between the school type or between girls and boys (Table 4.2)

TABLE 4.2

Proportion of students achieving competencies in Bangla

Group	Reading	Writing	Listening	All Bangla
School type				
Government	64.3	55.4	80.0	35.7
Private	64.8	47.0	80.3	34.6
Non-formal	66.6	67.0	81.4	43.2
Significance	ns	p<0.001	ns	p<0.001
Residence				
Rural	63.1	53.4	78.5	34.0
Urban	70.9	63.6	87.2	46.5
Significance	p<0.001	p<0.001	p<0.001	p<0.001
Gender				
Girls	61.6	53.5	79.7	33.2
Boys	68.6	57.4	80.7	39.8
Significance	p<0.001	ns	ns	p<0.001
Total	64.7	55.4	80.2	36.5

ns = statistically not significant at $p = 0.05$

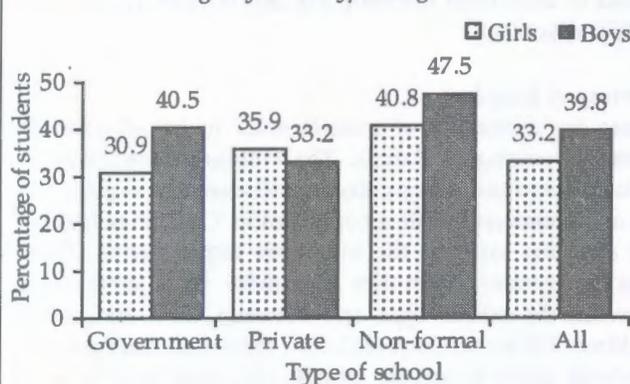
Source: Education Watch Learning Achievement Survey (2000)

Overall performance in Bangla

Just over a third of students achieved all three competencies in Bangla language (Table 4.2). There was no significant difference between the school types or between the gender groups but urban children did significantly better than their rural counterparts. Figures 4.1 and 4.2 show the difference between girls and boys and between rural and urban areas respectively for different types of schools. Boys are ahead of girls in both government and non-formal schools but for private schools girls are slightly ahead. In respect of residence, the urban children are

FIGURE 4.1

Percentage of students achieving all three competencies in Bangla by school type and gender

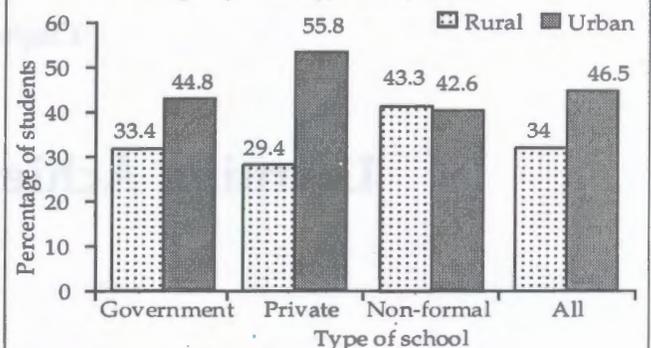


Source: Education Watch Learning Achievement Survey (2000)

greatly advantaged in private schools and also quite significantly in government schools. Interestingly this is reversed in non-formal schools where the achievement of rural and urban children is equal.

FIGURE 4.2

Percentage of students achieving all three competencies Bangla by school type and of residence



Source: Education Watch Learning Achievement Survey (2000)

Achievement of English Competencies

Students start reading English as a second language from Class I. Of the 53 competencies four are in English. Of that three have been taken for assessment, which are, *reading*, *writing* and *listening*. A total of seven items were put to the students in the test instrument. Table 4.3 gives a summary of the competencies, test items and the minimum level needed to qualify for each of the English competencies.

TABLE 4.3

Competencies, test items and minimum levels for English

Competency	Test items	Minimum level
Reading	• Answer two MCQ items from a printed paragraph	Answer one correctly
	• Answer two MCQ items from a handwritten paragraph	Answer one correctly
Writing	• Describe a given picture in five sentences	Write three sentences correctly
Listening	Answer two MCQ items based on a pre-recorded dialogue between two friends	Answer one correctly

Reading of English

Students ability to read from printed and hand-written English was assessed. Table 4.4 shows that 58.6 percent of the students achieved reading competency in English. There was no difference between girls and boys. Children between school type and between rural and urban areas differed significantly. Students of non-formal schools and those of urban areas did better. Between the hand written and printed materials, the students read and understood the printed materials better than hand-written materials (Annex 4.1).

Writing of English

As Table 4.3 shows the students were asked to describe a given picture in five sentences. This turned out to be one of the hardest items for the students. Over a third did not attempt it at all and another third failed to write a full sentence. The non-response rate was highest for private schools and lowest in non-formal schools (Figure 4.3).

TABLE 4.4

Proportion of students achieving competencies in English

Group	Reading	Writing	Listening	All English
School type				
Government	57.1	9.3	75.0	7.3
Private	58.5	12.9	61.0	9.3
Non-formal	67.6	29.0	67.2	21.2
Significance	p<0.001	p<0.001	p<0.001	p<0.001
Residence				
Rural	54.2	10.6	70.0	7.8
Urban	76.2	19.6	77.7	15.8
Significance	p<0.001	p<0.001	p<0.001	p<0.001
Gender				
Girls	58.4	13.6	72.5	10.6
Boys	58.6	11.0	70.4	8.0
Significance	ns	p<0.05	ns	p<0.05
Total	58.6	12.3	71.6	9.4

ns = statistically not significant at p = 0.05

Source: Education Watch Learning Achievement Survey (2000)

Listening English

Similar to Bangla, a large proportion of students (over 70%) qualified in the listening test for English. There was no difference between girls and boys but students of urban areas did better than their rural counterparts. Students of government schools did the best (75%) and of private schools the worst (61%).

Overall performance in English

Less than ten percent students achieved all competencies in English (Table 4.4). Girls did slightly better than boys. The difference between rural and urban areas was statistically significant and so was between different types of schools. Figure 4.4 and 4.5 show the difference between girls and boys and between rural and urban areas for different types of schools. In both government and non-formal schools, the girls did better than boys but it was reverse in case of private schools. Although the urban children did better than rural children in both government and private schools, it was the reverse in case of non-formal schools.

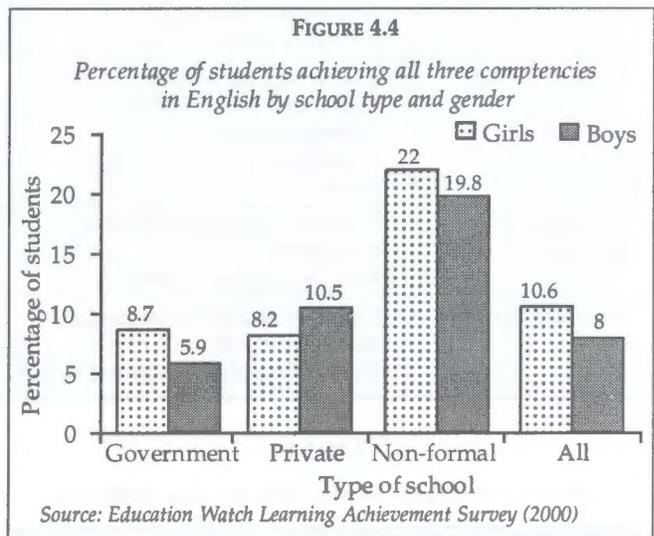
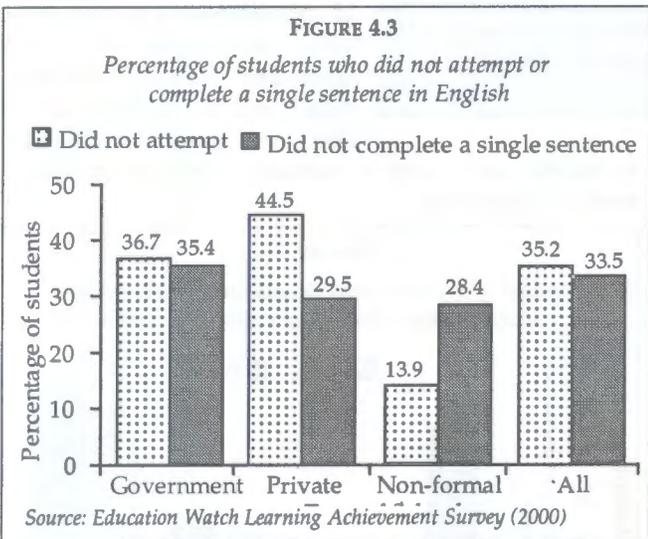
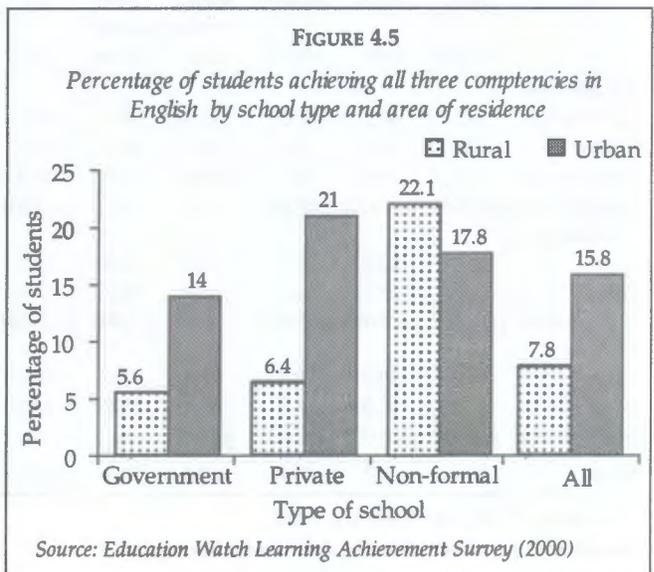


Table 4.4 gives detailed results on the performance in English language for different groups. Only 12.3 percent of the tested students satisfied the minimum requirements. Significant intra-group differences existed for type of school, residence and gender groups. Among the type of schools, the non-formal students did the best with 29 percent qualifying and the government school students worst with 9.3 percent. Girls did better than boys and urban students were ahead of rural students (Table 4.4).



Achievement of Mathematics Competencies

Competencies in Mathematics mostly cover arithmetic skills and skills on geometry. There are five competencies in Mathematics. These are: basic numbers, four basic rules, problem solving, measurement units, and geometric figures. Table 4.5 gives a summary of the competencies, test items and the minimum level needed to qualify for each of the Mathematics competencies.

TABLE 4.5

Competencies, test items and minimum levels for Mathematics

Competency	Test items	Minimum level
Basic numbers	<ul style="list-style-type: none"> • Arrange four given numbers in ascending order • Identify the largest number made by four given digits 	Answer correctly any one of the items on the left.
Four basic rules	<ul style="list-style-type: none"> • An addition • A subtraction • A multiplication • A division • A simplification 	Do the simplification correctly or any three of the four others
Problem solving	Four sums needing skills on <ul style="list-style-type: none"> • Basic arithmetic operation • Unitary method • Percentage • Graph 	Answer correctly any two of the items on the left
Measurement units	<ul style="list-style-type: none"> • Convert 5 hours & 25 minutes to seconds • Find the length of a pencil 	Answer correctly any one of the items on the left
Geometric figures	<ul style="list-style-type: none"> • Find the number of triangles and rectangles in a figure • Identify four given geometric figures 	Answer correctly any one of the items on the left

TABLE 4.6

Proportion of students achieving competencies in Mathematics

Group	Basic number	Four rules	Problem solving	Measurement units	Geometric figures	All Math
School type						
Government	71.2	42.1	25.0	43.0	55.1	10.6
Private	63.9	38.4	20.9	46.2	50.1	10.0
Non-formal	75.1	71.9	33.1	44.1	52.4	18.9
Significance	p<0.001	p<0.001	p<0.001	ns	ns	p<0.001
Residence						
Rural	68.0	42.7	23.1	43.3	49.8	10.4
Urban	80.2	55.3	34.3	45.8	70.2	16.1
Significance	p<0.001	p<0.001	p<0.001	ns	p<0.001	p<0.001
Gender						
Girls	68.6	39.5	22.4	40.7	52.0	10.5
Boys	72.3	51.3	28.5	47.1	55.7	12.7
Significance	p<0.05	p<0.001	p<0.001	p<0.05	ns	ns
Total	70.5	45.1	25.4	43.8	53.9	11.6

ns = statistically not significant at p = 0.05

Source: Education Watch Learning Achievement Survey (2000)

Knowledge of numbers

Table 4.6 gives the results on the proportion of students who attained this competence as defined in the previous table. Nationally 70.5 percent students attained this. The boys were ahead of girls and children of urban areas did significantly better than those of rural areas. The students of non-formal schools were ahead of all other types of schools tested.

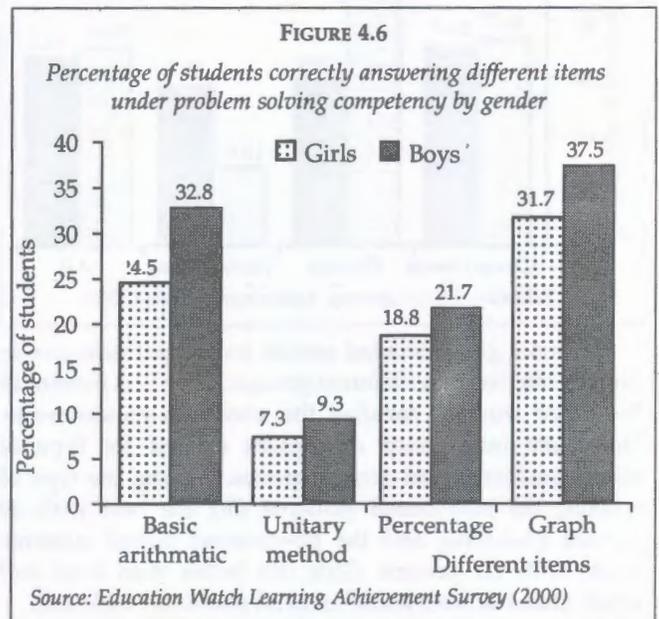
Skills of four basic rules

Forty five percent of the students tested attained this competency (Table 4.6). Intra-group differences persisted here. Boys did better than girls and urban students were ahead of their rural counterparts. The students of non-formal schools did better than students of other two types.

Skills on problem solving

A quarter of the students qualified in this competency. Intra-group differences persisted in this as well with the boys doing better than girls, students of urban areas doing better than those by rural areas and students of non-formal schools doing better than other two types. (Table 4.6). There were four items tested and the children did the best in graph and basic

arithmetic, and worst in solving a problem in unitary method (Figure 4.6)



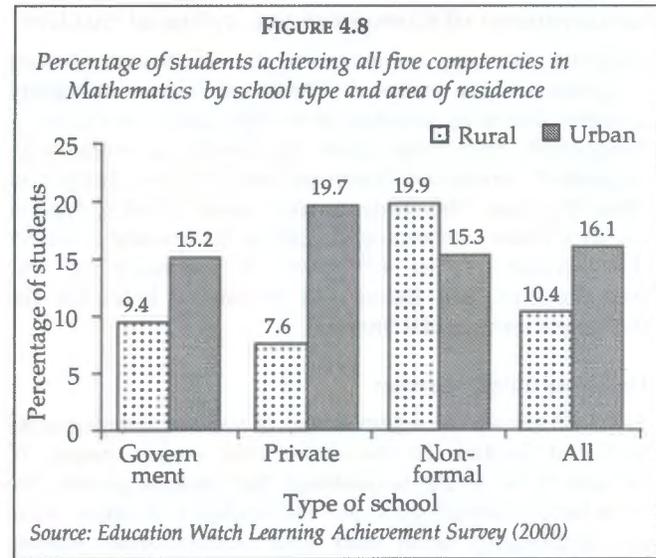
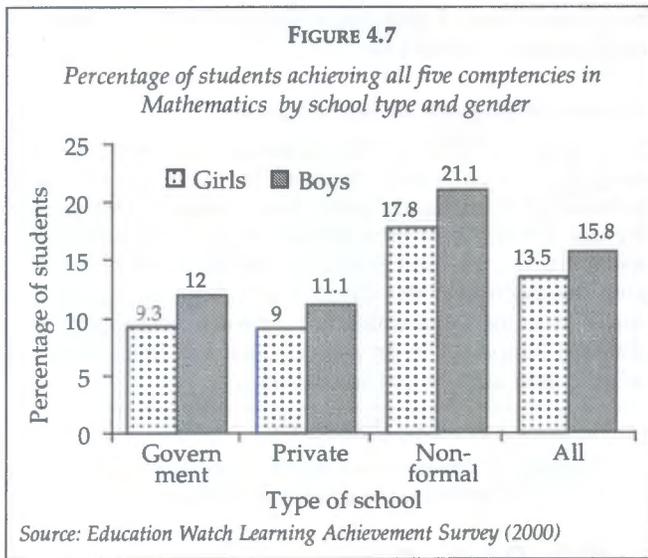


TABLE 4.7
Competencies, test items and minimum levels in Social Studies

Competency	Test items	Minimum level
Duties as family member	<ul style="list-style-type: none"> How a family becomes a happy family Responsibility of family members 	Answer correctly any one of the items on the left
Duties as a member of the society	<ul style="list-style-type: none"> Responsibility as a member of the society Why one shouldn't play radio/TV loudly 	Answer correctly any one of the items on the left
Duties as citizen of Bangladesh	<ul style="list-style-type: none"> Responsibility as a citizen Eligibility to vote in national elections 	Answer correctly any one of the items on the left
Knowledge about the country	<ul style="list-style-type: none"> Independence day Major transportation system Place of highest rainfall 	Answer correctly any two of the items on the left
Manners with other people	<ul style="list-style-type: none"> Right manners with teachers Right manners to younger siblings 	Answer correctly any one of the items on the left
Knowledge about children of other countries	<ul style="list-style-type: none"> Main food for of the children of Maldives Popular games in Nepal 	Answer correctly any one of the items on the left

TABLE 4.8
Proportion of students achieving competencies in Social Studies

Group	Duties as family member	Duties as member of society	Duties as citizen of Bangladesh	Knowledge about the country	Manners with other people	Children of other countries	All Social Studies
Schools type							
Government	68.8	82.2	64.6	39.9	76.0	53.5	18.8
Private	64.9	76.0	62.6	45.5	73.8	46.8	17.6
Non-formal	76.4	82.5	66.6	50.3	81.1	44.8	23.7
Significance	p<0.001	p<0.001	ns	ns	p<0.01	p<0.001	p<0.01
Residence							
Rural	67.0	78.5	60.5	38.5	73.8	47.8	16.5
Urban	77.6	92.0	80.7	57.0	86.0	65.1	30.2
Significance	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001
Gender							
Girls	67.0	77.7	59.3	40.1	73.3	48.3	18.5
Boys	71.4	85.7	70.0	44.3	79.5	54.3	19.9
Significance	p<0.05	p<0.001	p<0.001	p<0.05	p<0.001	p<0.01	ns
Total	69.1	81.2	64.6	42.2	76.3	51.3	19.2

ns = statistically not significant at p = 0.05

Source: Education Watch Learning Achievement Survey (2000)

Knowledge of measurement units

Nearly 44 percent attained this competency. There was not much intra-group difference except that boys did better than girls (Table 4.6).

Knowledge of geometric figures

Over half of the students attained this competency. Except that urban children did better than rural children, there was no significant difference within other groups (Table 4.6).

Overall performance in Mathematics

Overall, less than 12 percent students attained all five competencies in Mathematics. Boys did better than girls, urban children did better than their rural counterparts and children of non-formal schools were ahead of students of government and private schools. Figures 4.7 and 4.8 give further details of the results in Mathematics where the performance for different schools are provided according to gender and residence. As Figure 4.7 shows boys did better irrespective of whether he is in government, private or non-formal schools. But as Figure 4.8 shows the urban children did better than rural children for both government and private schools. In non-formal schools, however, the children of rural areas showed better results.

Achievement of Competencies in Social Studies

Students learning achievement in six Social Studies competencies are assessed. These are: duties as family member, duties as member of society, duties as citizen of Bangladesh, knowledge about the country, manners with persons of various relationships, and to know children of other countries. The students were asked 13 MCQ type of question items concerning the above competencies under this section. Table 4.7 gives a summary of the competencies, test items and minimum level for the competencies in Social Studies.

Duties as family member

Table 4.8 shows the achievement of various competencies in Social Studies. In the above competency, nearly 70 percent of the students qualified. For various groups, the boys outperformed girls and the students of urban areas did significantly better than those of rural areas. Among the school types, the non-formal school students showed the best results.

Duties as member of society

Over 80 percent of the students attained this competency. Boys did better than girls and children of urban areas did better than those of rural areas. Students attending government and non-formal schools did equally well with those of private schools trailing behind (Table 4.8).

Duties as citizen of Bangladesh

Nearly two-thirds of the students knew what are the duties as citizens of Bangladesh. There was no difference between the students attending the various schools type. However, boys continued to do better than girls and urban children better than rural children (Table 4.8).

Knowledge about the country

Forty two percent of the students had the required knowledge on selected aspects of Bangladesh as a country. The type of school students attend to did not make any difference in their performance. However, boys did better than girls and urban children were ahead of rural children (Table 4.8).

Manners with other people

Three quarters of the students knew the manner which are recommended as appropriate for children. There were, however, intra-group differences. The children of non-formal schools did better than other type, urban children were ahead of rural children and boys outperformed the girls (Table 4.8).

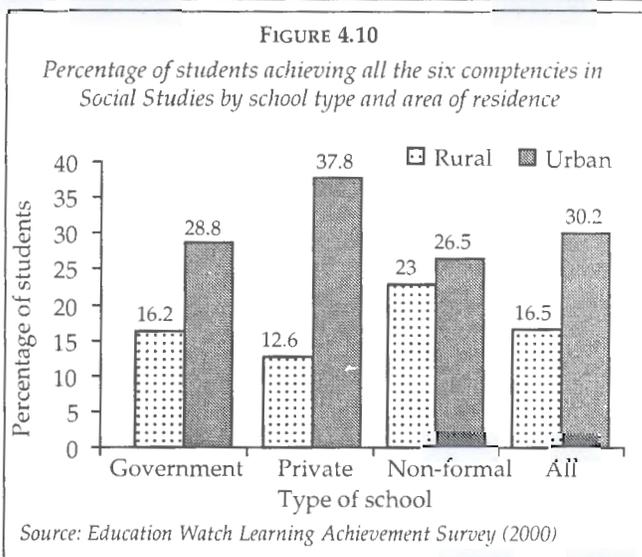
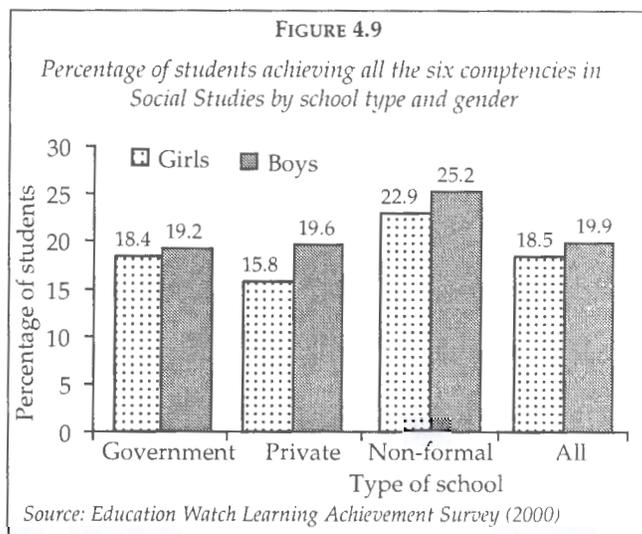
Knowledge about children of other countries

Just over half of the students attained this competency. Similar to the above competencies, intra-group difference existed for different groups. The students of government schools were ahead of students of other school type including the private and non-formal schools. Also, the

boys were ahead of girls and urban children were ahead of rural children (Table 4.8).

Overall performance in Social Studies

Less than a fifth of the students attained all five competencies in Social Studies. The children of urban schools did significantly better than those of rural schools. Figures 4.9 and 4.10 give further details of the results in social studies. Figure 6.9 shows that boys did better than girls irrespective of the school they attend to. Figure 4.10 shows that the most difference between urban and rural children happened in private schools, less in government schools, and least in non-formal schools.



Achievement of Competencies in General Science

Of the nine competencies assessed under General Science, four are on physical and environmental health, and rests on science and technology. A total of 18 question items, two for each, were put, all questions being of MCQ type. The competencies are: understanding the importance of good health, knowing physical and environmental health

TABLE 4.9
Competencies, test items and minimum levels for General Science

Competency	Test items	Minimum level
Knowledge about importance of good health	<ul style="list-style-type: none"> • How good health is achieved • Why one takes carbohydrate 	Answer correctly any of the items on the left
Knowledge about physical and environmental health	<ul style="list-style-type: none"> • Which tubewell water is safe • How diarrhoea spreads 	Answer correctly any of the items on the left
Knowledge of balanced diet	<ul style="list-style-type: none"> • What is a balanced diet • Why should adolescents take extra food 	Answer correctly any of the items on the left
Knowledge about prevention of common illnesses	<ul style="list-style-type: none"> • Transmission of worms • Skin diseases 	Answer correctly any of the items on the left
Information collection ability	<ul style="list-style-type: none"> • What is the fastest mass media • Highest and lowest temperatures during summer 	Answer correctly any of the items on the left
Observation skills	<ul style="list-style-type: none"> • Which tree has no branch • Plant without a flower 	Answer correctly any of the items on the left
Scientific investigation	<ul style="list-style-type: none"> • Identification of preventive measures for given illness • Identify effects of over population 	Answer correctly any of the items on the left
Cause and effect relationship	<ul style="list-style-type: none"> • Energy that causes a boiling kettle lid to move up • Energy which drives a bullock cart 	Answer correctly any of the items on the left
Everyday science	<ul style="list-style-type: none"> • What is information communication • What are modern agricultural technologies 	Answer correctly any of the items on the left

systems, understand importance of balanced diet, know the preventive measures of common diseases, having information collection ability, observation skills on natural objects, ability in scientific investigation, identification of cause and effect relationship, and science and technology in everyday life. Table 4.9 lists the competencies, the items chosen and the minimum level for each competency.

Knowledge about importance of good health

Eighty three percent of the students attained this competency. There was no gender difference. The students of private schools were ahead of government school and children of urban schools were significantly ahead of rural students (Table 4.10).

TABLE 4.10
Proportion of students achieving competencies in General Science

Group	Importance of good health	Physical & environmental health	Balanced diet	Prevention of common illnesses	Information collection ability	Observation skills	Scientific investigation	Cause & effect relationship	Everyday science	All Science
School type										
Government	82.6	74.1	61.5	83.7	78.1	74.4	65.4	56.2	71.7	16.7
Private	79.7	71.8	58.5	55.0	79.4	60.6	62.8	58.0	63.9	17.6
Non-formal	88.0	83.0	65.8	59.5	80.4	77.3	64.0	64.7	54.6	20.3
Significance	p<0.001	p<0.001	p<0.01	p<0.05	ns	p<0.001	ns	p<0.001	p<0.001	ns
Residence										
Rural	79.9	71.3	57.1	51.7	76.0	70.4	61.7	54.5	64.7	13.4
Urban	94.6	88.9	79.2	66.3	88.9	80.2	77.2	70.3	82.4	32.8
Significance	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001
Gender										
Girls	81.5	72.0	59.0	55.8	78.5	71.1	62.8	53.6	65.8	16.9
Boys	84.1	77.8	64.2	53.3	78.6	73.7	66.8	61.9	70.8	17.6
Significance	ns	p<0.001	p<0.01	ns	ns	ns	p<0.05	p<0.001	p<0.01	ns
Total	82.8	74.8	61.6	54.7	78.6	72.4	64.8	57.6	68.3	17.3

ns = statistically not significant at $p = 0.05$

Source: Education Watch Learning Achievement Survey (2000)

Knowledge about physical and environmental health

Three quarters of the students achieved this competency. There were intra-group differences. The non-formal students did better than students of government and private schools boys did better than girls and urban students did better than rural students (Table 4.10).

Knowledge of balanced diet

Nearly 62 percent of the students achieved this competency. Similar to the previous competency, there were significant intra-group differences for types of schools, residence and gender group. Non-formal school students did better than those of government and private schools. Also, urban students did better than rural students and boys did better than girls (Table 4.10).

Knowledge of prevention of common illnesses

Fifty five percent of students attained this competency. There was no gender difference. However, urban students did significantly better than their rural counterparts. Also, students of non-formal schools were ahead of government and private schools (Table 4.10).

Information collection ability

Nearly eighty percent of the students achieved this. Except for residence where the urban students outperformed the rural students, there was no other intra-group difference (Table 4.10).

Observation skills

Nearly three quarters of the students attained this competency. There was no gender difference which means that boys and girls performed equally. The students of non-formal schools were ahead of students from other types and students of urban areas did better than those of rural areas (Table 4.10).

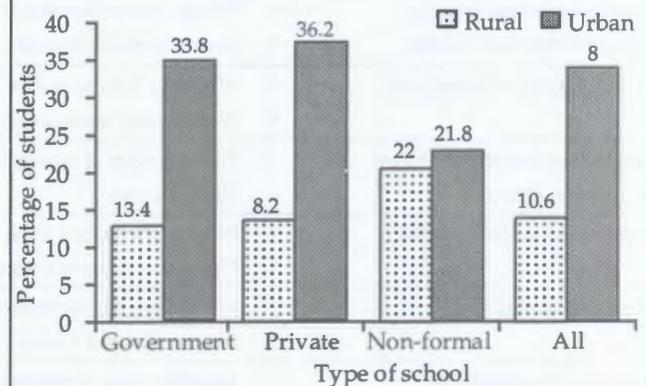
Scientific investigations

Nearly two thirds of the students achieved this competency. There was no difference between the different school types meaning that students from government,

private and non-formal schools performed equally well. On the other hand, urban students did better than rural students and boys did better than girls (Table 4.10).

FIGURE 4.12

Percentage of students achieving all the nine competencies in General Science by school type and area of residence



Source: Education Watch Learning Achievement Survey (2000)

Cause and effect relationship

Nearly 58 percent of students tested achieved this. Intra-group difference came out prominently. The students of non-formal schools did better than those of government and private schools. Also, boys outperformed the girls and students of urban schools did better than those of rural schools (Table 4.10).

Everyday science

Over 68 percent students achieved this competency. The intra-group difference also came out prominently for different groups. The students of government schools achieved this most followed by those of private and non-formal schools. As found for other competencies, boys did better than girls for this competency as well and so did the urban students compared to rural students (Table 4.10).

Overall performance in General Science

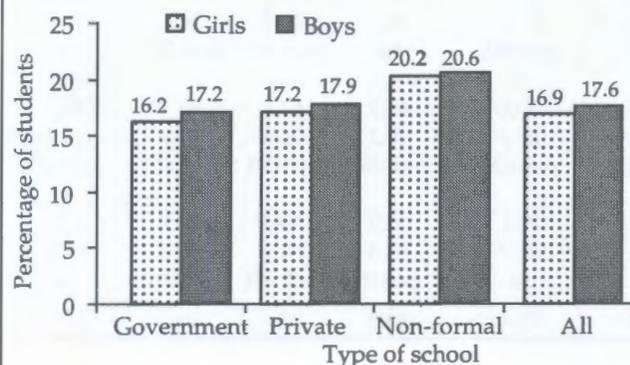
Seventeen percent of the students attained the minimum level for all nine competencies in Science. The most prominent difference was between urban and rural children; students from urban schools outperformed those from rural areas (Table 4.10). Figures 4.11 and 4.12 give further analysis on the achievement of students in Science. Figure 4.11 shows that the gender difference did not exist even when the data are separately analyzed for different school type; Figure 4.12 gives the urban-rural difference for different school type. While the better performance of urban students persisted for government and private schools, there was no difference for non-formal schools.

Achievement in Religious Studies

Out of six competencies in Religious Studies only one was tested. The competency was the knowledge on the life history of prophet Mohammed (SM) or preachers of own religion. The students were asked to write five sentences on

FIGURE 4.11

Percentage of students achieving all the nine competencies in General Science by school type and gender



Source: Education Watch Learning Achievement Survey (2000)

TABLE 4.11

Proportion of students achieving competency in Religions Studies

Group	Religious Studies
School type	
Government	28.3
Private	18.4
Non-formal	29.0
Significance	p<0.001
Residence	
Rural	22.7
Urban	42.5
Significance	p<0.001
Gender	
Girls	23.3
Boys	30.3
Significance	p<0.001
Total	26.7

Source: Education Watch Learning Achievement Survey (2000)

the above and anyone writing at least three sentences were considered to have attained the competency.

Table 4.11 shows that 26.7 percent student achieved this competency. Boys outperformed the girls and urban students outperformed those of rural areas by a big margin. Students of government and non-formal schools were ahead of private schools.

Proportion of students correctly answering different question items are given in Annex. 4.1.

Overall Learning Achievement

Overall learning achievement of the students was seen in three ways. Firstly, classifying the competencies according to the performance of the students; secondly, finding out the proportion of students achieving all the 27 competencies; and thirdly, by computing the mean (central tendency) and standard deviation (dispersion) of the number of competencies the students achieved.

Classification of the competencies

Let us categories the competencies according to the performance of the students. In doing this we call a competency 'very difficult' if the performance of the students in this is very 'poor' (with less than 40% students achieving the competency), and so on as below.

- **Very difficult:** If less than 40% of students achieve a particular competency (the level of achievement is 'poor');
- **Difficult:** If 40 – 59.9% of students achieve a particular competency (the level of achievement is 'mediocre');
- **Easy:** If 60 – 79.9% of students achieve a particular competency (the level of achievement is 'satisfactory'); and
- **Very easy:** If 80% or more students achieve a particular competency (the level of achievement is 'excellent').

TABLE 4.12

Classification of the competencies according to the level of performance at the national level

Level of performance	Competencies	Difficulty level
Poor	Writing in English Problem solving in Mathematics Life history of prophet Mohammed (SM) or the preachers of own religion	Very difficult
Mediocre	Writing in Bangla Reading in English Basic rules of arithmetic Measurement units Identification of geometric figures Know about the country Know about the children of other countries Prevention of common diseases Identification of cause and effect relationship	Difficult
Satisfactory	Reading in Bangla Listening in English Basic number skills Duties as family member Duties as citizen of Bangladesh Manners with persons of various relationship Physical and environmental health systems Importance of balanced diet Information collection ability Observation skills on natural objects Scientific investigation skills Science and technology in everyday life	Easy
Excellent	Listening in Bangla Duties as member of society Importance of good health	Very easy

Source: Education Watch Learning Achievement Survey (2000)

According to the above classification, at the national level, students showed 'poor' performance in three competencies, 'mediocre' in nine, 'satisfactory' in 12 and 'excellent' in only three. The list of competencies according to such classification is presented in Table 4.12. The competencies which the students found to be very difficult are 'writing English', 'problem solving in Mathematics', and 'knowledge about prophet Mohammed (SM) or the preachers of own religion'. On the other hand, the competencies that the students found very easy are 'listening Bangla', 'duties as member of society' and 'importance of good health'.

On average, the girls had 'poor' performance in four competencies, 'mediocre' in 10, 'satisfactory' in 12 and

'excellent' in only one. These figures were respectively three, eight, 13, and three for the boys. Competencies under the above classifications are listed in Annexes 4.2 and 4.3.

The competencies which both boys and girls found 'very difficult' are 'writing in English', 'problem solving in Mathematics', and 'knowledge about prophet Mohammed (SM) or the preachers of own religion'. In addition, the girls found the competency 'basic rules of arithmetic' also 'very difficult'. Both boys and girls showed 'excellent' performance on 'importance of good health'. However, in addition to the above competency boys did 'excellent' in 'listening Bangla' and 'duties as member of society'.

Box 4.1	
<i>'Excellent' performing competencies by type of school (very easy)</i>	
School type	Competencies
Non-formal	Listening in Bangla Duties as member of society Manners with persons of various relationship Importance of good health Physical and environmental health systems Information collection ability
Government	Listening in Bangla Duties as member of society Importance of good health
Private	Listening in Bangla

Source: Education Watch Learning Achievement Survey (2000)

The above classification done separately for each type of school shows that the students of government and private schools found four competencies each to be 'very difficult', and the students of non-formal schools found so in three. The competencies which were found 'very difficult' at the national level were also found very difficult for the students of each type of schools. Moreover, the government school students did poorly in 'knowledge about the country' and the private school students did so in 'basic rules of arithmetic'. On the other hand, the students of government schools found three competencies 'very easy', one by those of private schools, and six by the students of non-formal schools. Box 4.1 presents the list of competencies found 'very easy' by the students of different types of schools. Annexes 4.4 to 4.6 provide more details of the classifications for different types of schools.

If we do a similar classification by stratum it would be seen that the students of urban government and private schools found 11 competencies each to be 'very easy' (Annex 4.7). On the other hand, the students of rural and urban non-formal schools respectively found five and seven competencies to be 'very easy'. Sadly, the students of rural government and private schools did not find any competency 'very easy'. At least five competencies could be identified which the students of urban government and private and the non-formal schools of both rural and urban areas found 'very easy'. These are 'listening in Bangla', 'duties as member of society', 'manners with persons of various relationships', 'importance of good health', and 'physical and environmental health systems'. Classification of the competencies for the students of different stratum is provided in Annexes 4.8 to 4.13. The students are more likely to find the competencies under Environmental Studies easier and Mathematics more difficult.

On average the rural students found four competencies to be 'very difficult', nine 'difficult', 14 'easy' and none 'very easy'. Otherwise, the urban students found two

Box 4.2				
<i>'Excellent' covered competencies by level of performance of the students</i>				
'Excellent' covered competencies in source materials	Level of performance in test			
	Excellent	Satisfactory	Mediocre	Poor
Life history of prophet Mohammed (SM) or the preachers of own religion				✓
Know about the country			✓	
Understand the importance of good health	✓			
Prevention of common diseases			✓	
Reading skills in Bangla		✓		
Basic number skills		✓		
Four basic rules of arithmetic			✓	
Observation skills to understand social and natural objects		✓		
Scientific observation skills		✓		
Reading skills in English			✓	

Source: Education Watch Learning Achievement Survey (2000)

competencies 'very difficult', four 'difficult', 11 'easy', and 10 'very easy'. Such an analysis clearly shows how well the students of urban schools performed in the terminal competencies (Annexes 4.14 and 4.15).

Performance according to coverage in source materials

Let us take a look at the performance of the students in the competencies which are 'excellently' covered in both the source materials, viz., the textbooks and the teachers' guides (see Chapter III). Of the ten competencies which were reported to be 'excellently' covered in source materials only one was found to be 'very easy' for the students, four 'easy', four 'difficult' and one 'very difficult'. The five competencies which are 'excellently' covered in the source materials but the students found those to be difficult or very difficult are:

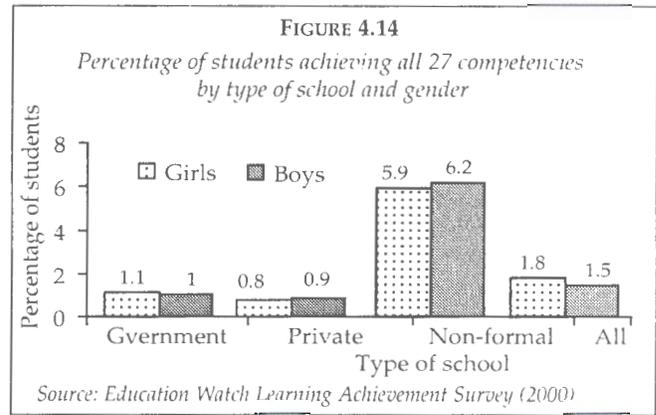
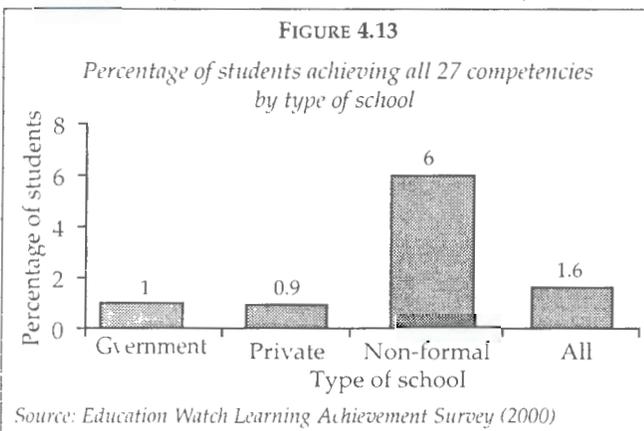
- Life history of prophet Mohammed (SM) or the preachers of own religion
- Know about the country
- Prevention of common diseases
- Four basic rules of arithmetic
- Reading skills in English

Box 4.2 presents the level of performance in each of the competencies 'excellently' covered in both the source materials.

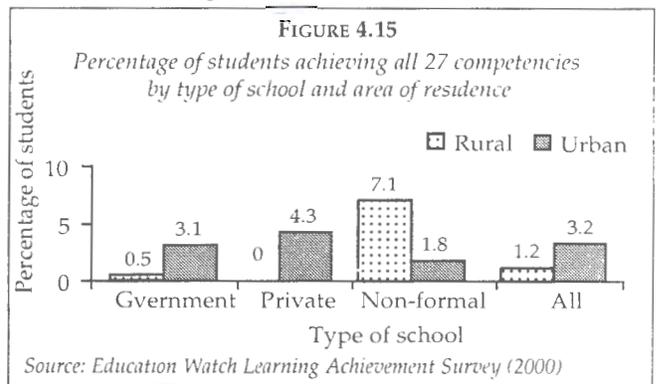
The competency 'understanding the importance of good health' was 'excellently' covered in both the source materials and the students achieved it 'excellently' as well. Although 'life history of prophet Mohammed (SM) or the preachers of different religion' are 'excellently' covered in the source materials students performed 'poorly' in this competency. The students also showed 'excellent' performance in 'duties as member of society' and 'listening in Bangla', which are 'excellently' covered in the teachers' guides but not in the textbooks. Of the 12 competencies which are 'excellently' covered in the teachers' guides but not in the textbooks half of those were 'excellently' or 'satisfactorily' performed by the students (Annex 4.16).

Achievement of all competencies

It was seen that the highest proportion of students achieving all the subject-wise competencies was in Bangla (36.5%), followed by Social Studies (19.2%) and General Science (17.7%), and least in Mathematics (11.6%) and



English (9.4%). In all subject areas the students of non-formal schools outperformed other schools in achieving the full set of competencies.



Let us now examine the proportion of students achieving all 27 competencies and Figure 4.13 presents it by school type. At the national level, less than two percent of the students achieved all 27 competencies. This was highest among the students of non-formal schools (6%), followed by government (1%) and private (0.9%) schools. Gender-wise, 1.8 percent of girls and 1.5 percent of boys achieved all the 27 competencies (Figure 4.14). Girls of non-formal schools secured the top position among the three groups of girls and so did the boys among different groups of boys.

Analysis by area of residence showed that 1.2 percent of the rural and 3.2 percent of the urban students attained all the competencies (Figure 4.15). None of the students of rural private schools mastered all the competencies. Urban students of government and private schools did much better than their rural counterparts in this regard. On the other hand, it is the non-formal schools where more rural students achieved all the competencies than the urban students. Of the six groups of students the rural non-formal schools secured the top position with 7.1 percent of them mastering all the competencies and the urban private schools got the second position of whom 4.3 percent achieved all the competencies. For further analysis see Annex 4.17.

Mean number of competencies achieved.

At the national level, the mean number of competencies achieved by the students was 16.1; 15.5 for girls and 16.7

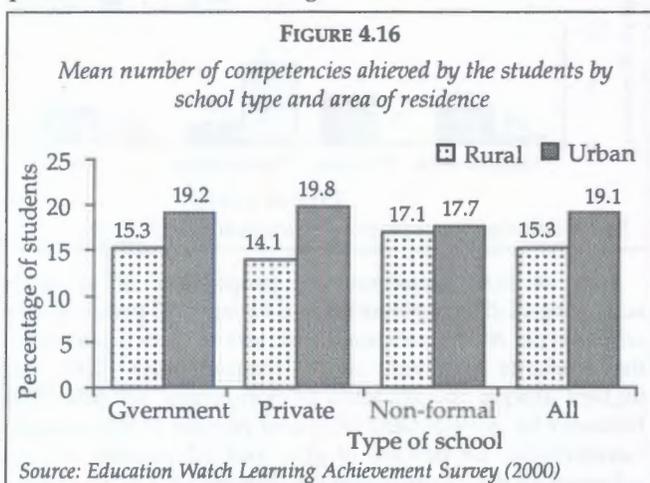
TABLE 4.13

Mean, median and standard deviation (sd) of number of competencies achieved by the students by type of school and gender

Type of school	Girls			Boys			All (weighted)		
	Mean	Sd	Median	Mean	Sd	Median	Mean	Sd	Median
Government	15.4	6.2	16.0	16.8	5.6	18.0	16.1	5.9	16.3
Private	15.0	6.3	15.0	15.4	6.4	16.0	15.2	6.4	16.0
Non-formal	16.9	6.2	17.0	17.9	5.5	17.0	17.2	6.0	17.0
All rural	14.8	6.2	15.0	16.0	5.8	16.0	15.3	6.8	16.0
All urban	18.7	5.3	19.0	19.5	4.7	20.0	19.1	5.1	20.0
All Bangladesh	15.5	6.3	16.0	16.7	5.7	17.0	16.1	6.0	16.0

Source: Education Watch Learning Achievement Survey (2000)

for boys (Table 4.13). On the other hand, the median was 16 at the national level, 16 for girls and 17 for boys, indicating very little difference between mean and the median. Whether it is mean or median, on average the boys performed better than the girls. The standard deviation of



the number of competencies achieved was 6.3 for girls and 5.7 for boys indicating that boys were more homogenous than girls. On average, the urban students achieved 19.1 competencies and the rural students 15.3. In both, boys outperformed the girls. The gender difference was bigger in rural areas than in urban areas. Of the four groups of students (girls and boys of rural and urban areas) urban boys showed the best performance and the rural girls the worst. The urban boys knew five competencies more than rural girls. Among the students of three sub-systems, the students of non-formal schools showed the best performance (mean 17.2) followed by government (mean 16.1) and private schools (mean 15.2). In all the three types

of schools boys outperformed the girls (Table 4.13).

Figure 4.16 shows that of these six groups of students, the students of urban private schools showed the best performance (mean 19.8) and their rural counterparts showed the worst performance (mean 14.1). The urban students of all three types of schools outperformed their rural counterparts. The gap between the areas was biggest in private schools and least in the non-formal schools. Annex 4.18 provides more analysis in this regard.

Comparing the coefficient of variation of the number of competencies achieved by the students of the above six groups it can be said that the urban students of government and private schools were more homogeneous than those of others. Highest heterogeneity was observed in the rural private schools followed by the government schools in the same area.

Analysis at school level

The above analysis presented central tendency and variation in the number of competencies achieved by the students, where the unit of analysis was the individual student. Let us now take a look at the data considering each of the sampled school as unit of analysis. This allows us to see how far the achievement (of the students) varies between schools within a sub-system (Table 4.14). On average, the students of sample schools achieved between 1.7 to 26.7 competencies, a very wide range indeed! This indicates a wide variation in the performance of the schools considered for the study. Such variation was highest for the non-formal schools of rural areas. School wise variation was least in the urban government schools where on

TABLE 4.14

School level analysis: some basic statistics of mean number of competencies achieved

School type	n	Minimum	Maximum	Range	Mean	Standard deviation	Coefficient of variation
Rural							
Government	30	8.6	22.0	13.4	15.4	3.7	24.0
Private	31	5.3	21.8	16.5	13.9	4.1	29.5
Non-formal	31	1.7	26.7	25.0	17.1	5.5	32.2
Urban							
Government	30	13.1	24.6	11.5	19.2	2.7	14.1
Private	33	7.8	25.8	18.0	19.3	4.4	22.8
Non-formal	31	9.8	25.8	16.0	17.5	4.5	25.7
All	186	1.7	26.7	25.0	17.1	4.6	26.9

Source: Education Watch Learning Achievement Survey (2000)

average, the students of a school achieved at least 13.1 competencies and at most 24.6 competencies. Coefficient of

TABLE 4.15

School level analysis of non-formal sub-system: some basic statistics of mean number of competencies achieved

	n	Minimum	Maximum	Range	Mean	Standard deviation	Coefficient of variation
BRAC	50	9.4	26.7	17.3	18.7	4.3	23.0
Non-BRAC	12	1.7	16.4	14.2	11.6	3.6	31.0
All	62	1.7	26.7	24.0	17.3	5.0	28.9

Source: Education Watch Learning Achievement Survey (2000)

variation indicates that school to school variation was highest in rural non-formal schools followed by rural private, urban non-formal, rural government, urban private and urban government schools.

As BRAC is a major provider of non-formal education in the country¹, a separate analysis is made by disaggregating the non-formal school data by BRAC and non-BRAC category. Table 4.15 shows that the achievement of the BRAC non-formal school students was better than non-BRAC school students. The range of the performances of the schools was quite wide in BRAC schools too, but such variation was more in non-BRAC schools.

TABLE 4.16

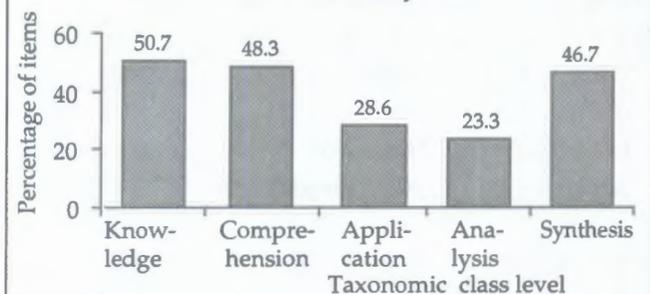
Mean and standard deviation of the number of items correctly answered by taxonomic class level

Taxonomic class level	Number of items	Rural		Urban		All	
		Mean	Sd	Mean	Sd	Mean	Sd
Knowledge	45	21.6	9.2	27.6	7.9	22.8	9.3
Understanding	19	6.8	3.7	8.4	3.6	7.1	3.7
Comprehension	6	2.8	1.5	3.5	1.5	2.9	1.5
Application	7	1.9	1.7	2.4	1.7	2.0	1.7
Analysis	3	0.7	0.8	0.9	0.8	0.7	0.8
Synthesis	3	1.3	0.9	1.6	0.8	1.4	0.9

Source: Education Watch Learning Achievement Survey (2000)

FIGURE 4.17

Percentage of items correctly answered by the students by taxonomic class level of items



Source: Education Watch Learning Achievement Survey (2000)

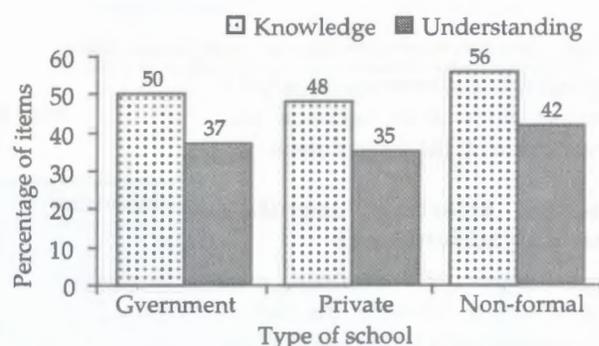
¹ The non-formal comprise 8.5% of the students going to primary level institutions; of that 76% came from BRAC (Chowdhury et al. 1999)

Performance according to the taxonomic class level of items

As already mentioned in Chapter II that of the 64 items tested 45 are of knowledge level and 19 are of understanding level (comprehension 6, application 7, analysis 3, and synthesis 3). An attempt was made to see students' performance according to such classification. On average, the students did better in the items which are of

FIGURE 4.18

Percentage of items correctly answered by the students by taxonomic class level of items and school type



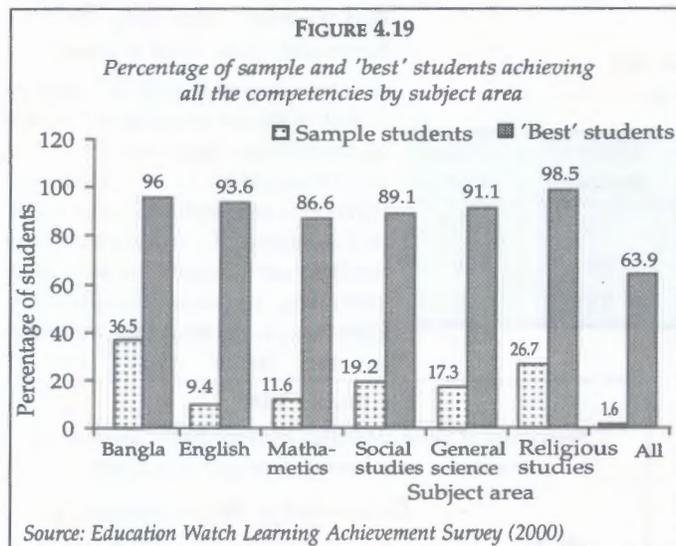
Source: Education Watch Learning Achievement Survey (2000)

knowledge level than those of understanding level (Table 4.16). Out of the 45 knowledge level items, on average, the students correctly answered 22.8 (51%) and of the 19 understanding level items they correctly answered 7.1 (37%). The students of urban areas did better in both types of items than their rural counterparts. However, the gap was less in the understanding level items. Among the items of understanding level the students did worst in those reached at application or analysis levels (Figure 5.5). Performance in these two types of items is about half of those of the others.

The students of the non-formal schools did better in both types of items (knowledge and understanding) than those of other schools (Figure 4.18). The private schools showed worst performance in all. The gaps were more or less equal in all three sub-systems. Poor performance in application and analysis level of items was seen in all three types of students.

Comparison between sample and 'best' students

It was mentioned in the methodology section that a group of 'best' students of the 'best' schools in Dhaka city was assessed for validity assessment. Figure 4.19 shows a comparison between the performances of the students in the nation sample and of the 'best' students. The performance of 'best' students was much better than those in the national sample. For instance, 63.9 percent of the 'best' students achieved all 27 cognitive competencies



against national estimate of only 1.6 percent. Such wide variation was observed in all the subject areas.

Factors affecting cognitive learning achievement

Three types of variables were considered to identify the factors affecting learning achievement of the students. These are socio-economic, school related and extra education inputs received by the students. List of the variables is provided in Annex 4.19. Table 4.17 provides students performance by all the factors considered.

Bivariate analysis of data shows a statistically significant² negative relationship between age of the students and learning achievement. The mean achievement of the students significantly increased as the increase in the level of education of their mothers and fathers. Economic condition in terms of self-perceived yearly food security status of the households and students access to mass media were also found positively correlated with the learning achievement of the students. Non-Muslim students did significantly better than Muslim students.

Students who had private tutor at home or received extra coaching performed significantly better than

² Here significance means statistical significance at least at $p < 0.05$ level.

those without such inputs. Interestingly, students who had participated in co-curricular activities did worse compared to those who had not. Guardians educational care and oversee (having discussion with teachers, parental tutoring at home and guardians participation in school meeting) were significantly related with the improvement of the learning achievement of the students.

A U-shaped relationship was observed between class size and learning achievement of the students. On the other hand, students of schools where the student-teacher ratio was lower did better ($< 40: 1$) than those with higher student-teacher ratio. Educational qualification of the teachers had significant positive relationship with the learning achievement of the students, but length of their professional experience had a negative relationship. Learning achievement of the students also increased as the number of trained teachers in the schools increased. Distance between school and local education authority had

TABLE 4.17

Mean and standard deviation of the number of competencies achieved by different socio-economic and School characteristics

Characteristics	Mean	SD	Characteristics	Mean	SD
Age			Co-curricular activities		
< 10 years	18.4	5.7	Participated	16.7	5.7
11-12 years	16.2	5.7	Didn't participated	16.2	5.9
13+ years	13.8	5.3	Significance	ns	
Significance	$p < 0.001$		Guardians discussion with teachers		
Mothers education			yes	17.0	5.9
Nil	15.2	5.7	No	15.7	5.6
Primary	16.9	5.6	Significance	$p < 0.001$	
Secondary +	19.1	5.5	Parental tutoring at home		
Significance	$p < 0.001$		Yes	17.4	5.8
Fathers education			No	15.5	5.7
Nil	15.0	5.8	Significance	$p < 0.001$	
Primary	16.3	5.4	Guardians participation in meeting		
Secondary	17.2	5.6	Participated	16.8	6.0
Tertiary +	20.3	5.0	Didn't participated	16.0	5.6
Significance	$p < 0.001$		Significance	$p < 0.001$	
Households food security status			Class size		
Always in deficit	15.4	6.0	< 30	16.5	5.7
Sometimes in deficit	15.7	5.8	31 - 50	15.3	5.8
Balance	16.4	5.8	51 +	17.4	5.7
Surplus	17.7	5.5	Significance	$p < 0.001$	
Significance	$p < 0.001$		Student-teacher ratio		
Religion			< 40: 1	18.6	5.7
Muslim	16.2	5.8	41+: 1	15.9	5.7
Non-Muslim	18.3	5.8	Significance	$p < 0.001$	
Significance	$p < 0.001$				

Contd.

Contd. of Table 4.17

Characteristics	Mean	SD	Characteristics	Mean	SD
Students access to mass media			Teachers educational qualification		
None	14.6	6.2	< 10 years	15.4	6.0
One	16.4	5.5	11-12 years	16.2	5.8
Two	17.1	5.6	13+ years	17.9	5.3
Three	21.4	3.9	Significance	p<0.001	
Significance	p<0.001		Teachers profession experience		
Private tutor			< 10 years	17.3	5.8
Have	17.6	5.7	11-20 years	16.4	5.9
Don't have	15.7	5.8	21+ years	15.9	5.8
Significance	p<0.001		Significance	p<0.001	
Teachers having training			Frequency of school visit by authority		
Less than half	15.0	6.0	Less than once a month	16.1	5.7
Over half but not all	16.5	5.6	Once or twice a month	16.5	6.0
All	16.8	5.6	Over twice a month	18.8	5.4
Significance	p<0.001		Significance	p<0.001	
Distance between school and LEA					
< 5 kilometers	18.6	5.3			
6 - 10 kilometers	18.1	5.3			
11 - 15 kilometers	14.9	5.5			
16+ kilometers	13.6	5.6			
Significance	p<0.001				

Source: Education Watch Learning Achievement Survey (2000)

negative relationship with students learning achievement. However, the performance significantly increased as the number of visits by the authority increased.

Multivariate regression analysis

Multiple regression analyses have been performed in order to understand the explanatory power of the socio-economic and the educational variables in the prediction of the competencies achieved by the students. A stepwise approach with forward selection was considered first for the purpose. The dependent variable was the 'number of cognitive competencies achieved by the students'. List of explanatory variables used in the analysis and their measurement is provided in Annex 4.20 and the results from the multivariate analysis in Annex 4.21. Of the 22 explanatory variables the regression model selected 19 on the basis of statistical significance ($p < 0.05$). The most important predictor of competency achievement was found to be the 'distance between school and the local education authority' (LEA) which explained 13.3 percent of the total variation in the dependent variable. The next five consecutively important predictors are fathers' education, number of SMC meetings held, school visit by authority, age of student and students access to mass media. The 19 independent variables together explained 31.1 percent of

the total variation in the dependent variable. The three variables found insignificant due to low predictive power are self-perceived food security status of the households, teachers' length of experience and parental participation in school meetings.

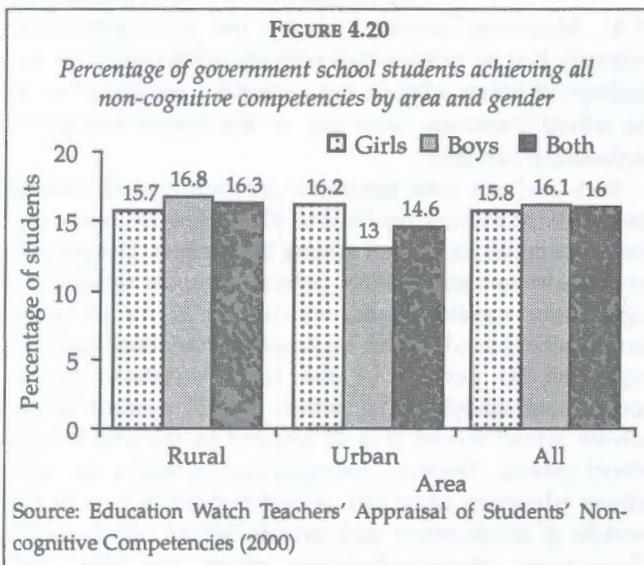
Annexes 10.22 and 10.23 provide separate regression models for the students of rural and urban areas. Some de-similarities could be noticed among the findings of these two models. The rural model selected 15 explanatory variables and the urban model nine. The independent variables together explained 31 percent of the total variation in the rural model, which was 22 percent for the urban model. The chronology of appearance of the first eight variables in the rural model was same as the aggregate model with 'distance between school and LEA' having the highest predictive power. On the other hand, for the urban school students 'mothers education' appeared as the most important predictor, followed by the 'distance between school and

LEA'. Moreover, school visit by the local education authority had no relationship with the achievement of the students of urban schools, but guardians participation in the school meetings came out as the fourth important explanatory variable.

Such analyses done separately for each type of schools are presented in Annexes 10.24 to 10.26. Here too, some de-similarity could be noticed among the models. The models for government and private primary schools selected 11 explanatory variables each, which was 12 for the non-formal school model. The explanatory variables together explained 30 percent of the total variation in the government school model, which was 37 percent in the private school model and 41 percent in the non-formal school model. 'Distance between school and LEA' and fathers education came out as first two predictors in the models of government and private school sub-systems. These were 'distance between school and LEA' and number of SMC meeting' for the non-formal school model. Frequency of school visit by the authority came out as predictor only in the model for non-formal schools. The common predictors in these three models are: distance between school and LEA, parents discussion with teachers, teachers educational qualifications, and access to mass media.

We also did the above analysis in a different way by feeding the explanatory variables in a group. This was done with three different models. The first model contained the socio-economic variables only (Model I), the second model added the school related variables to previous one (Model II), and the last model added the extra educational input variables with the previous sets (Model III). It would be interesting to see how the explanatory power of the models changes with the addition of each new set of variables in the model. The socio-economic variables alone explained only 18 percent of the total variation in the achievement, which increased to 31 percent while school related variables were added, and again increased to 32 percent while the third set of variables were added (Annex 4.27).

The above analyses clearly show the relationships of various socio-economic and educational variables with the competency based learning achievement of the students. Except for a very few cases statistically significant relationship of these variables were noticed on the achievement of the students for all types of schools. This indicates that students' learning achievement were largely a function of their family background, the support they receive from their families and the school environment. However, the adjusted R^2 values indicated that the explanatory variables altogether could not explain all the variations in the learning achievement, which means that there are other factors as well responsible for the differential performance of the students. More research is needed to explain these further.



Performance in Non-Cognitive Competencies

This section presents achievement of government school students in non-cognitive competencies. Of the 40 competencies that were assessed, 22 were psychomotor type, 9 affective, and the rests a combination of both. Two teachers assessed each students with a score of 0 to 10. The

first task of data analysis was to find the mean score against each competency which varied from 0 to 10 for each competency. The mean scores were then transformed into a dichotomous set up. Students scoring a mean of 6 or more in a competency were considered achieving the competency.

TABLE 4.18

Mean (and standard deviation) of the number of non-cognitive competencies achieved by the students of government schools by area and sex

Area	Sex			Significance
	Girls	Boys	Both	
Rural	26.0 (14.1)	27.5 (13.0)	26.7 (13.6)	ns
Urban	29.9 (9.2)	28.8 (10.0)	29.4 (9.6)	ns
All	26.7 (13.4)	27.7 (12.5)	27.2 (13.0)	ns
Significance	p<0.001	ns	p<0.01	

Source: Education Watch Teachers' Appraisal of Students' Non-cognitive Achievement (2000)

Figure 4.20 shows that 16 percent of the government school students achieved all the 40 non-cognitive competencies. This was 15.8 percent for girls and 16.1 percent for boys. On the other hand, 16.3 percent of rural and 14.6 percent of urban students achieved it. Proportionately more girls achieved all the non-cognitive competencies than the boys in urban areas, whereas it was the boys more of whom achieved all competencies in rural areas. On average, 1.6 percent of the assessed students failed to achieve any of the competencies.

On average, the students of government primary schools achieved 27.2 competencies or 67 percent (Table 4.18). This was 26.7 for rural and 29.4 for urban students ($p<0.01$). There was no gender variation in this regard. Area wise variation was found among the girls, but not among the boys. On average, the rural girls achieved 26 competencies, whereas it was 29.9 for the urban girls ($p<0.001$).

A Brief Account of the Pedagogy in Classroom

Classrooms of primary schools were observed, as mentioned in Chapter II. This was done in three types of schools, viz., government, private and non-formal. Two schools of each type were observed using non-participant techniques. The findings in brief are presented below under different themes. This is also available in tabular form in Annex 4.28.

Classroom condition

Physical facilities of government primary schools were satisfactory in terms of sitting arrangements, lighting and ventilation. However, considering the total enrolment of children in Class V it would not be easy to accommodate if all learners attended. A considerable number of learners in

the government primary schools remained absent. The private primary schools maintained inadequate physical facilities compared to the government primary schools. Not all private schools had the bare minimum of facilities. BRAC schools did not have as much physical facilities as government primary schools but were better than some private primary schools.

Instructional materials

When the study team went to the school for observation it was end of March 2000 but the learners of government and private schools had not received their English and Science textbooks yet. The non-formal primary schools did not face such a problem as the books and *khata* (copybook) were supplied by BRAC on time. Some learners of both government and private primary schools came to school without *khata* (copybook) and most of them were from the poorest families.

Teacher's training

In some government schools the teachers were more qualified and trained than other schools of the same type. In the former all the four teachers had C-in-Ed training from the primary teachers training institutes while only one out of three teachers of the latter schools had received this training. Further, two out of eight teachers of private primary schools had C-in-Ed training. BRAC school teachers had a 15 days basic teacher's training. In addition, they received regular refresher training every month throughout the year. None of the teachers in any system except BRAC schools used a lesson plan regularly. They conceded that they did not make any preparations at home. The attendance rate was higher in BRAC schools.

Lesson presentation

The relationship between teachers and students was quite frank in both government and BRAC schools but stiff in private schools. Only a few teachers asked the learners about their personal matters before initiating the lesson. None of the teachers of any system, except BRAC schools,

presented their lesson in a uniform and sequential way such as by reviewing the previous day's lesson, introducing a new lesson, presenting, evaluating and encapsulating the lesson. Rather, reading in the classroom by both the teachers and the learners followed by a load of questioning was the main style of lesson presentation. Contextualization of the lesson and summarization at the end, as a part of lesson presentation, were not adhered to in any education system. To ensure learners' participation in the classroom teaching-learning process, small group activities was put into practice only by the BRAC schools.

Classroom management

Classroom management was very poor in every primary school observed including that of BRAC. Humour, constructive criticism and reward for good performance were seldom used. Individual attention towards slow learners was not observed. Rather the teachers paid all attention to the good learners and were quite oblivious of the slower learners.

Ongoing evaluation

Ongoing evaluation for remedial teaching was nearly absent in all systems investigated. Due to this lack of an ongoing evaluation system, teachers were unable to recognise which children were lagging behind and who would need special care. Oral evaluation was predominant.

Performance of the learners

It was found that learners of all school systems showed satisfactory reading ability in Bangla but it was diametrically opposite for English. The possible reason for this probably is that Bangla is the mother tongue and the emphasis given by the teachers in reading Bangla and evading English. Little activity was seen in developing writing ability, speaking and understanding of the learners except for the good BRAC school.

Detailed case studies of a government and a BRAC school are given in Annex 4.29.

Teacher Education

Two types of teacher's education are commonly found for the primary school teachers in Bangladesh. The most common is the 10-month running Certificate-in-Education (C-in-Ed) course offered by the primary teachers training institutes (PTIs). The other one is the 'basic/foundation' training offered by NGOs to non-formal school teachers. The duration of the latter is usually two weeks. There are some other types of teachers education such as Bachelor of Education (B. Ed), Diploma-in-Education or Master of Education (M. Ed) but these mostly cater to the needs of post-primary levels. This chapter reviews the teachers education for primary school teachers in Bangladesh.

Macro Aspects of Primary Teacher Education

Trained teachers at primary level

According to one estimate there are about 360,000 primary level teachers in Bangladesh. They belong to four major

streams: government (43%), private formal (24%), non-formal (13%) and Madrassa (12%). The remaining eight percent are in English medium, satellite, community, and secondary-attached schools. It has been found that most teachers of government and non-formal schools have received their basic training. Table 5.1 shows the proportion of teachers who are trained for different streams of primary education.

It shows that an overwhelming majority of teachers in government and non-formal schools have already received training. It also shows that a majority of teachers who belonging to 'other' type of schools (most of whom are in secondary-attached primary schools) are also trained. However, proportion of teachers who are trained in private, Madrassas or English-medium schools is quite low. Only 17.5 percent of Madrassa teachers and 15.8 percent of English-medium school teachers had received some training (Table 5.1).

Figure 5.1 shows the capacity of existing PTIs in training teachers through the C-in-Ed course. There has been an increase in the number of teachers trained over the decade of the 1990s. While 3,696 teachers successfully completed the training in 1991 this increased to 6,072 in 2000, an increase of about 80 percent. One-third of the graduates completed the course with higher grade and two-thirds lower grade.

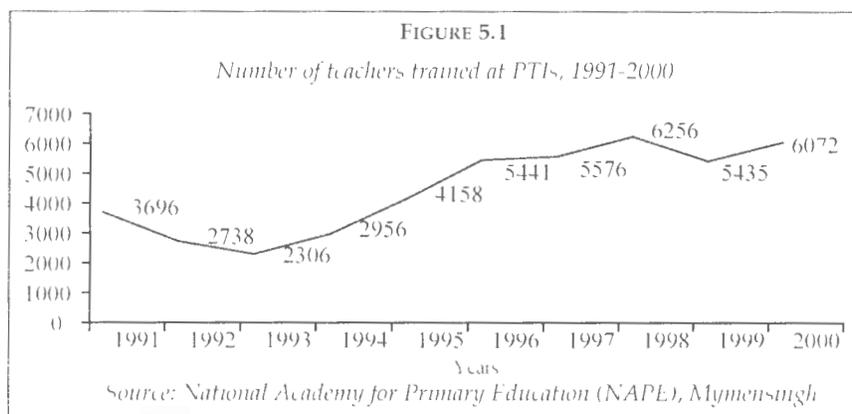
The trainees at PTIs are called back to both government and private formal schools. Figure 5.2 gives the share of these two groups of teachers for one PTI (Gazipur) on which data were available; about two-thirds of the trainees are from government schools and one-third from private schools in this particular PTI. It also shows that a majority of the trainees were female.

TABLE 5.1

Proportion of teachers who received basic training by gender and type of school

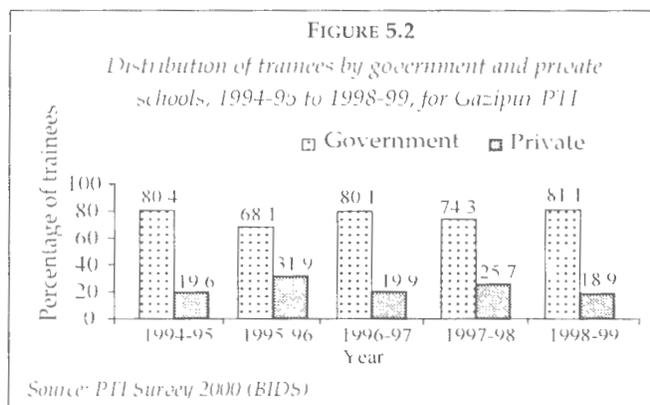
Type of school	Female	Male	Total
Government	94.3	96.9	95.8
Private	34.0	31.7	32.5
Non-formal	83.9	87.1	84.3
Madrassah	23.1	17.2	17.5
English-medium	16.3	14.8	15.8
Others	62.1	55.9	58.2

Source: Chowdhury AMR and Nath SR (1999). *Internal efficiency*. In Chowdhury AMR, Choudhury RK & Nath SR (eds.) *Hope not complacency- state of primary education in Bangladesh*. Dhaka: CAMPE and UPL.



Curriculum and course-contents

The C-in-Ed curriculum in Bangladesh has evolved from the traditional 'Guru Training' syllabi. Since the late 1950s, the curriculum has undergone revisions to meet the need of modern times and national demand. In 1989-90 the curriculum was revised on the basis of primary education-related learning outcomes. For every subject, the objectives and learning outcomes were defined and on that basis text materials were written in modular forms.



The curriculum for C-in-Ed consisted of three pedagogical subjects including, principles of education, primary education and modern thinking, and child psychology. In addition, there are eight school-subjects: Bangla, English, Mathematics, Environmental Science, Social Science, Religion, Physical Education and Arts and Crafts. The contents are analysed in Annex 5.1 and estimated learning outcomes for each subject are given along-with the practical works suggested in the subject.

As commented in Annex 5.1 there is no consistency in the learning outcomes of the syllabi. Learning outcome varies from 11 to 74 for different subjects; they are around 30 to 40 for the pedagogical subjects and about 20 to 50 for the school subjects. It is lowest in case of Hinduism (11 outcomes) and highest in Islam (74). These outcomes are largely descriptive and theoretical; activity-based outcomes are very few. Among these subjects, Bangla, English, Social, Science and Science are the major activity-

oriented subjects appeared in the curriculum. Other subjects have activities, but they are fewer in number. The work-oriented or activity-based learning outcomes in the curriculum may help develop effective teacher in the classroom. Some of the participants in a focus group discussion (FGD) in a PTI expressed their dissatisfaction with the quality of teaching in PTIs. They thought that it was mostly lecture-based and practical skills were less emphasised.

Survey Findings on Training Institutions, Trainers and Trainees

Instructors' background: no teaching experience

A total of 86 PTI instructors were interviewed. Majority of them were Master Degree holders (58%). Little less than half (48%) had Masters level professional degrees like M Ed or M. A. in Education and another 44 percent were holding B Ed or equivalent degrees. It is striking to note that though a large majority of instructors has general education degree and professional training yet none of them had any background suitable for primary level teachers or primary training institutions. Institutes of Education and Research (IER) of Dhaka and Rajshahi Universities provide MEd. Degree with primary education as a major subject but the government did never enlist that degree in the requirement for PTIs. About 86 percent of the instructors also indicated they did not have any opportunity to teach in primary school and nearly 80 percent did not take any class at the PTIs experimental schools. This indicates a major deficiency among the PTI instructors who do not have any primary-based training or teaching experience with children to be eligible for teacher trainer of elementary schools.

Besides the academic training, the PTI instructors possess a variety of non-academic skills and qualities. Amongst them typing, computer, music, MWTL (training given under the IDEAL project) or other methodological training are some to be mentioned. However, these training were not given as per any plan. They casually obtained them from different sources either officially or individually through contacts and /or own-initiatives. On average, the instructors have been working in PTIs for five to ten years. Many of them also served in other PTIs prior to joining the present ones.

Teaching learning situation at PTI

Instructors' teaching loads in PTIs seem to be quite high. On average 17 classes are taken by PTI instructors per week, the range varying from 3 to 48. Teachers' load in a large number of PTIs is high due to insufficient number of teaching staff. A high load militates against quality teaching; the instructors neither can take good preparation for class nor can do justice to students.

The duration of each class in the PTIs is 40 to 45 minutes. Between the classes there is no interval for teacher transition or trainees' rest, which taxes upon the scheduled class time. It is also a point to ponder that in an average class-size of 90 how 45 minutes can effect teaching learning-exercise. The class size among the sample PTIs ranges from around 40 to 170. To make it an effective teacher-training course the class size has to be much smaller so that every teacher and trainee get the needed attention.

Teaching-learning environment in PTIs can best be understood by the trainees' evaluation of their instructors. About 250 trainees from ten PTIs evaluated their 118 instructors for their teacher-related attributes. The sampled trainees were given a 'Teacher Assessment Checklist' of nine attributes and they were asked to evaluate the instructors they knew well on a seven-point scale: very high, high, remarkable, fair, nothing remarkable, low and very low. Average rating of each instructor was calculated and aggregated into three sub-categories- Good (very high to high), Average (remarkable to fair) and Poor (nothing remarkable to very low). The results are given in Table 5.2.

TABLE 5.2

PTI trainees' assessment of instructors in terms of three major attributes

Attributes by types	Ratings by trainees		
	Good	Average	Poor
Personal attributes			
Knowledge of the subject	55.6	41.7	2.6
Punctual in work	73.9	25.2	0.9
Prone to complete syllabus	59.1	33.9	7.8
Professional attributes			
Friendly with students	73.0	24.4	2.6
Neutral with student	58.3	40.9	0.9
Honesty in teaching	70.4	29.6	0.0
Teaching attributes			
Participatory teaching ability	55.7	41.7	2.6
Teaching with examples	43.5	53.0	3.5
Deliberation skill	73.0	24.4	2.6

Source : (BIDS) PTI Survey 2000

The table illustrates the teaching-learning environment in the institutes. According to the trainees a simple to large majority of the instructors has good qualities necessary for teacher training. The instructors were rated to be knowledgeable and punctual but a majority of them were said to have a tendency to complete syllabus without going into the details. A large majority of them was friendly and honest, which are essential professional qualities. A good number of trainees (about 40%), however, felt that their instructors were not neutral to all in respect of teaching. Nearly three-fourths of the instructors were good in their deliberation and more than half were good in

participatory-teaching, i.e., they make the trainees active learner while teaching. But a similar number (53%) also complained that the instructors were not good in providing practical examples while teaching in class.

The trainees rating of instructors seem to be good but there are opportunities for improvement. The current teaching force in PTIs is relatively good because around a half of them have master level degrees in both general and professional lines. If they could receive appropriate primary training and had congenial atmosphere in PTIs like smaller student teacher ratio, longer time for teaching, aids and well-equipped classroom then the scenario could have been much different.

Teaching aids are vital components in the teaching-learning exercise. Teachers are supposed to use aids as much as possible while teaching in the classroom. Thus it automatically necessitates the importance of giving emphasis on the use of teaching aids in PTIs. It was our purpose to examine the stock of aids in the institutes and the extent of their use in the classroom. It appeared from the response of the instructors that almost all PTIs have sufficient number of teaching aids including modern equipment like overhead projects (OHP), VCR, computers and similar other things. Unfortunately nearly two thirds of the teachers in PTIs either do not use any aids in the classroom or have little scope to do that.

Books are the principle source of teaching aid and learning materials as well for both the teacher and the taught. PTI-library is the best source of books and all of the respondents mentioned that they use library but only a quarter of the instructors found the library very useful. To an overwhelming proportion (74%) the available library books are not very useful. Our visit to PTIs as well as discussion with the PTI-chiefs reveals that most of the PTIs do not have any librarian who can continually provide service to the trainees and the teachers. An interesting point to note is that PTIs do not have any authority to purchase books directly for their use. Rather the Directorate (in Dhaka) or the Ministry (PMED) centrally purchases books for the institutes. That is why the majority of the teachers and students do not find the books useful for their own interest.

The condition of PTI building is largely unsatisfactory in terms of space and room-provision. These institutes though have large area of lands but do not contain any playground where teachers can spend their free time in recreational activities. Most of the PTIs do not have any science laboratory.

Public and private costs for teacher training at PTI

We estimated the different costs incurred to produce a graduate at PTIs. With selected assumptions it is found that the State spends around Tk. 36,000 per trainee (at 2000-2001 Taka) 78 percent of which is on the capital items such as building and other facilities and the rests on recurrent items such as salaries at PTI and stationeries. We also

estimated that a PTI-trainee himself/herself has to incur a total cost of over Tk. 36,000 per year. The teachers from government schools are given their salaries (which is approximately Tk. 3,000 per month) and those from private schools are given a stipend of Tk. 1,000 per month plus kit and clothing allowance of Tk. 1,000 per year. It thus appears that the total cost for producing a C-in-Ed is approximately Tk. 72,000 (at 2000-2001 Taka).

Teachers' view of PTI training

Having trained at the PTIs, how the teachers perform at the school-level had been one of our major concerns. Does PTI training makes any difference to a teacher in terms of improved pedagogy, motivation and/or teaching-learning transactions?

A sample of 119 teachers was interviewed: 69 from government schools and 50 from private schools. The teachers had somewhat favourable opinion about the C-in-Ed curriculum. An overwhelming majority (94%) of the teachers had the opinion that the PTI curriculum was suitable for preparing ideal teacher for primary school. Eighty five percent teachers also mentioned that without this training a person couldn't become a skilled teacher. When the trained teachers were asked to indicate subjects of C-in-Ed programme most suitable for school teaching they did not tell much. According to a large number of teachers (67%) Educational Psychology was the most useful subject for school and about a third felt that Bangla and Principles of Education were the next useful subjects. Table 5.3 provides a surprising fact that a large number of teachers having C-in-Ed did not mention the names of school subjects to be useful for teaching. Only a tenth to a third of the teachers mentioned that knowledge gained in Environmental Studies, Mathematics or Bangla was useful for teaching in school.

TABLE 5.3

Percentage of teachers (PTI graduates) indicating subjects of C-in-Ed course that became very useful in their school teaching

Subject	Percent distribution of teacher (n=69)
Educational Psychology	66.7
Bangla	39.0
Principles of Education	37.7
Mathematics	27.5
English	21.7
Arts and Crafts	17.4
Environmental Studies (Science)	11.6
Environmental Studies (Social)	10.1
Physical Training	8.7
Practice Teaching	7.3
Others	5.8

Note: Total percent may exceed 100 as the teachers may indicate multiple-subjects

Source: PTI survey 2000 (BIDS)

TABLE 5.4

Percentage of teachers (PTI graduates) mentioned weaknesses of PTIs

Weakness type	Percent distribution of teacher (n=69)
Poor quality of instruction	17.4
Insufficient number of instructors	7.3
Use of trainees in personal work	7.3
Misbehaviour with trainees	15.9
No proper appreciation for trainees	8.7
Syllabus not completed/implemented	21.7
Short duration of course	26.1
Lack of learning materials	11.6
Instructors are inadequately trained	5.8

Note: Percent-share when added up may exceed 100

Source: PTI survey 2000 (BIDS)

According to teachers there were many weaknesses in the PTI programme (Table 5.4). More than a fifth of the teachers indicated that the duration of the course was short and teachers could not complete the syllabus on time. About 17 percent of the respondents mentioned that the quality of instruction was poor.

Teaching practices in government and private schools

Teacher's job is to facilitate student's learning. This is facilitated by teacher's training, interaction with student, supportive curricula and a congenial atmosphere. A teacher completing training from PTI is expected to perform the facilitation better than an untrained teacher. This assumption creates a distinction between the government and private primary schools in terms of teaching learning since former category of schools are filled with trained and generally qualified teachers but the latter are largely untrained teachers. With this understanding the activities like classroom teaching and other variables were analysed and observed by trained research assistants for those two types of schools.

Each research assistant went to the school in the morning and observed the classroom activities throughout the school day in Class V. The observation was made on the basis of a "Time Series Observation Checklist" where duration of any selected function can be registered in terms of minutes. Thirteen functions or activities were listed in this checklist and duration of each performing function was recorded in complete minutes. Though the observation was made for all in Class V yet only five subjects, e.g., Bangla, English, Mathematics, Environmental Studies (Social) and Environmental Studies (Science) were particularly compared for evaluating teachers quality of teaching. In this way a total of 233 classes of 119 teachers from 30 schools were observed.

The 13 functions or activities which were observed and recorded were (i) teacher's one sided delivery/lecture, (ii)

student's questioning or responding to question (iii) teacher-student discussion on a topic (iv) demonstration with teaching aids, (v) working with chalk-board (vi) involvement in classroom management (vii) students' involvement in group work or other joint activity (viii) problem-solving in Maths, or other subjects (ix) having recreational tasks (x) teacher's dictation to class (xi) chaotic situation prevails in class (xii) teacher sitting idle in class and (xiii) teacher is absent during class period. These functions may be clustered into three interactive situations, viz., proactive, interactive, and counteractive situation as defined below:

Proactive Situation (PAS) : Proactive situation in class represents the teacher-dominating environment where information flows from the active teacher to the passive learner or learner's unilateral involvement in a particular task, e.g., teacher's delivery, classroom management, problem-solving and teacher's dictation.

Interactive Situation (IAS) : Interactive situation in class represents the facilitating environment where the students encounter information with their active involvement and teacher's facilitation, e.g., student's questioning or answering to the question, discussion, demonstration, use of chalk-board, group-work and recreational tasks.

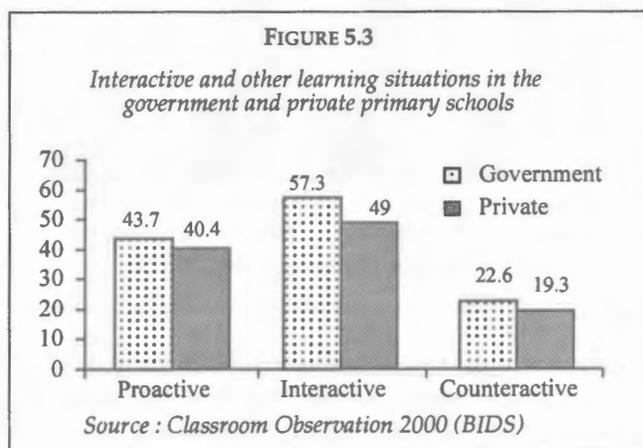
Counteractive Situation (CAS) : Counteractive situation in class represents the inhibiting environment where the students either do not receive any information or encounter disturbing elements in the learning process, e.g., chaotic situation, teacher spending idle time and/or absent during class time.

Subject wise analysis of the government schools shows that English and Environmental Studies (Science) are more interactive (65% and 63% respectively) than the other subjects. In case of Bangla, Mathematics and Environmental Studies (Social) it is more or less similar but they spent less time for interactive functions (ranging between 50 and 55%). On the other hand when the private school is considered all subjects (except English) are found to be either equal or less interactive. Mathematics and Environmental Science (both Social Studies and Science) classes were more interactive than the others like Bangla or English. It is also surprising to note that more than one tenth to one third of class time is wasted in the process of counteractive situation. This is higher in government than in private schools. Why the government teachers waste more time in class is not clear but it may be assumed that since they conduct two-shift school in a day and there is no apparent resting period they become tired and waste time in class.

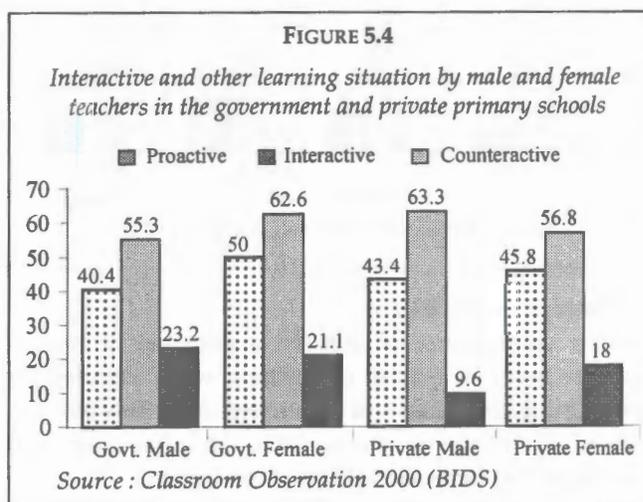
To what extent the classroom is interactive is an indicator of quality education. In this regard at least half of the class time should be devoted to interactive approach and no or minimum time spent for counteractive situation. The interactive situation engages a learner more, while the

proactive situation either detaches her/him (i.e., the learner) from the context or reduces her/his attention. Most of the primary school teachers in Bangladesh are traditional and have a tendency to follow proactive teaching in classroom. A teacher after receiving training from the PTI is expected to use interactive teaching. However, use of interactive strategy in class depends on various other factors. Interestingly, many of the untrained teachers also tried to adopt the interactive strategy while teaching in class.

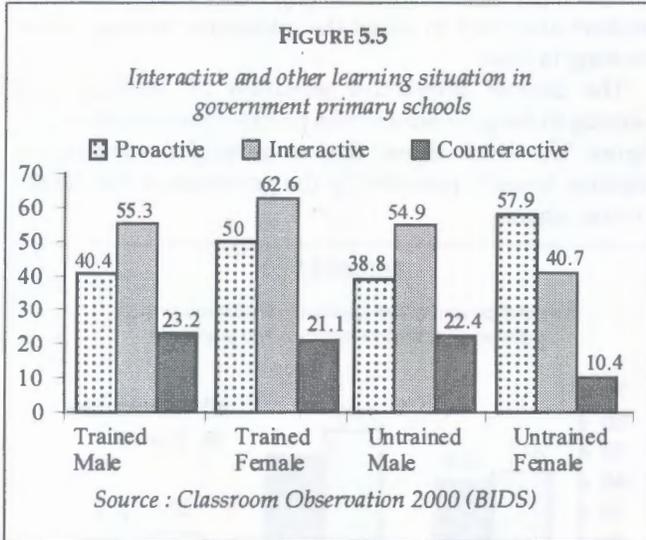
The overall interactive situation of teaching and learning in the government and private schools is shown in Figure 5.3, which shows that in general the interactive situation is much prevalent in the government than in the private school.



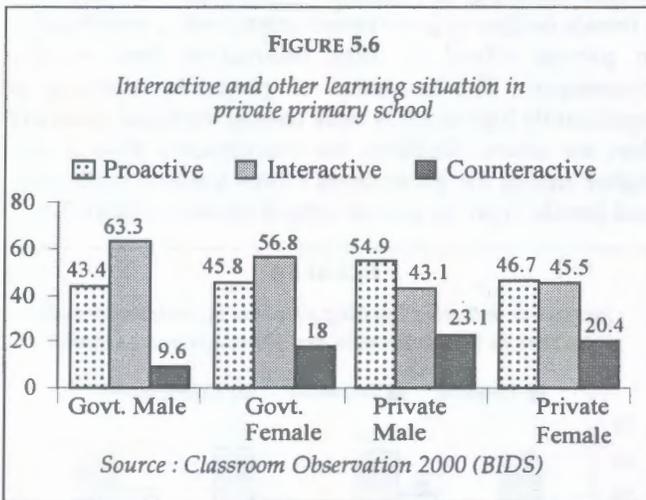
The results were also analysed in terms of the gender of teacher and types of school. On an average it is found that a female teacher in government school and a male teacher in private school is more interactive than her/his counterpart. The tendency of proactive teaching is significantly high but it is more among the female teachers than the others. Similarly, the counteractive time is also higher among the government school teachers (both male and female) than the private school teachers (Figure 5.4).



When the interactiveness of teaching and learning is analysed in terms of teacher's training it provided an interesting picture. In government schools the trained male and female teachers were more interactive than the untrained teachers. The untrained female teachers were worse in this situation as they spent most of the time in proactive teaching (Figure 5.5).



However, when the analysis is done with the teachers of private schools only, it reveals that both the male and female teachers are more interactive than the untrained teachers. The proactivity is more common among the untrained than the trained teachers (Figure 5.6).



Interactive index (IRI)

Besides the measure of interactive situation in class a numeric index of quality of teaching was computed by utilising the class time and interactive ratio. This index is termed as Interactive Index (IRI). The definition and computational formula for IRI is given below:

$$IRI = \frac{\text{Interactive time (minutes)}}{\text{Total time in a period}} \times 100$$

IRI is a quantitative measure of qualitative teaching learning process in the classroom. IRI for every teacher was determined on the basis of classroom observation. Teachers' average IRI score corresponding to subject and type of school and gender difference by type of school is given in Table 5.5. It shows that on an average the IRI of government primary school teachers is higher than that of private primary school teachers. Particularly, the Social Studies and Science teachers' IRI is very high among the government school than in private school teachers. However in Mathematics the trend is reversed. Gender variation of IRI is also observed among the teachers. From this observation it appears that male teachers' class is relatively more effective than the female teachers' class (Table 5.5). One, however, has to take these results with a grain of salt as the observation was done for a day by male investigators which may have affected the teachers' behaviour exceedingly.

While considering the IRI score, a measure of 30 may be taken as the minimum acceptable level of quality teaching. Therefore, taking 30 to be the threshold of teaching quality, the government schools seem to be satisfactory vis-à-vis the private schools. Subject-wise, Bangla, Social Studies and Science teaching in government schools appears to be more satisfactory than those in private schools. English and Mathematics are the two subjects, which are not at all satisfactory in either type of schools. It reflects the teachers' poor preparation/performance in two basic subjects like English and Mathematics.

Table 5.5

Teachers' average IRI-score by subject and gender

Subject	Govt. Primary School		Private Primary School	
	Male	Female	Male	Female
Bangla	39.3	25.6	35.6	20.7
English	30.7	28.9	18.5	14.8
Mathematics	26.9	20.1	37.3	19.3
Social Studies	47.0	37.7	15.5	21.6
Science	39.9	49.7	38.8	8.0
All subjects	35.8	31.2	29.7	23.2

Source: Classroom Observation 2000 (BIDS)

Teaching-learning process in non-formal schools

Though there is similarity in curriculum of the formal and non-formal systems the operational modality to achieve the educational goals is different. Moreover, the physical and infrastructural patterns of the two schools are also

different. In order to get a comparative picture of teaching learning situation; the non-formal school teachers' interactive exercise in class was also examined. Considering their diversity in organisational and delivery pattern they should not be compared in the same bracket. To understand the diversity of teaching learning situation in non-formal classroom, observation was made in Class IV because most non-formal school does not have the fifth grade. The results of the analysis are presented in Table 5.6. It is very interesting to note that the non-formal schools are highly interactive. Out of four observed subjects English and Social Studies teaching seems to be the most interactive. In this case more than two-thirds of class time is spent in interactive situation with the students. However, Mathematics and Bangla though less interactive yet they cover more than half of class time for effective teaching. Along with this interactivity teachers also performed proactive role in class which is around over one third of class time. These schools, however, did not waste time in the form of counteractive situation which is remarkable for the non-formal schools.

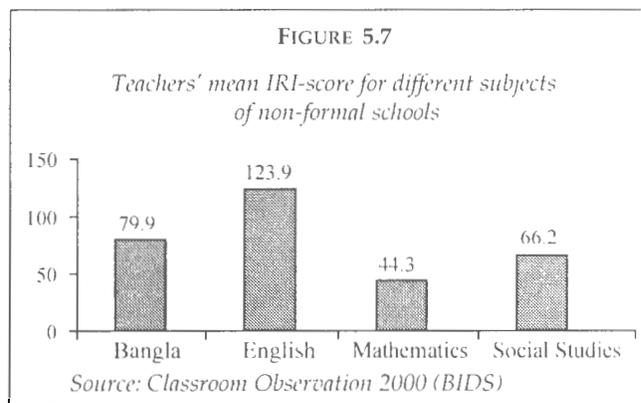
TABLE 5.6
Average time spent by the non-formal school teachers for different interactive situation in Class IV

Subject	Proactive		Interactive		Counteractive	
	Minute	%time	Minute	%time	Minute	%time
Bangla	11.6	38.7	17.5	58.3	0.9	3.1
English	10.5	34.9	23.2	77.3	0.8	2.8
Mathematics	13.1	43.7	17.4	57.9	0.7	2.4
Social Studies	11.1	37.1	20.3	67.8	1.8	5.8

Source: Classroom Observation 2000 (BIDS)

Having such high interactive situation in these schools the IRI value of the teacher was also determined. The analysis shows that the teachers in non-formal schools have very high IRI value.

Subject-wise analysis of IRI score for the teachers (of both sexes) shows that while teaching English they become much active than in other subjects. Next to English were Bangla and Social Studies. Mathematics is the subject where teachers became less active compared to other subjects. However, the mean IRI score for teachers in non-formal schools was much above the satisfactory level of interaction (Figure 5.7).



The Crisis of Quality in Primary Education

Over the past decade Bangladesh has made important gains in its efforts towards reaching the coveted goal of 'Education for All'. Literacy rate has gone up and by government claim, it has now reached 65 percent. Commendable progress has also been reported in other indicators of education, particularly at the primary level. The net enrolment rate has now reached nearly 80 percent, from about 60 percent in early 1980's. Similarly cycle completion rate at primary level has reached 70 percent and 60 percent of students now attend school on any given day. These are all impressive and show the nation's capacity to improve. However, our knowledge about the quality aspects of our education is not very clear.

As mentioned in the introductory chapter, quality in education is a broad concept of many dimensions. It is a function of many factors: individual, family, community, school, and much beyond. The concepts of enrolment or attendance that we just discussed in the previous paragraph are important components of any overall quality of education framework (Figure 1.1). The *Education Watch* covered many of these aspects in its 1999 report. There are more to quality. This year we looked at two more aspects of quality: pupil achievement and teacher education.

There has not been much work done to assess pupil achievement in Bangladesh. Traditionally this is done through two types of tests. One which is called a 'curriculum independent' test, the knowledge and skill levels based on a pre-determined standard that the students are expected to attain. The Assessment of Basic Competencies or ABC, which was used in *Education Watch* 1999, is this kind of test which is based on a pre-determined definition of learning outcome to be achieved through basic education (Chowdhury et al. 1994; Nath et al. 1999).

The other kind is the 'curriculum dependent' test. In this the test items are based on the curriculum that the students read in school. In Bangladesh the curriculum at the primary level specifies a set of 53 competencies that students are expected to achieve at the end of the five-year cycle. Introduced in 1992, the competency-based curriculum has received wide attention of education specialists. However, except for a recent effort which examined achievement of graded competencies at the end of Class IV (Rahman 2001), no serious assessment of the level of achievement by students of the 53 competencies has been done. The competency-based curriculum is an ever-evolving method; it is improved based on experiences. It was thus felt imperative to assess the achievement of the competencies at the end of the primary cycle. This report presented the results of this assessment. Also presented in this report was an account of teacher education, an essential link to quality education. The professional preparation of primary teachers through education and their relevance to pupil achievement has always been a matter of conjecture.

Poor results in cognitive competencies

The study has brought to light some interesting results many of which have important implications for the future of education in the country. It assessed only 27 of the 53 competencies because most of the others were of non-cognitive type not amenable to valid paper-pencil tests. The latter were, however, assessed indirectly through a separate exercise with the help of teachers. The results presented in the text reflect a very disappointing situation. At the end of five years of study in primary level institutions, less than two percent of the students achieved

TABLE 6.1
*Proportion of students achieving competencies
in different areas by gender*

Competency area	Girls	Boys	Both
Bangla	33.2	39.8	36.5
English	10.6	8.0	9.4
Mathematics	13.5	15.8	11.6
Social Studies	18.5	19.9	19.2
Science	16.9	17.6	17.3
Religious Studies	22.7	42.5	26.7
All competencies	1.8	1.5	1.6

mastery in all 27 competencies that were tested. The 27 competencies comprised of those in Bangla, English, Mathematics, Social Studies, General Science, and Religious Studies. Table 6.1 shows a summary of the achievements in each.

The scores are poor for all subjects but particularly so for English and Mathematics. Let us analyse the situation for each. In English the three competencies tested were reading, writing, and listening. The students did fairly well in reading and listening with 58.6 percent and 71.6 percent achieving these respectively. The competency which the students found most difficulty with was writing; only 12.3 percent students performed acceptably in this. The very low achievement in English writing brought the overall results down treacherously. A similar picture emerges when one analyses the results on Mathematics. Of the five competencies tested in Math, the students did worst in 'problem solving'. It thus shows that although the achievement of students in many competencies was reasonable, the havoc was caused by a few competencies which the students found to be 'very difficult'. Table 4.12 showed the competencies sorted by levels of difficulty. There were three competencies which the students found 'very difficult'. Besides the two just discussed the third competency which the students found to be 'very difficult' is 'knowledge about prophets of own religion'. This particular competency requires recall of information rather than application of skills or understanding. This competency was also found to be covered 'excellently' in both the textbooks and teachers' guides. The real problem probably lay in students poor writing skills since they were required to write five sentences in Bangla on what they knew about their prophets. An analysis of the results according to taxonomic classes of items suggest that students did better in 'knowledge' than in items requiring 'understanding' and 'application of knowledge' (Chapter IV).

The analysis of data in terms of average scores (rather than mastery of all 27 competencies by a student) showed that, on an average students achieved 16 of the 27 competencies tested or approximately 60 percent. This is

far from satisfactory because a student at the end of her/his primary cycle is expected to achieve mastery on all competencies¹. A look at the 'literacy' competencies based on the test items related to the 3R's also did not indicate any improvement in performance. There is no denying that crisis on the quality of primary education is real in the 'criterion referenced' test.

Gender difference

Table 6.1 provides a summary of the proportion of girls and boys who achieved all 27 competencies for different subject areas. It shows that more boys achieved the competencies than girls except in English. In English the competency which made a statistical difference between girls and boys was writing. The slightly better scores for boys in several items were not statistically significant. The ABC test repeated in *Education Watch 1999* had found significant better results for boys than girls (Nath et al. 1999). Girls have caught up with boys in terms of enrolment in school and appear to be catching up gradually in learning achievement also. The fact remains though that overall achievement for both boys and girls are low. Equality in performing poorly is not a matter of rejoicing.

Rural-urban difference

Table 6.2 presents a summary of the proportion of students who achieved all competencies by rural and urban areas. Children of urban areas are far ahead of rural children. This is also consistent with results of previous studies. The rural-urban difference was found more striking in case of private schools than government schools. However, there was no significant rural-urban difference in non-formal schools. The private schools in urban areas are better endowed with teachers, physical facilities and other

TABLE 6.2
*Proportion of students achieving competencies
in different areas by residence.*

Competency area	Rural	Urban	Total
Bangla	34.0	46.5	36.5
English	7.8	15.8	9.4
Mathematics	10.4	16.1	11.6
Social Studies	16.5	30.2	19.2
Science	13.4	32.8	17.3
Religious Studies	22.7	42.5	26.7
All competencies	1.2	3.2	1.6

¹ The assessment of the non-cognitive competencies (psychomotor and affective domain), however, produced somewhat better results. But this was not based on any objective test. One thus has to be cautious in interpreting these results as the assessment are subjective in nature and are fully dependent on teachers' own criteria which may vary between different groups.

resources but it is the opposite in the case of rural areas. The socio-economic background of students going to formal schools in urban areas is better than those in rural areas, however, this is not the case for non-formal schools. Almost all urban non-formal schools are situated in slum areas.

Differences by school type

Table 6.3 presents a summary of the proportion of students who achieved different and all competencies by type of school. There is no difference between government primary schools and private schools. What stands out clearly is the better performance by non-formal students. The superiority of non-formal schools in achievement was also reported in earlier studies. While 21 percent of government school students qualified in ABC the same percentage for non-formal was 39 percent (Nath et al. 1999).

TABLE 6.3

Proportion of students achieving competencies in different areas by type of school

Competency area	Government	Private	Non-formal	Total
Bangla	35.7	34.6	43.2	36.5
English	7.3	9.3	21.2	9.4
Mathematics	10.6	10.0	18.9	11.6
Social Studies	18.8	17.6	23.7	19.2
Science	16.7	17.6	20.3	17.3
Religious Studies	28.3	18.4	29.0	26.7
All competencies	1.0	0.9	6.0	1.6

Factors affecting achievement

In Chapter IV we presented the factors that were thought to have some bearing on achievement of students. Students with the following characteristics did better in the achievement test:

Family/individual characteristics

- Young in age
- Parents educated
- Better-off family
- Better access to mass media
- Religious minority
- Parents discuss academic matters with teachers
- Parents provide tutoring at home.

School characteristics

- Parents participate in school meeting
- Teacher student ratio is 40 or less
- Teachers more educated and professionally trained

- Teachers with lesser service length
- Less distance between school and local educational authority
- Increased visit to school by educational authority
- SMC meet regularly
- School located in urban areas.

Teachers' training and skills

The sub-study on teacher education also provided certain leads. When the topics covered in the Certificate-in-Education (C-in-Ed) programme is compared with the pedagogical practice of the teachers in government schools, a gross mismatch is observed. The teachers are reluctant to practice what they learned in PTIs. Lesson plan, for example, is much emphasised in C-in-Ed but this is not followed at all in practice. An interesting element about PTIs is that none of their instructors ever did any teaching at primary level. Most of the learning outcomes at PTIs are subject-oriented and very few are activity-oriented. With such a discrepancy between theory and practice the PTIs hardly can prepare good teachers. An index based on interactions in classroom, in government school, found satisfactory interactions between teachers and their pupils at least in government schools. The same index applied to non-formal schools, however, showed a higher level of interactive behaviour than in government or private schools.

The relevance of teacher education, especially, the yearlong PTI course, is clearly an issue. It has been seen that students of non-formal schools performed better than government or private schools in the tests. The teachers of non-formal schools are provided the basic training for only 15 days. However, they are also given a day's refresher training every month which focuses on practical pedagogical issues faced by teachers. Although a direct relationship between teachers' education and pupil achievement can not be assumed, the value of the PTI course is questionable. It was found that the government spends approximately Tk. 36,000 in training a teacher at PTI. It is essential to re-examine the model of effective teacher education at primary level and the role of PTIs in quality primary education.

Causes of poor results: some further hypotheses

In Chapter IV we briefly presented results from ethnographic observations of classrooms in six primary schools (case studies of two schools presented in Annex 4.27). The researchers observed the various interactions and transactions that take place in a classroom of each of the three types of schools. Of the various skills, the one that the students are least required to attain and practice in classroom is writing. The teacher gives less emphasis on Bangla writing and tends to avoid English writing altogether. And creative writing is anything but present. If

the students are asked to do some writing in class or at home the teacher seldom checks them. If some are at all checked these are invariably of students who sit in the front benches. The practice of writing is further constrained by absence/shortage of *khata* (copybook) for many students. This is true for both types of formal schools. The BRAC school students are lucky in this regard as they are provided with the *khata* in the school.

The ethnographic study also provided information that threw light on the likely causes of poor achievement by students. These include:

- No lesson plan is followed, particularly in formal schools. The teachers in non-formal schools were more likely to use the lesson plans.
- The teaching-learning process in the formal schools was teacher-centred. In the non-formal, however, there were some attempts to make it more learner-centred.
- The formal schools (government and private) emphasised memorisation and rote learning but non-formal schools followed activity-based instruction.
- In the formal schools, oral assessment was more popular but in non-formal both oral and written assessments were practised. Remedial measure was not taken in any school for the slow learners. Moreover, the assessments were more directed to good students who sat in front benches.
- Use of teaching aids was almost non-existent, particularly in formal schools.
- Teachers are not consciously aware about the 53 competencies and hence do not make any special effort to ensure that the students master those.

The above findings of the ethnographic study are corroborated by other studies. In a recent report, the Primary School Performance Monitoring Project (PSPMP) of the government analysed the relationship between the classroom teaching-learning process and schools' achievement. There is a remarkable similarity in findings between these two studies. That the creativity of students is less emphasised is borne out by one of the findings of PSMPP study which states, 'a very few teacher (16%) tried to get the students to think beyond an answer by asking follow up questions' (Ferdous and Nitko 2001).

As mentioned in methodology (Chapter II), we shared the findings of the study with a few groups of stakeholders including teachers of government, non-governmental and non-formal schools, their supervisors such as Upazila and Assistant Upazila Education officers and NGO Programme Organisers. They gave their views on the findings and provided explanations of why such devastating results occurred. Some of the participants agreed with what the study had found but some others thought that the situation was not that pathetic. The following provides a summary of the causes for the poor achievement of primary school

graduates, as perceived by the teachers and their supervisors. Notice the defensive nature of the explanations.

- There was a tendency to put blame on the students, their parents and on their poverty. They maintained that students do not come to school regularly, and that the parents take them away from school under any pretext and do not take care of them at home.
- Because of too many students in class, the teachers can not teach equally well to all students, nor can they evaluate them well.
- Teachers are given other duties in addition to teaching.
- There is a delay every year for students to receive textbooks. Many parents also could not afford *khata* (copybook) for their children which restricted practising their writing.
- As the teachers have to take 6-7 classes everyday they become tired in the later part of the second shift, and classes that are held during that time get less attention. It may be recalled that higher classes including Class V are held in the second shift. English is often pushed to the late hours.
- A lack of motivation is seen among private school teachers due to low pay. Moreover, most such teachers are not trained in teaching.
- Most teachers in all streams are weak in English and there is an apparent fear about it; because of this, English is taught in a cursory way.
- Most teachers do remember the competencies as a concept but not necessarily all 53 of them. Since student evaluation is not done with the competencies in mind, ensuring that students learned these is not given due attention.
- The teachers in general and their supervisors believed that if proper environment is ensured the competencies are not impossible to achieve. The district president of a teachers association, however, believed that some of the competencies were either difficult for the primary level or irrelevant.

Finally, a mention about the 53 competencies themselves. It is well known that these competencies were devised after years of work and research. It is also found that these are attainable by the children of Bangladesh. However, a closer look at these competencies raises certain questions. An obvious one is: whether a list of learning objectives which represent a combination of skills, knowledge, values, attitudes and belief can be regarded as an appropriate basis for defining competencies children should master in primary education. A further question is whether such a list of 'competencies' can be the basis for assessing objectively children's learning achievement. It

was found necessary in the present study to call out a list of 27 competencies to construct and administer a test. Introduction of the competency-based curriculum in Bangladesh is a big step in the right direction but it is important to make it a vehicle for improving and assessing learning achievement of children. There should be a systematic process of renewing and revising these periodically based on experiences and new realities.

Mr. F. H. Abed in his foreword to *Education Watch 1999* report quoted Rabindranath Tagore:

ইক্কল বলিতে আমরা যাহা বুঝি সে একটা শিক্ষা দিবার কল। মাষ্টার এই কারখানার একটা অংশ। সাড়ে দশটার সময় ঘণ্টা বাজাইয়া কারখানা খোলে। কল চলিতে আরম্ভ হয়। মাষ্টারের মুখ চলিতে থাকে। চারটের সময় কারখানা বন্ধ হয়, মাষ্টার-কলও তখন মুখ বন্ধ করেন; ছাত্ররা দুই-চার পাতা কলে ছাটা বিদ্যা লইয়া বাড়ি ফেরে। তারপর পরীক্ষার সময় এই বিদ্যার যাচাই হইয়া তাহার উপরে মার্ক পড়িয়া যায়।

(The school is like a factory for providing education. The teachers are part of this. The bells ring at 10.30 and the factory starts to hum. The machine starts; the teachers begin their

routine. At four, the machine stops and the teachers stop too. The students return home with a few pieces of machine-processed knowledge. At exam this output is assessed and is given a grade.)

He then asked, "Are our schools much different now?" It seems our schools haven't changed much since Tagore observed the above nearly one hundred years ago. With nearly 80 percent enrollment, 72.7 percent completing the primary cycle and 1.6 percent attaining the competencies, less than one percent of the children leave the primary school age with the nationally determined competency. This is a tragic wastage of resources. In 2001-2002 budget terms, the country will be spending Tk. 14.3 billion (or US\$ 250 million) in primary and mass education sector (www.gobfinance.org). If the above statistics hold true 99 percent of this allocation will go down the drain. Can the country afford it? This is a wake-up alarm, not a wake-up call.

Conclusions and Policy Implications

Whichever way one looks at the findings of the *Education Watch Learning Achievement Survey 2000*, they are highly worrisome. If the survey conclusion that 1.6 percent of children completing five years of primary education achieve 27 tested primary education competencies is taken as an approximate representation of the real status of children's learning, it has to be regarded as nothing short of a disaster.

It can be argued that asking children to demonstrate in a test their achievement in *all* of the 27 competencies puts an onerous burden on the children. The result of the test is a function of the number of domains tested and the number of total test items. More the numbers, the greater is the chance of missing out on a test item or a whole domain. There is also the developmental psychology argument that children's cognitive development does not happen in a linear way; a child who appears to be weak in one or another area may catch up or even move ahead of others later.

On the other hand, it must be noted that the test was pitched at a very basic difficulty level in respect of the various competencies children were expected to demonstrate. Over two thirds of primary school students, who were given the test at reputedly the "best schools" in Dhaka city, had a perfect score. Moreover, the criterion of judging "mastery" of the 27 competencies in the survey was rather liberal. Out of 58 items in 6 domains, students had to answer correctly only 34 items.

The researchers did consider alternative interpretations of the survey findings. Recognising the arguments about expecting mastery of all tested competencies by the same child, the central statistical tendencies were looked at, which emphasise the performance of the group rather than the individual. The key finding is that, on an average, learners performed satisfactorily in 16 of the 27

competencies. A related finding was that half of the learners acquired 16 or less of the competencies (with the median also being 16). This is only marginally less distressing than the finding that less than two percent of children acquired basic competencies in primary school.

The survey results on learning achievement have to be seen in the context of overall status of access and participation in primary education. In spite of the progress made in recent years, one out of five primary-school-age children still does not go to school. Of those enrolled, 70 percent drop out before completing Class V. A significant proportion of children is nominally enrolled and attends school intermittently before dropping out. On an average day, 60 percent of those enrolled are present in the class. Results reported in the survey represent only that group of children who survives all the hurdles to schooling to reach the final year of primary education.

The finding regarding student achievement is broadly consistent with other recent survey results. *Education Watch 1999* reported that of the 11-12 year age children, about 30 percent achieved basic competencies in literacy, numeracy and life-skills expected of this age group (not necessarily those specified in the primary education curriculum). The admonition of the then Education Minister about the need for testing pupils' learning based on what primary schools are supposed to teach was one of the reasons for undertaking the present *Education Watch* study. The testing of curriculum-based 'competencies' did include items that required recalling information in the textbooks. In respect of assessing achievement of basic competencies and constructing a valid test for that purpose, linking test items to the content of textbooks should not be a relevant factor. In any event, the results of the curriculum-based test were no less disappointing than the general test of competencies.

The findings about overall low pupil achievement; the differences in achievement between urban and rural children, between boys and girls, among different types of schools and among domains of learning; teachers' skills and performance; and school-related and social factors affecting children's learning do point to policy issues which must be addressed to improve the quality of teaching and learning in primary education. Some of the policy implications arise directly from the findings of the survey; others logically follow or derive strong support from the findings; in the case of still others, the findings reinforce widely argued and held positions among professional education circles. The authors of this report certainly hope that the findings of *Education Watch 2000* will not remain as another confirmation of poor quality in primary education and an expression of concern about it. The purpose of the report will be served only if it becomes an impetus for initiating appropriate policy changes and necessary action to implement these changes. With this hope, the following policy implications of the report are presented.

Urban-rural difference

Education Watch 1999 showed that rural children lagged behind their urban counterparts roughly by one academic year in respect of basic competencies (not specifically based on the curriculum) achieved by 11-12 year old children. This pattern is confirmed by the present study. In all six domains tested, while overall results are poor for all children, rural children are found to be at even greater disadvantage.

This is a matter of special concern, because 80 percent of the primary-school-age children live in rural areas. The conditions of deprivation of children in urban slums may be worse in many respects, are more visible, and cannot be ignored. However, in terms of numbers of children not enrolling, dropping out or failing to acquire the essential competencies, it is still pre-dominantly a rural problem. Policies and programmes in primary education have not specifically taken into account the disparities in quantity and quality of educational provisions and services between urban and rural areas and among rural areas themselves. The exception to this general picture is the effort of NGOs, which have attempted to serve the rural poor with somewhat greater success as the survey findings show. But NGOs serve in total less than 10 percent of the primary education clientele.

With the overwhelming majority of primary school age children living in rural areas, educational policies and programmes need to give special attention to specific conditions in rural areas causing lower achievement of rural children. The focus of attention should include per capita resource allocation, distribution of school facilities, direct and indirect costs of schooling to poor households, enforcing performance standards of schools

and teachers through stronger supervision and accountability to the community, and introducing an objective system of monitoring and assessing learning achievement of children.

Gender gap

Narrowing the gender gap in primary education in respect of enrolment over the last decade has been an important achievement in Bangladesh primary education. The difference in learning achievement between boys and girls still persist. However, there appears to be a trend towards a reduction of gender-based difference in achievement. The overall difference between girls and boys (1.8 % and 1.5% respectively acquiring all competencies) is substantially smaller than the difference between urban and rural children (3.2% and 1.2% respectively for all competencies). In English, girls performed better than boys, though the total score for both were low. In a number of instances, the reported edge in favour of boys was statistically not significant.

The trend towards narrowing the gender gap in participation in education and learning achievement has to be maintained. It has to be kept in view that the overall achievement remain very low for all children and the effort to improve total achievement has to continue along with combating traditional attitudes about gender roles and expectations reflected in classroom practices, teachers' behaviour and attitudes and the content of learning material.

The formal and non-formal education divide

Among the primary schools covered in the survey – government primary schools, private (registered and unregistered) primary schools and non-formal primary schools – the last category has come out consistently superior to the others in respect of pupil performance. In all of the six domains of competencies tested, non-formal schools recorded a difference over both government and private formal primary schools. This difference is largely consistent for urban and rural children and genders.

The sample of non-formal centres was drawn from different NGO programmes, however, BRAC programme is the dominant provider of non-formal primary education in terms of total number of facilities. The key elements behind the comparatively better performance of non-formal schools, indicated by various studies and supported by the findings of the survey, are the following:

- There is strict accountability and a strong system of supervision regarding teacher performance. Teachers are on the job, every day, on time, which upholds the discipline of the school schedule and encourages regular student attendance. This would be regarded as a minimal condition for any institution to function properly, but which is not the norm in formal primary schools.

- The two-week pre-service training for teachers is followed by regular monthly refresher training focusing on practical classroom and pedagogic issues; teachers follow a strict routine of daily lesson plan which lays out detailed steps and activities leading to the defined outcome for each day.
- The essential learning materials and textbooks are provided to all children; these are made available on time and in sufficient quantity; parents are spared any direct costs in fees or for buying learning materials, which is especially important when the target is poor families.
- A close involvement of even illiterate parents in their children's education is encouraged by teachers; the small schools of 33 children in each serve a neighbourhood establishing a rapport between the community and the school.

The policy question is how the advantages of the non-formal schools can be incorporated into formal schools, even when the differences in the circumstances of the two are recognised. There are no simple answers, but establishing a stronger performance accountability of teachers and schools specifically focusing on learning outcome, re-examining the effectiveness of teacher training and supervision, ensuring that learning materials and textbooks are available on time to all children, meaningful involvement of parents in school and better communication between parents and teachers of their children have to be important items on any quality improvement agenda. Another important move would be to promote local-level comprehensive planning (at the village, union and upazila level) for educational services of acceptable quality for all children, involving in the process all stakeholders including NGOs, government and government-assisted institutions, community leaders and the local government structure. The aim would be to identify and implement essential quality improvement measures in all primary education institutions in the area. (See below the item on educational management).

Achievement in different domains

The most critical basic skills, which in fact, become the foundation for building other competencies at the primary education level, are literacy and numeracy. If at the end of the primary stage, children fail to acquire basic communication skills in the mother tongue and the four rules of mathematics at a functionally useful and sustainable level (i.e., learners are able to use these skills in their daily life and for further learning), then the primary school has failed in doing its job, whatever else happens in the school.

The survey shows that 36.5 percent of the learners achieved the competencies in Bangla when the scores for reading, writing and listening skills are combined. In

Mathematics, 11.6 percent achieved competencies (numbers, four rules, problem solving, measurement units and geometric figures). Performance was the lowest in writing (in Bangla) and in problem solving and four rules (in Mathematics). These required understanding and application of knowledge in specific situations. (The test in Bangla did not include an item on speaking – expressing one's thoughts orally in a purposeful way – perhaps because this did not lend itself to a paper-and-pencil test.) Poor performance in higher order skills of understanding and application of knowledge is also found in other domains.

It is essential that the curriculum, definition of competencies and learning objectives, preparation of learning materials and textbooks, teacher training (especially in respect of teaching language and mathematics to young children) and supervision, and assessment of learning outcome accord a high priority to equipping children with the basic tools of literacy and numeracy. It is necessary to reconsider the list of competencies and the relative emphases on them in order to ensure that necessary time and effort are directed to acquiring the core literacy and numeracy competencies by students.

Reconsidering the question of English as a subject beginning from Class I of the primary school is relevant in this regard. The performance in English is the worst among all domains. English used to be taught from Class III, but was introduced in Class I in the late 1980's, essentially as an apolitical decision, without due regard to all of the pedagogic implications. The result has not been happy – given little or no proficiency in English of the average primary school teacher, the short contact time for effective learning in the school day, and the generally overburdened teacher. Not only that children do not learn any English, their and their teachers' precious time and energy are diverted from other essential tasks such as developing effective communication skills in Bangla.

Teachers' skills and performance

Most teachers in primary education are receiving pedagogic training. There are two prevailing models of training – a) a year-long Certificate-in-Education course preparing teachers mostly for the formal system of government primary schools and non-government registered schools, and b) the BRAC model, also used by many other NGOs, of a two-week intensive orientation followed by monthly one-day refresher training and regular classroom supervision. The two stand in sharp contrast in respect of not only the course duration, but also in assumptions about required teacher skills and classroom practices, the content and method of training and how incentives and motivation can be created for the teacher to perform in the classroom.

The survey findings clearly show that the non-formal model is associated with better achievement in competencies by pupils. The analysis of classroom observations does show a degree of 'interactive' behaviour by trained teacher in government primary schools, but also shows a higher level of interactivity in the non-formal classrooms. More importantly, teacher behaviour in the latter apparently is translated into better learning outcome, as tested in the survey; whereas, teacher training and classroom practices in formal primary schools are not making as much a difference in learning outcome.

The teacher education part of the survey points to many problems in the formal primary teacher training programme including the fact that the trainers themselves have no first-hand experience of teaching primary school children, large class sizes in training institutes that encourage lectures as the only teaching method, too heavy a work-load of trainers, curriculum and learning materials that do not relate to real-life classroom problems, and no linkage between pre-service and in-service training and supervision.

Mere tinkering with the curriculum of the existing model of formal teacher training and its expansion will not help improve the quality of primary education. The premises and assumptions of the current programme regarding training objectives, training methods and conditions for use of training in classroom – in other words, why training is not making the expected contribution to better learning outcome – have to be probed rigorously, followed by a fundamental rethinking about effective teacher training and creating the conditions for use of the training in classroom. The non-formal teacher training method is not necessarily the model to be replicated for all schools, if only because the better student performance of non-formal primary education still falls short of an acceptable national norm for achievement in primary education competencies. However, a serious rethinking of teacher training will have to take into account many relevant lessons from the approach followed by NGOs in training their teachers.

Family-related factors

As one might expect, favourable family circumstances of children – represented by a *combination* of factors including education of parents, parents' ability to spend on private tutoring, parents keeping in contact with teachers about their children's education, and the economic status of the family – have appositive impact on the child's learning achievement. The child's relative young age, which probably reflects parents' interest in a child's education, has also been found to be associated with better learning performance. Children of the minorities appear to do better probably because of traditional interest in education among the main minority communities (Hindus, Buddhists and Christians) and the phenomenon of a

stronger achievement orientation of minorities observed in many societies.

The policy implication, from the point of view of national and state obligation to provide quality basic education to all children, is that the school programme needs to be designed and other ancillary measures taken to compensate for serious family-related deficiencies impeding children's learning. NGOs, targeting specifically disadvantaged groups, have applied this approach with positive results. Among the measures that can be contemplated are: providing learning materials to students and eliminating direct and indirect, official and informal, costs to poor parents; eliminating the need for paid private tutoring; flexibility in school programme and routine to suit seasonal agricultural workload for families and situations of working children and so on. A pertinent policy issue is whether the substantial government spending on 'food-for-education' would not be better spent on providing learning materials and supporting volunteer tutors for children who need extra help in their lessons.

School-related factors

School-related factors contributing to positive learning outcome include parents' involvement in school affairs, a reasonable class size, teachers younger in age and professionally trained, school close to the local education office and supervised more often, and an active managing committee. These factors are likely to be more prevalent in an urban school than in a rural one.

The important policy message here is the need for establishing a system of accountability of school and teachers' performance to parents and the community. The community, in turn, needs to be encouraged to be involved in creating the condition for the school and the teachers to function properly.

For example, given the number of teachers and students in the system, and the fact that classes are held in two shifts, class sizes generally should be of reasonable number, not exceeding 35 or 40 at the most. But this is not the case often, because, there are not enough classrooms or classroom space, and teachers arrange among themselves to combine sections and not teach two full shifts. The community, represented by an active school managing committee, can help in adding classrooms or expanding classroom space, and demand that teachers live up to their obligation. The question of the school's accountability and performance is linked with general decentralisation of educational management, discussed below.

Decentralisation of educational management

Although the study has not directly addressed educational system management issues, it cannot be denied that performance of students and teachers, the focus of the study, is intimately linked with both the management of

individual schools and how the school is supported and supervised by the total structure of educational management. The analysis of school-related and family-related factors and observations of classroom practices of teachers point to various issues of school-level management and support to the school by the administrative hierarchy.

The findings of the study lend support to a broad consensus of professional views regarding a) the need from establishing greater accountability to parents and community for performance of students and teachers, and b) changing the current highly centralised and bureaucratic planning and decision-making in the vast and far-flung system of primary education to a more decentralised, professional expertise-based and participatory management approach. These views have been expressed in, among others, in the new education policy statement (approved during the tenure of the previous political regime) and the recommendations of the Education Task Force of the Centre for Policy Dialogue. Key proposals of the CPD Task Force, which echo widely held professional views, include the following. (Centre for Policy Dialogue, *Policy Briefs for the Next Government*, "Report of the Education Task Force," Dhaka, September, 2001, draft)

- **Autonomous district education authorities should become the pivotal entity for overall planning and management of primary and secondary education. The district authorities should manage educational resources provided by the government and other resources derived from other sources and support community and school-based plans and programmes for quality basic education for all.**
- **The decentralisation process and district-based management should be initiated on a trial basis in a few districts to help capacity-building and to learn how the decentralised system can be protected from corruption and politicisation, two major problems in the education system, which have crippled various reform efforts.**

Resources

Improvement of quality reflected in learning achievement cannot happen without adequate resources. The study has indicated resource problems affecting adversely pupil performance in two ways: a) A generally unsatisfactory teaching-learning environment in the classroom reflected in inadequate classroom facilities, absence of basic provisions in many schools such as toilets and drinking water, little or no learning aids and non-availability of textbooks at least for a part of the school-year and insufficient numbers of teachers and classrooms to maintain reasonable class sizes throughout the system; and b) Inability of the school to compensate for unfavourable family and economic situations of children that impede their progress in school; for example, when the family

cannot buy the notebooks and pencils or cannot pay for extra tutorial help for the child.

With an allocation of under \$20 per year per child in the government primary schools, primary education is definitely under-resourced in Bangladesh. Public expenditure in education as the share of GNP is one of the lowest in the world here. Improvement of pupil achievement will require the commitment of substantially larger public resources and better use of these resources.

More than doubling of the share of GNP to education in the next five years to 5 percent from the present level of over 2 percent, as proposed by the CPD Task Force and others, will be an essential measure for quality improvement in primary education. Even this increase, if achieved, will bring Bangladesh to the average level among developing countries' spending for education in GNP share.

Finally, any serious policy reform effort in Bangladesh must contend with the fact that the education system has become hostage to the twin evils of partisan politics and pervasive corruption, aided and abetted by an ineffective and centralised bureaucracy. Corruption and politicisation are manifested in all parts of the education system – recruitment and management of personnel, construction and maintenance of facilities, production and supply of textbooks, subvention to non-government institutions, distribution of food for education and public examinations. The practice of recruiting partisan cadres and supporters among students, teachers and school administrators by major political parties have made educational institutions a sad caricature of the academic campus.

One cannot help wonder about the relevance of well-intentioned reform proposals, such as those presented above, and their prospects for success, in the prevailing culture of partisan politics, which nurtures unlimited corruption and inefficiency. Citizens, professional groups, media, and political and government leaders with a modicum of good sense and patriotism must raise their voice for greater transparency, accountability, establishing and enforcing standards of performance, and participatory decision-making at the local level. Most importantly, they must work together to create an overwhelming public demand for declaring the educational system *a zone protected from partisan politics* – for the sake of our children and the future of the nation.

Recommendations

Short-term measures

- 7 Undertake an independent review of the quality improvement aspects of the major primary education development projects including various separate quality improvement projects in order to develop a comprehensive and coordinated quality improvement strategy and programme, addressing root causes of poor quality.

- 7 Begin increasing public budget for primary education (within the framework of a goal of doubling the share of education expenditure in GNP), targeting the new resources to quality improvement measures.
- 7 Revisit the list of the 53 competencies, retain those which are competencies in real sense of the term, and redefine these, as necessary, in terms of measurable pedagogic outcomes.
- 7 For the new list of competencies, design fresh orientation programmes for teachers and their supervisors in terms of both teaching-learning and assessment processes. Devise and introduce measurement indicators and standards for the competencies.
- 7 Raise awareness among teachers and their supervisors about the existing state of the quality of primary education in terms of the attainment of the terminal competencies, and the need to improve it.
- 7 Consider deferring the introduction of English until Class IV.
- 7 Introduce new materials and books to engage students in creative and problem solving exercises in various subject areas. Also train teachers to handle this new demand on them.
- 7 Re-examine existing and required capacities in the supervisory system from a perspective of improving learning outcome of students; and monitor the performance of teachers, their supervisors and schools from this perspective; consider instituting incentive and reward systems for better performing schools.
- 7 Supply textbooks on time and *Khata* (copybook) and pencils free of cost to students, particularly those who are disadvantaged. If resource is a constraint (which we believe is a matter of priorities and choice rather than scarcity), divert resources from the Food-for-Education and stipend programmes.
- 7 Support and encourage more interaction between the formal and non-formal systems and institutions including those for teacher training in order to build on and make best use of the strengths of each other.

Medium and long-term measures

- 7 Hold implementation of the proposed eight-year primary cycle until the existing system is more responsive to the need of the students; priority should be to improve quality and performance standards in existing institutions rather than engage in a major institutional restructuring venture with consequent strain on resources and management capacity .
- 7 Create autonomous district education authorities for overall planning, management and accountability of primary education; begin with a trial in a number of districts to ensure success and learn lessons.
- 7 Improve the reach and outcome performance of secondary school system to create aspirations among primary students and their parents.
- 7 Double the GNP share of public resource allocation for education to five percent in the next five to seven years. Distribute this increased resource to quality enhancing measures.

Bibliography

- Alam M (1997). *Basic education achievement in rural Bangladesh: level, pattern and socio-economic determinants*. Research report No. 153. Dhaka: Bangladesh Institute of Development Studies.
- Bangladesh Bureau of Statistics (various years). *Bangladesh population census 1991–community series* (64 issues for 64 districts). Dhaka: Bangladesh Bureau of Statistics, Planning Commission, Government of Bangladesh.
- Banu A (1997). *Competency of students of primary schools under new curriculum – a survey of selected districts*. Dhaka: Bangladesh Institute of Development Studies.
- Bloom BS, Engelhart MD, Furst EJ, Hill WH and Krathwohl DR (1956). *Taxonomy of educational objectives, the classification of educational goals*. London: Longman Group Ltd.
- Bloom BS (1974). An introduction to mastery learning. In J Block (editor) *Schools, society and mastery learning*. New York: Holt, Rinehart and Winston.
- Bobbitt F (1918). *The curriculum*. Boston: Houghton Mifflin.
- Bobbitt F (1924). *How to Make a Curriculum*. Boston: Hoghton Mifflin.
- Bowden JA and Masters GN (1993). *Implications for higher education of a competency-based approach to education and training*. Canberra: Australian Publishing Service.
- Bowden JA (2001). Competency based education- neither a panacea nor a pariah. An occasional paper. Taken from web site (address unknown).
- Burke JB, Hansen JH, Houston WR and Johnson C (1975). *Criteria for describing and assessing competency programs*. Syracuse: National Consortium of Competency-based Education Centre.
- Carmines EG and Zeller RA (1979). *Reliability and validity assessment*. Sage University Paper series on Quantitative Applications in the Social Sciences, 07-017. CA: Sage Publications Inc.
- Charters W (1923). *Curriculum construction*. New York: MacMillan.
- Chow GC (1960). Test of equality between sets of coefficients in two linear regressions. *Econometrica*, 28(3).
- Chowdhury AMR, Choudhury RK and Nath SR (editors) (1999). *Hope not complacency– state of primary education in Bangladesh 1999*. Dhaka: Campaign for Popular Education and University Press Limited.
- Chowdhury AMR, Nath SR and Choudhury RK (in press): Enrolment at primary level: gender difference disappears in Bangladesh. *International Journal of Educational Development*.
- Chowdhury AMR, Choudhury RK and Nath SR (2001): Towards education for all: lessons from Bangladesh. *Perspectives in Education*, 17(3): 131–150.
- Chowdhury AMR, Choudhury RK and Nath SR (2000): Jomtien, EFA goals and lessons from Bangladesh. *Entwicklungs Politik*, September, 2000.
- Chowdhury AMR and Nath SR (1999). Internal efficiency. In AMR Chowdhury, RK Choudhury and SR Nath (editors) *Hope not complacency – state of primary education in Bangladesh 1999*. Dhaka: Campaign for Popular Education and University Press Limited.
- Chowdhury AMR, Nath SR and Mohsin M (1992). *Assessment of basic competencies of children in Bangladesh*. Dhaka: BRAC Research and Evaluation Division.
- Chowdhury AMR, Ziegahn L, Haque N, Shreshtha GL and Ahmed Z (1994). Assessing basic competencies: a practical methodology. *International Review of Education*, 40(6): 437-454.
- Chowdhury AMR, Nath SR and Choudhury RK (2001). *Equity gains in Bangladesh primary education*. Research Monograph Series No. 20. Dhaka: BRAC Research and Evaluation Division.
- Chowdhury AMR, Haq MN and Ahmed Z (1997). Quality of primary education in Bangladesh. In AK Jalaluddin and AMR Chowdhury (editors), *Getting started: universalising quality primary education in Bangladesh*. Dhaka: University Press Limited.
- Cochran WG (1977). *Sampling techniques*. Singapore: John Wiley & Sons.
- Ebel RL and Frisbie DA (1991). *Essentials of Educational Measurement*. Fifth edition. New Delhi: Prentice-Hall of India Private Limited.

- Ferdous AA and Nitko AJ (2001). *Teachers' attendance and tardiness, and schools' achievement. PSPMP findings*. 1(2): 1-4.
- Ferguson GA and Takane Y (1989). *Statistical analysis in psychology and education*. Singapore: McGraw Hill Book Company.
- Fuller B and Clarke P (1974). Raising school effects while ignoring culture? Local condition and the influence of classroom tools, rules and pedagogy. *Review of Educational Research*, 64 (1): 119-157.
- Roy SG, Mirta SK and Roy SS (1995). *Achievement level of primary school children at the end of class IV*. Calcutta: Indian Statistical Institute, Calcutta and State Council of Educational Research and Training, West Bengal.
- Ghosh SK (1999). *An appraisal of the BRAC's NEPE programme in respect to coverage of the terminal competencies specified by the government of Bangladesh*. Dhaka: BRAC Research and Evaluation Division.
- Gujarati DN (1988). *Basic econometrics*. Singapore: McGraw Hill Book Company.
- Government of Bangladesh (1990). Primary education (compulsory) act 1990. *Bangladesh Gazette*. Vol. 5, Additional issue, February 1990. Dhaka: Government of Bangladesh (in Bangla).
- Government of Bangladesh (1974). *Bangladesh Education Commission Report 1974*. Dhaka: Ministry of Education, Government of Bangladesh.
- Government of Bangladesh (1988). *Bangladesh Education Commission Report 1988*. Dhaka: Ministry of Education, Government of Bangladesh.
- Government of Bangladesh (1997a). *Report of the national committee on education policy*. Dhaka: Ministry of Education, Government of Bangladesh.
- Government of Bangladesh (1997b). *Report of the national committee on primary education*. Dhaka: Primary and Mass Education Division, Government of Bangladesh.
- Govinda R and Varghese NV (1993). *Quality of primary schooling in India: a case study of Madhya Pradesh*. Paris: International Institute for Educational Planning and New Delhi: National Institute of Educational Planning and Administration.
- Jager RM and Tittle CK (1980). *Minimum competency achievement testing: motives, models, measures and consequences*. Berkeley: McCutchan.
- Jalaluddin AK and Chowdhury AMR (editors) (1997). *Getting started: universalising quality primary education in Bangladesh*. Dhaka: University Press Limited.
- Jessup G (1989). The emerging model of vocational education and training. In J Burke (editor) *Competency based education and training*. London: The Falmer Press.
- Johnston HN (1992). The universities and competency-based standards. In D Anderson (editor) *Higher education and the competency movement*. Canberra: Centre for Continuing Education at the Australian National University.
- Kalam MA and Ghosh SK (2000). *An evaluation of primary text materials in terms of the coverage of graded attainable terminal competencies*. Dhaka: BRAC Research and Evaluation Division.
- Kuder, GF and Richardson MW (1937). The theory of the estimation of test reliability. *Psychometrika*, 2: 151-160.
- Lockheed M and Verspoor AM (1991). *Improving primary education in developing countries: a review of policy options*. Washington DC: Oxford University Press.
- National Curriculum and Textbook Board and UNICEF-Bangladesh (1988). *Sarbanjanin Prathanik Sikshyar Patabhumite Prathanik Starer Sikshyacamere Parimarjano Nabayan* [in Bangla] Dhaka: National Curriculum and Textbook Board.
- National Curriculum and Textbook Board (undated). *Revision and modification of curriculum of the primary stage against the background of universal primary education- essential learning continua (primary education)*. Dhaka: National Curriculum and Textbook Board.
- Nath SR and Chowdhury AMR (in press): Levels and trend of basic education in Bangladesh: 1993-98. *Educational Studies*, 28(1):77-92.
- Nath SR and Chowdhury AMR (1999). Learning achievement of children. In AMR Chowdhury, RK Choudhury and SR Nath (editors) *Hope not complacency - state of primary education in Bangladesh 1999*. Dhaka: Campaign for Popular Education and University Press Limited.
- Nath SR, Ghosh SK and Akter S (2000). *Development of instruments to assess the achievement of national competencies at the end of primary education cycle*. Dhaka: BRAC Research and Evaluation Division.
- Nath SR (2000). *Education Watch 2000-2001: instruction manual for interviewers* [in Bangla]. Dhaka: BRAC Research and Evaluation Division.
- Ornsterin AC and Hunkins F (?). *Curriculum foundations, principles and theory*. Second edition. pp 99-100.
- Primary and Mass Education Division (undated). *Prathamik shiksha stare arjan upajogi prantic jogyata samuha*, [a wall poster in Bangla]. Dhaka: Primary and Mass Education Division.
- Rahman SM and Hossain MK (1999). *An assessment of the achievement of pupils completing grade 4 of primary education*. Draft report prepared for UNICEF Dhaka by Uniconsult International Limited, Bangladesh.
- Rahman S and Rahman AFMA (2001). Teaching-learning strategies in highest and lowest scoring schools. *PSPMP findings*. 1(3): 1-4.
- Rahman S, Hossain K, Alam M, Hossain H and Kabir MG (2000). *An assessment of the achievement of pupils completing grade 4 of primary education*. Dhaka: National Curriculum and Textbook Board.
- Saylor JG, Alexander WM and Lewis AJ (1981). *Curriculum planning for better teaching and learning*. First edition. Japan: Holt Saunders International editions.
- Spady WG (1977). Competency-based education: a bandwagon in search of definition. *Educational Researcher*, 6(1): 9-14.
- Tuxworth E (1989). Competency-based education and training: background and origins. In JW Burke (editor)

-
- Competency-based education and training*. London: The Falmer Press.
- UNICEF (1992). *Assessment of Basic competencies of children in Bangladesh: a status report*. Dhaka : UNICEF.
- UNESCO (1992). *Education for all: an expanded vision*. Paris: UNESCO.
- UNDP (1999). *Human Development Report*. New York: Oxford University Press.
- WCEFA (1990). *World declaration on education for all and framework for action to meet basic learning needs*. NY: The Inter-Agency Commission for the World Conference on Education for All.
- WCEFA (1990). *World Conference on Education for All: Meeting Learning Needs*. Jomtien, Thailand: WCEFA.
- WCEFA (1990). *Meeting basic learning needs: a vision for the 1990's*. New York: WCEFA.

Annexes

Annex 1.1 : The 53 terminal competencies (Bangla version)

১. সর্ব শক্তিমান স্রষ্টা ও বিশ্বের পালনকর্তা আল্লাহর একত্বে অটল বিশ্বাস স্থাপন করা।
২. আল্লাহর অসীম অনুগ্রহের জন্য কৃতজ্ঞতা বোধ করা এবং সকল কাজে তাঁকে শরণের মাধ্যমে সে কৃতজ্ঞতা প্রকাশ করা।
৩. আল্লাহর রাসুল হযরত মোহাম্মদ (দঃ) এর/ স্ব স্ব ধর্ম প্রবর্তকের জীবন চরিত জানা এবং তাদের শিক্ষা ও আদর্শ অনুসরণ করা।
৪. স্রষ্টার সকল সৃষ্টিকে ভালবাসা।
৫. সকল ধর্মান্বলম্বীর প্রতি সম্মান ও সহনশীলতা প্রকাশ করা।
৬. নারী-পুরুষ, ধনী-নির্ধন, পেশা ও জীবন ধারার বৈচিত্র্য নির্বিশেষে সকলের প্রতি সম্মান প্রদর্শন করা।
৭. কায়িক শ্রমযুক্ত কাজে অগ্রহী হওয়া ও শ্রমজীবী মানুষের প্রতি অগ্রহী হওয়া।
৮. পিতামাতা, গুরুজন, প্রতিবেশী ও আত্মীয় স্বজনদের প্রতি সম্মান প্রদর্শন ও কর্তব্য পালন করা।
৯. পরিবারের সদস্য হিসাবে নিজ দায়িত্ব ও কর্তব্য সম্পর্কে জানা এবং গৃহকর্মে অংশগ্রহণ করা।
১০. সমাজের সদস্য হিসাবে নিজ দায়িত্ব ও কর্তব্য সম্পর্কে জানা এবং সামাজিক কর্মকাণ্ডে অংশগ্রহণ করা।
১১. বাংলাদেশের নাগরিক হিসাবে নিজ দায়িত্ব ও কর্তব্য সম্বন্ধে জানা এবং নাগরিক দায়িত্ব পালন করা।
১২. অপরের মতামত প্রকাশের সুযোগদান এবং ব্যক্ত মতামতের প্রতি সম্মান প্রদর্শন।
১৩. বিদ্যালয় কর্তৃক গৃহীত বিভিন্ন কার্যক্রম সম্বন্ধে সম্মিলিতভাবে সিদ্ধান্ত গ্রহণে সক্রিয় ভূমিকা পালন করা।
১৪. সততা ও নিষ্ঠার সাথে দায়িত্ব ও কর্তব্য পালনের মাধ্যমে যোগ্য দলনেতা ও দলের সদস্য হিসাবে গড়ে ওঠা।
১৫. দেশকে জানা ও ভালবাসা।
১৬. জাতীয় ঐতিহ্য ও সাংস্কৃতিকে (ভাষা, লোক সঙ্গীত, চারু ও কারুকলা এবং প্রখ্যাত ব্যক্তিত্ব) গৌরব বোধ করা।
১৭. জাতীয় পতাকা ও জাতীয় সঙ্গীতের প্রতি শ্রদ্ধা প্রদর্শন করা।
১৮. সম্পদের অপচয় পরিহার করা।
১৯. সুস্থ জীবন যাপনের জন্য সবল দেহ গঠনের গুরুত্ব বুঝা।
২০. খেলাধুলা ও শরীর চর্চায় অংশগ্রহণের মাধ্যমে সবল দেহ গঠনে অগ্রহী হওয়া।
২১. দৈহিক ও পারিপার্শ্বিক স্বাস্থ্যবিধি জানা ও পালন করা।
২২. সুস্থ খাদ্য সম্পর্কে জানা, এর গুরুত্ব বুঝা এবং এরূপ খাদ্য গ্রহণ অভ্যাস করা।
২৩. সাধারণ রোগ-ব্যাদি, এগুলির কারণ ও সতর্কতামূলক ব্যবস্থা সম্পর্কে জানা এবং সতর্কতা অবলম্বনে অগ্রহী হওয়া।
২৪. সহজ বাংলা ভাষায় ছাপা ও হাতে লেখা বিষয়বস্তু বুঝে শুদ্ধভাবে পড়তে পারা এবং পঠন দক্ষতা অর্জনের মাধ্যমে বাংলা ভাষায় লিখিত বিষয়বস্তু পড়ে জ্ঞানার্জন অব্যাহত রাখতে সমর্থন হওয়া।
২৫. পর্যবেক্ষণ, অভিজ্ঞতা ও মনোভাব সহজ বাংলা ভাষায় শুদ্ধ ও স্পষ্টভাবে লিখে প্রকাশ করতে পারা, সাধারণ চিঠি ও দরখাস্ত লিখতে পারা এবং বিভিন্ন ফর্ম পূরণ করতে পারা।
২৬. সহপাঠী ও অন্যান্যদের সাথে মনোভাব ও অনুভূতি সঠিক ও কার্যকরভাবে পকাশ ও আদান-প্রদানের ক্ষেত্রে শুদ্ধ চলতি বাংলায় কথা বলতে পারা।
২৭. সহজ চলতি বাংলায় কথোপকথন, বক্তৃতা, বর্ণনা ইত্যাদি মনোযোগ সহকারে শুনে মূলভাব বুঝতে পারা।
২৮. সংখ্যার মৌলিক ধারণা লাভ করা এবং সংখ্যা ব্যবহার করতে পারা।
২৯. গণিতের চারটি মৌলিক নিয়ম জানা ও ব্যবহার করতে পারা।
৩০. দৈনন্দিন জীবনের সমস্যা সমাধানে হিসাব নিকাশের সহজ কৌশলগুলি প্রয়োগ করতে পারা।
৩১. মুদ্রা, দৈর্ঘ্য, ওজন, ক্ষেত্রফল, আয়তন ও সময়ের এককগুলি জানা ও ব্যবহার করতে পারা।
৩২. জ্যামিতিক আকার আকৃতিগুলি চেনা ও বুঝা।
৩৩. তথ্য সংগ্রহে সামর্থ্য অর্জন করা।

৩৪. পাঠ্য বহির্ভূত বই-পুস্তক, সংবাদপত্র এবং সাময়িক পত্রিকা পাঠের অভ্যাস গঠন করা।
৩৫. স্বাধীনভাবে চিন্তা করা এবং নিজের মত ব্যক্ত করার সামর্থ্য অর্জন করা।
৩৬. নতুন ধ্যান-ধারণা গ্রহণ এবং অপরের সঙ্গে সেসব ধারণা সম্পর্কে আলোচনায় আগ্রহী হওয়া।
৩৭. নিজের উন্নয়নের জন্য অপরের গঠনমূলক সমালোচনা গ্রহণ ও ব্যবহারে আগ্রহী হওয়া।
৩৮. পর্যবেক্ষণ ও অনুসন্ধানের মাধ্যমে নিকট প্রাকৃতিক ও সামাজিক পরিবেশকে জানা ও বুঝা।
৩৯. জিজ্ঞাসা সুনির্দিষ্ট করা, পরিবেশের বিভিন্ন বস্তু পর্যবেক্ষণ করা, সনাক্ত করা এবং এর গুরুত্ব উপলব্ধি করা।
৪০. কারণ ও ফলাফলের সম্পর্ক সনাক্ত করা এবং দৈনন্দিন জীবনের সাধারণ সমস্যা সম্পর্কিত সহজ পরীক্ষণ করা।
৪১. বিজ্ঞান ও প্রযুক্তির ব্যবহারে দৈনন্দিন জীবনযাত্রার মানোন্নয়ন পর্যবেক্ষণ করা, সনাক্ত করা এবং গুরুত্ব উপলব্ধি করা।
৪২. নকসা অঙ্কন, চিত্রাঙ্কন, মাটির কাজ, কাগজের কাজ, সংগীত, নৃত্য, নাটক ইত্যাদি শিল্পকলার মাধ্যমে নিজেকে প্রকাশ করতে পারা।
৪৩. প্রাকৃতিক ও সামাজিক পরিবেশের সৌন্দর্য পর্যবেক্ষণ ও উপলব্ধি করা।
৪৪. নিজের জিনিসপত্র ও পরিবেষ্টনী সৌন্দর্যমণ্ডিত করার অভ্যাস গঠন করা।
৪৫. নিয়ম-শৃঙ্খলা অনুসরণ করা।
৪৬. ব্যক্তিগত ও জনসাধারণের সম্পদের যত্ন নেওয়া।
৪৭. সময়ানুবর্তিতার অভ্যাস গড়ে তোলা।
৪৮. বিভিন্ন সম্পর্কযুক্ত ব্যক্তির সঙ্গে কিরূপ আচরণ করতে হবে তা জানা এবং তদানুযায়ী শিষ্টাচার অনুশীলন করা।
৪৯. অন্যান্য দেশের শিশুদের সম্পর্কে জানা এবং বিভিন্ন ধরনের জীবনধারা সম্পর্কে আগ্রহী হওয়া।
৫০. ইংরেজি ভাষায় ছাপা ও হাতে লেখা সহজ বিষয়বস্তু পড়তে পারা।
৫১. ইংরেজি ভাষায় সহজ কথোপকথন, গল্প ও ছড়া শোনা, বুঝা এবং আনন্দ লাভ করা।
৫২. নিজ পর্যবেক্ষণ ও ধারণা বুঝাবার জন্য ইংরেজিতে সহজ বাক্য বলতে পারা।
৫৩. ইংরেজিতে শুদ্ধ ও স্পষ্ট করে পরিচিত বস্তুর সংক্ষিপ্ত বিবরণ লিখতে পারা।

সূত্র : সার্বজনীন প্রাথমিক শিক্ষার পটভূমিতে শিক্ষাক্রম পরিমার্জন ও নবায়ন কার্যক্রম ; জাতীয় শিক্ষাক্রম ও টেকস্টবুক বোর্ড, ঢাকা, ১৯৯৮. পৃ. ৯-১১।

Annex 1.2: The 53 terminal competencies (English version)

1. To place unflinching trust in the oneness of Allah, the Almighty creator and Custodian of the universe.
2. To feel grateful to Allah for His infinite mercy and to express such gratefulness by remembering him in all deeds.
3. To know the life history of Hazarat Mohammed (peace be on him), the prophet of Allah and in case of the followers of other religions the life history of the preachers of their respective religions.
4. To love all creations of the Creator.
5. To show respect and tolerance to the followers of all religions.
6. To show respect to all irrespective of their sex, financial status occupation and lifestyle.
7. To be interested in manual work and to be respectful to people living on manual work.
8. To show respect and do duty towards parents, elders, neighbours and relatives.
9. To be aware of one's own duties and responsibilities as a member of the family and to take part in household work.
10. To be aware of one's own duties and responsibilities as a member of the society and to take part in social activities.
11. To be aware of one's own duties and responsibilities as a citizen of Bangladesh and to discharge civic duties.
12. To allow others to express their opinions and to show respect for such opinions.
13. To play active part in combined decision-making about different programmes undertaken by the school.
14. To grow as a competent team leader and team member by performing duties and responsibilities with honesty and devotion.
15. To know and love the country.
16. To take pride in national tradition and culture (language, folksong, arts & crafts and eminent personalities).
17. To show respect to the national flag and national anthem.
18. To avoid wastage of resources.
19. To realise the importance of building up healthy body for living a healthy life.
20. To be willing to build up a healthy body through participation in games and sports and physical exercise.
21. To know and observe the rules for the preservation of physical health and environmental health.
22. To know and realise the importance of balanced food and to develop the habit of eating such food.
23. To know about the common diseases, their causes and preventive measures and to be willing to take preventive measures against them.
24. To understand and correctly read materials printed and hand written in easy Bangla and through reading skill to continue acquiring knowledge by reading material written in Bangla.
25. To express by writing correctly and distinctly in plain Bangla his/her own observation, experience and intention, to be able to write simple letters and applications and to be able to fill in different kinds of forms.
26. To talk in correct colloquial Bangla in order to accurately and effectively express as well as exchange thoughts and feeling with classmates and others.
27. To comprehend the main theme by listening attentively to conversations, speeches, descriptions etc. in Bangla.
28. To gain basic ideas of numeracy and to be able to make use of numbers.
29. To know four fundamental operation and to be able to use them.
30. To apply the simple methods of computing/calculating in solving the day-to-day problems.
31. To know and to use the units of money, length, weight, square measure, measurement and time.
32. To know and understand the geometrical signs and figures.
33. To develop the ability to collect facts and information.
34. To develop the habit of reading newspapers, periodicals as well as books outside the syllabus.

(Contd.)

(Contd. of Annex 1.2)

35. To think independently and to develop the ability to express own opinions.
36. To accept new ideas and to feel interested in discussing them with others.
37. To accept and to feel interested in accepting constructive criticism of others for self-development.
38. To know and understand through observation and enquire the immediate natural and social environment.
39. To attain the skill of "scientific enquiry" in respect of specifying the aim of enquiry, observing and classifying different aspects of environment and drawing simple generalizations.
40. To identify the relationship between cause and effect and to make simple study in respect of the ordinary problems of day-to-day life.
41. To observe and identify the improvement in the standard of day-to-day life due to application of science and technology and realise its importance.
42. To express oneself through arts like sketching, drawing, clay-work, paper-work, music, dance, drama etc.
43. To observe and appreciate the beauty of natural and social environment.
44. To develop the habit of keeping tidy one's own belonging and environment.
45. To observe discipline.
46. To take care of individual as well as public property.
47. To develop punctuality.
48. To know how to behave with people of different relationship and to develop manners accordingly.
49. To know about the children of other countries and to get interested in their ways of life.
50. To read simple material hand written or printed in English.
51. To listen to and understand simple conversation, story and rhymes in English and to get pleasure out of them.
52. To speak simple sentences in English in order to make others understand one's own observation and ideas.
53. To write brief accounts of known things in correct English.

Source: National Curriculum and Textbook Board (undated): *Revision and modification of curriculum of the primary stage against the background of universal primary education- essential learning continua (primary education)*. Dhaka: National Curriculum and Textbook Board.

Annex 2.1: List of Participants who attended in source materials evaluation workshops**Government Primary Schools**

1. Mr. AKM Aminul Hoque, Asst Teacher, Zigatola Govt. Primary School, Zigatola, Dhaka
2. Ms. Rehana Begum Mazumder, Asst Teacher, Zigatola Govt. Primary School, Zigatola, Dhaka
3. Mr. Md. Atiqur Rahman, Asst Teacher, Zigatola Govt. Primary School, Zigatola, Dhaka
4. Mr. Jasimuddin Ahmed, Head Master, Zigatola Govt. Primary School, Zigatola, Dhaka
5. Ms. Shamsun Naher, Head Master, Dhanmondi Govt. Primary School, Dhanmondi, Dhaka
6. Mr. Nurul Amin, Asst Teacher, Azampur Govt. Primary School, Azampur, Dhaka
7. Mr. Abdul Ghani, Head Master, Ideal Govt. Primary School, Motijheel, Dhaka
8. Ms. Shaheen Akter, Head Master, Govt. Ideal Primary School, Mohammadpur, Dhaka

Primary Teacher Training Institutes

9. Md. Abu Hossain Biswas, Instructor, PTI Manikganj
10. Md Kubbat Ali Khan, Instructor, PTI Manikganj
11. Ms Mushrafa Hussain, Instructor, PTI Gazipur
12. Ms. Nargis Akhter, Instructor, PTI Gazipur

National Academy for Primary Education (NAPE)

13. Mr. Sk. Md. Ruhul Amin, Assistant Specialist, National Academy for Primary Education (NAPE), Mymensingh

National Curriculum and Textbook Board

14. Mr. Ziaul Hasan, Research Officer, National Curriculum and Textbook Board (NCTB)

Gano Sahajjo Sangstha

15. Mr. Mostafa Panna, Curriculum Developer, Gana Sahajjo Sangstha

Campaign for Popular Education (CAMPE)

16. Mr. Ashish K Biswas, Material developed, Campaign for Popular Education

BRAC

17. Ms. Farida Yesmin, Master Trainer, BRAC Education Programme
18. Mr. Md Abul Kalam, Staff Sociologist, BRAC

Annex 2.2: Cognitive competencies assessed by Education Watch 2000 by subject area	
Subject area	Competencies
Bangla	Reading skills Writing skills Listening skills
English	Reading skills Writing skills Listening skills
Mathematics	Basic number skills Basic rules of arithmetic Problem solving Measurement units Identification of geometric figures
Social Studies	Duties as family member Duties as member of society Duties as citizen of Bangladesh Know about the country Manners with persons of various relationship Know about the children of other countries
General Science	Importance of good health Physical and environmental health systems Importance of balanced diet Prevention of common diseases Information collection ability Observation skills on natural objects Scientific investigation skills Identification of cause and effect relationship Science and technology in everyday life
Religious Studies	Life history of prophet Mohammed (SM) or the preachers of own religion

Annex 2.3 : Non-cognitive competencies (or parts of a competency which is non-cognitive) assessed by the teachers

১. সর্ব শক্তিমান স্রষ্টা ও বিশ্বের পালনকর্তা আল্লাহর একত্বে অটল বিশ্বাস স্থাপন করা।
২. আল্লাহর অসীম অনুগ্রহের জন্য কৃতজ্ঞতা বোধ করা এবং সকল কাজে তাঁকে স্মরণের মাধ্যমে সে কৃতজ্ঞতা প্রকাশ করা।
৩. আল্লাহর রাসুল হযরত মোহম্মদ (দঃ) এর/ স্ব স্ব ধর্ম প্রবর্তকের জীবন চরিত জানা এবং তাদের শিক্ষা ও আদর্শ অনুসরণ করা।
৪. স্রষ্টার সকল সৃষ্টিকে ভালবাসা।
৫. সকল ধর্মাবলম্বীর প্রতি সম্মান ও সহনশীলতা প্রকাশ করা।
৬. নারী-পুরুষ, ধনী-নির্ধন, পেশা ও জীবন ধারার বৈচিত্র্য নির্বিশেষে সকলের প্রতি সম্মান প্রদর্শন করা।
৭. কায়িক শ্রমযুক্ত কাজে আগ্রহী হওয়া ও শ্রমজীবী মানুষের প্রতি আগ্রহী হওয়া।
৮. পিতামাতা, গুরুজন, প্রতিবেশী ও আত্মীয় স্বজনদের প্রতি সম্মান প্রদর্শন ও কর্তব্য পালন করা।
৯. পরিবারের সদস্য হিসাবে [নিজ দায়িত্ব ও কর্তব্য সম্পর্কে জানা এবং] গৃহকর্মে অংশগ্রহণ করা।
১০. সমাজের সদস্য হিসাবে [নিজ দায়িত্ব ও কর্তব্য সম্পর্কে জানা এবং] সামাজিক কর্মকাণ্ডে অংশগ্রহণ করা।
১১. বাংলাদেশের নাগরিক হিসাবে [নিজ দায়িত্ব ও কর্তব্য সম্বন্ধে জানা এবং] নাগরিক দায়িত্ব পালন করা।
১২. অপরের মতামত প্রকাশের সুযোগদান এবং ব্যক্ত মতামতের প্রতি সম্মান প্রদর্শন।
১৩. বিদ্যালয় কর্তৃক গৃহীত বিভিন্ন কার্যক্রম সম্বন্ধে সম্মিলিতভাবে সিদ্ধান্ত গ্রহণে সক্রিয় ভূমিকা পালন করা।
১৪. সততা ও নিষ্ঠার সাথে দায়িত্ব ও কর্তব্য পালনের মাধ্যমে যোগ্য দলনেতা ও দলের সদস্য হিসাবে গড়ে ওঠা।
১৫. দেশকে [জানা ও] ভালবাসা।
১৬. জাতীয় ঐতিহ্য ও সাংস্কৃতিকে (ভাষা, লোক সঙ্গীত, চারু ও কারুকলা এবং প্রখ্যাত ব্যক্তিত্ব) গৌরব বোধ করা।
১৭. জাতীয় পতাকা ও জাতীয় সঙ্গীতের প্রতি শ্রদ্ধা প্রদর্শন করা।
১৮. সম্পদের অপচয় পরিহার করা।
১৯. খেলাধুলা ও শরীর চর্চায় অংশগ্রহণের মাধ্যমে সবল দেহ গঠনে আগ্রহী হওয়া।
২০. দৈহিক ও পারিপার্শ্বিক স্বাস্থ্যবিধি [জানা ও] পালন করা।
২১. সুখম খাদ্য [সম্পর্কে জানা,] এর গুরুত্ব বুঝা এবং একরূপ খাদ্য গ্রহণ অভ্যাস করা।
২২. সাধারণ রোগ-ব্যাদি, [এগুলির কারণ ও সতর্কতামূলক ব্যবস্থা] সম্পর্কে [জানা এবং] সতর্কতা অবলম্বনে আগ্রহী হওয়া।
২৩. সহজ বাংলা ভাষায় ছাপা ও হাতে লেখা বিষয়বস্তু বুঝে [শুদ্ধভাবে পড়তে পারা এবং] পঠন দক্ষতা অর্জনের মাধ্যমে বাংলা ভাষায় লিখিত বিষয়বস্তু পড়ে জ্ঞানার্জন অব্যাহত রাখতে সমর্থন হওয়া।
২৪. সহজ চলতি বাংলায় কথোপকথন, বক্তৃতা, বর্ণনা ইত্যাদি মনোযোগ সহকারে শুনে মূলভাব বুঝতে পারা।
২৫. পাঠ্য বহির্ভূত বই-পুস্তক, সংবাদপত্র এবং সাময়িক পত্রিকা পাঠের অভ্যাস গঠন করা।
২৬. স্বাধীনভাবে চিন্তা করা এবং নিজের মত ব্যক্ত করার সামর্থ্য অর্জন করা।
২৭. নতুন ধ্যান-ধারণা গ্রহণ এবং অপরের সঙ্গে সেসব ধারণা সম্পর্কে আলোচনায় আগ্রহী হওয়া।
২৮. নিজের উন্নয়নের জন্য অপরের গঠনমূলক সমালোচনা গ্রহণ ও ব্যবহারে আগ্রহী হওয়া।
২৯. জিজ্ঞাসা সুনির্দিষ্ট করা, পরিবেশের বিভিন্ন বস্তু পর্যবেক্ষণ ও শ্রেণীকরণ করা এবং সহজ অনুমান করার “বৈজ্ঞানিক অনুসন্ধান দক্ষতা” অর্জন করা।
৩০. কারণ ও ফলাফলের সম্পর্ক সনাক্ত করা এবং দৈনন্দিন জীবনের সাধারণ সমস্যা সম্পর্কিত সহজ পরীক্ষণ করা।
৩১. বিজ্ঞান ও প্রযুক্তির ব্যবহারে দৈনন্দিন জীবনযাত্রার মানোন্ময়ন পর্যবেক্ষণ করা, সনাক্ত করা এবং গুরুত্ব উপলব্ধি করা।
৩২. নকসা অঙ্কন, চিত্রাঙ্কন, মাটির কাজ, কাগজের কাজ, সংগীত, নৃত্য, নাটক ইত্যাদি শিল্পকলার মাধ্যমে নিজেকে প্রকাশ করতে পারা।
৩৩. প্রাকৃতিক ও সামাজিক পরিবেশের সৌন্দর্য পর্যবেক্ষণ ও উপলব্ধি করা।
৩৪. নিজস্ব জিনিসপত্র ও পরিবেষ্টনী সৌন্দর্যমণ্ডিত করার অভ্যাস গঠন করা।
৩৫. নিয়ম-শৃঙ্খলা অনুসরণ করা।
৩৬. ব্যক্তিগত ও জনসাধারণের সম্পদের যত্ন নেওয়া।
৩৭. সময়ানুবর্তিতার অভ্যাস গড়ে তোলা।
৩৮. বিভিন্ন সম্পর্কযুক্ত ব্যক্তির সঙ্গে কিরূপ আচরণ করতে হবে তা জানা এবং তদানুযায়ী শিষ্টাচার অনুশীলন করা।
৩৯. অন্যান্য দেশের শিশুদের [সম্পর্কে জানা এবং] বিভিন্ন ধরনের [জীবনধারা সম্পর্কে] আগ্রহী হওয়া।
৪০. ইংরেজি ভাষায় সহজ কথোপকথন, গল্প ও ছড়া শোনা, [বুঝা] এবং আনন্দ লাভ করা।

Note: Parts of the competencies placed in the parentheses were excluded as these do not fall under non-cognitive domain

Annex 2.4 : Participants of different workshops organised for test instrument development

Government Primary Schools

1. Mr. AKM Aminul Hoque, Asst Teacher, Zigatola Govt. Primary School, Zigatola, Dhaka
2. Ms. Rehana Begum Mazumder, Asst Teacher, Zigatola Govt. Primary School, Zigatola, Dhaka
3. Mr. Md. Atiqur Rahman, Asst Teacher, Zigatola Govt. Primary School, Zigatola, Dhaka
4. Mr. Jasimuddin Ahmed, Head Master, Zigatola Govt. Primary School, Zigatola, Dhaka
5. Ms. Shamsun Naher, Head Master, Dhanmondi Govt. Primary School, Dhanmondi, Dhaka
6. Mr. Nurul Amin, Asst Teacher, Azampur Govt. Primary School, Azampur, Dhaka
7. Mr. Abdul Ghani, Head Master, Ideal Govt. Primary School, Motijheel, Dhaka
8. Ms. Shaheen Akter, Head Master, Govt. Ideal Primary School, Mohammadpur, Dhaka

Primary Teacher Training Institutes

9. Md. Abu Hossain Biswas, Instructor, PTI Manikganj
10. Md Kubbat Ali Khan, Instructor, PTI Manikganj
11. Ms Mushrafa Hussain, Instructor, PTI Gazipur
12. Ms. Nargis Akhter, Instructor, PTI Gazipur

National Academy for Primary Education (NAPE)

13. Mr. Sk. Md. Ruhul Amin, Assistant Specialist, National Academy for Primary Education (NAPE), Mymensingh

National Curriculum and Textbook Board

14. Mr. Ziaul Hasan, Research Officer, National Curriculum and Textbook Board (NCTB)

Directorate of Primary Education

15. Ms. Johara Ummay Hassan, Deputy Director, Directorate of Primary Education

Institute of Education Research (IER), University of Dhaka

16. Mr. Md Nazmul Haque, Associate Professor, Institute of Education and Research, University of Dhaka
17. Dr. Siddiqur Rahman, Professor, Institute of Education and Research, University of Dhaka

National experts

18. Mr. Md. Shafiul Alam, Former Director, BANBEIS
19. Professor Md. Ali Azam, Advisor, UNICEF Dhaka and Former Member (curriculum), National Curriculum and Textbook Board (NCTB)
20. Professor Md. Ali, Former Member (curriculum), National Curriculum and Textbook Board (NCTB)

Gano Sahajjo Sangstha

21. Ms. Hasina Habib, Co-ordinator, GSS
22. Mr. Mostafa Panna, Curriculum Developer, Gana Sahajjo Sangstha

Proshika

23. Mr. ANM Habibur Rahman, Co-ordinator, Material Development Unit, Proshika

Campaign for Popular Education (CAMPE)

24. Mr. Ashish K Biswas, Material developed, Campaign for Popular Education
25. Mr. Ruhul Amin Chowdhury, Programme Manager, Campaign for Popular Education
26. Ms Rasheda K Choudhury, Director, Campaign for Popular Education

BRAC

27. Ms. Faida Yesmin, Master Trainer, BRAC Education Programme
28. Ms. Shaheen Akter, Senior Staff Sociologist, BRAC
29. Mr. Md Abul Kalam, Staff Sociologist, BRAC
30. Mr. Samir R Nath, Research Statistician, BRAC
31. Dr. Sanat K Ghosh, Consultant, BRAC
32. Dr. AMR Chowdhury, Director Research, BRAC

Annex 2.5: Major events of the development of test instrument for cognitive competencies		
Events and dates	Participants	Description
First workshop December 1999	Formal and non-formal school teachers, teacher educators, curriculum experts, test development experts, and study team members	<ul style="list-style-type: none"> • A brief presentation by the research team about the objective and procedure • The participants reviewed the topics/ areas covered in the textbooks • Identified 'minimum expected level' for each of the competencies • Drafted five sets of instrument
Second workshop January 2000	National level experts on curriculum development, test item construction, education psychology and competency based education, and a section of above participants	<ul style="list-style-type: none"> • Reviewed all five sets of instrument • Modified some of the items • Developed new items • Drafted a set of instrument for field trial
Research Team meeting January 2000	Members of the research team	<ul style="list-style-type: none"> • Drafted another set of instrument for field trial following the spirit of second workshop
Pilot study February–March 2000	Members of the research team and a group of temporary recruited field investigators	<ul style="list-style-type: none"> • Conducted in a rural and an urban areas • A total of 207 children from six types of schools (government, private, madrassa, kindergarten, non-formal and secondary attached primary) who completed Class V in 1999 were considered • The test was taken in two successive dates using above two sets • Re-tests were done after 15 days
Data analysis April – May 2000	The study team member	<ul style="list-style-type: none"> • Analysis of data and drafted a final instrument
Third workshop July 2000	All participants of the first and second workshops	<ul style="list-style-type: none"> • Study team presented the statistical techniques of data analysis procedure in detail • The participants reviewed the procedure and the final draft of the instrument • Developed an item against a competency under religious studies which was not considered earlier • Finalise the instrument
Editorial work July 2000	A former member (curriculum) of NCTB	<ul style="list-style-type: none"> • Language of the test items were edited
Joint meeting of Advisory Board and Working Group August 2000	Members of Advisory Board, Working Group, Technical Team and Research Team	<ul style="list-style-type: none"> • Presentation of the test instrument with detail of the procedure • Approval of the test instrument for national survey

Annex 2.6 : Questionnaire for educational and socio-economic information of students

Education Watch 2000
ছাত্রছাত্রীর শিক্ষা ও আর্থসামাজিক তথ্য

সনাক্তকরণ

শিক্ষা প্রতিষ্ঠানের নাম : _____ কোড :

ছাত্র/ছাত্রীর নাম : _____ ক্লাশের ক্রমিক : _____ কোড :

পিতা/অভিভাবকের নাম : _____

আবাসিক ঠিকানা : _____

ইউনিয়ন/ওয়ার্ড : গ্রাম/মহল্লা : বাড়ির নাম/নম্বর : _____

এই প্রশ্নপত্রটির মূল উত্তরদাতা ছাত্র/ছাত্রীর পিতা, মাতা কিংবা অভিভাবক; প্রয়োজনে সংশ্লিষ্ট ছাত্র/ছাত্রীর সাহায্য নেয়া যাবে।

ক্রমিক	প্রশ্ন	কোড	
1	লিঙ্গ	ছেলে	1
		মেয়ে	2
2	আপনার ছেলে/মেয়ের বয়স কত? (পূর্ণ বৎসর)		

3. ছাত্র/ছাত্রী নিচের সালগুলোর কোনটিতে কোন ক্লাশে পড়াশুনা করত?

সাল	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
শ্রেণী										

ক্রমিক	প্রশ্ন	কোড	
4	ছাত্র/ছাত্রীর পিতা/মাতা বা অন্য কেউ এ বছর তার লেখাপড়া সংক্রান্ত কোন বিষয় শিক্ষকের সঙ্গে আলোচনা করার জন্য স্কুলে গিয়েছেন কি? যদি যান, তবে কে কয়বার গিয়েছেন? (একবারও না গেলে কোড 0 বসাবেন)	পিতা	
		মাতা	
		অন্য কেউ	
5	বাড়িতে লেখাপড়ায় সাহায্য করার জন্য এ বছর কোন গৃহ শিক্ষক আছেন কি? যদি হ্যাঁ হয় তবে গৃহশিক্ষক হিসাবে কে নিযুক্ত আছেন? কোড : আত্মীয় = 1, প্রতিবেশি = 2, স্কুলের শিক্ষক = 3, কোচিং সেন্টারে যায় = 4, অন্য কেউ = 5, জানা নেই = 8, কেউ না = 9		
6	পিতা-মাতা কি তাকে পড়াশুনায় কোন সাহায্য করেন?	হ্যাঁ	1
		না	2
7	শিশুটি এ বছর কোন সহপাঠক্রমিক কার্যক্রমে অংশ নিয়ে থাকলে কোন কার্যক্রমে কোথায় অংশ নিয়েছে? কোড : অংশ নেয়নি = 0, বিতর্ক = 1, সাংস্কৃতিক অনুষ্ঠান/বার্ষিক নাটক = 2, ক্রিড়া ও খেলাধুলা = 3, ধর্মীয় অনুষ্ঠান = 4, স্কাউট/রোভার/বিএনসিসি/গার্লসগাইড/সমাজ কর্মী = 5, বিজ্ঞান মেলা = 6, শিক্ষা সফর = 7, জানা নেই = 8	স্কুলে	
		অন্যত্র	
8	এবছর শিশুর পিতা/মাতা বা অন্য কেউ তার স্কুল সংক্রান্ত কোন সভায় যোগ দিয়েছেন কি? কোড : হ্যাঁ = 1, না = 2, জানা নেই = 8, প্রযোজ্য নয় = 9	পিতা	
		মাতা	
		অন্য কেউ	

Annex 2.7: Questionnaire for survey of educational institutions

Education Watch 2000

শিক্ষা প্রতিষ্ঠান জরিপ প্রশ্নপত্র

শিক্ষা প্রতিষ্ঠানের নাম : _____ কোড : _____

ঠিকানা : _____

স্কুলের সাধারণ তথ্য

ক্রমিক	প্রশ্ন	কোড
1	স্কুলের নাম	
2	স্কুলটি কত সালে প্রতিষ্ঠিত হয়েছে?	
3	স্কুলটিতে কি ছেলে ও মেয়ে উভয়ের পড়াশুনার ব্যবস্থা আছে?	শুধু ছেলেদের 1 শুধু মেয়েদের 2 উভয়ের 3
4	স্কুলের ধরন কি? কোড : সরকারি প্রাথমিক = 1, সরকারি উচ্চ বিদ্যালয় সংলগ্ন প্রাথমিক = 2, সরকারি রেজিস্টার প্রাথমিক = 3, বেসরকারি আনরেজিস্টার প্রাথমিক = 4, বেসরকারি উচ্চ বিদ্যালয় সংলগ্ন প্রাথমিক = 5, এবতেদায়ী মাদ্রাসা = 6, কামিল/ফাজেল/আলিম/দাখেল মাদ্রাসা = 7, উপ-আনুষ্ঠানিক = 8	
5	স্কুলটি NGO পরিচালিত উপ-আনুষ্ঠানিক প্রাথমিক বিদ্যালয় হলে কোন NGO'র?	
6	স্কুলে কোন ক্লাশ থেকে কোন ক্লাশ পর্যন্ত পড়ানো হয়?	সর্বনিম্ন সর্বোচ্চ
7	স্কুলে কয়টি শ্রেণীকক্ষ আছে?	
8	স্কুলে কতজন শিক্ষক আছেন?	পুরুষ মহিলা
9	স্কুলে মোট কতজন ছাত্র/ছাত্রী আছে?	ছাত্র ছাত্রী

শ্রেণীকক্ষে বসার ব্যবস্থা ও উপস্থিতি								
শ্রেণী ও সেকশন		স্বাভাবিকভাবে কতজন বসতে পারে	ছাত্র			ছাত্রী		
			তালিকাত্তর (রেজিষ্টার থেকে)	আজ ক্লাশে উপস্থিতি (মাথা গুনে)	গতকাল উপস্থিতি দেখানো হয়েছে (রেজিষ্টার থেকে)	তালিকাত্তর (রেজিষ্টার থেকে)	আজ ক্লাশে উপস্থিতি (মাথা গুনে)	গতকাল উপস্থিতি দেখানো হয়েছে (রেজিষ্টার থেকে)
শিশু	0	1						
	0	2						
	0	3						
	0	4						
প্রথম	1	1						
	1	2						
	1	3						
	1	4						
দ্বিতীয়	2	1						
	2	2						
	2	3						
	2	4						
তৃতীয়	3	1						
	3	2						
	3	3						
	3	4						
চতুর্থ	4	1						
	4	2						
	4	3						
	4	4						
পঞ্চম	5	1						
	5	2						
	5	3						
	5	4						

ক্রমিক	প্রশ্ন	কোড
7	আপনার স্কুলটি লেখাপড়ার মান উন্নয়নের লক্ষ্যে কোন বিশেষ প্রকল্পের আওতাধীন হলে প্রকল্পটির নাম বলুন	Intensive District Approach to Education for All (IDEAL) 1
		Community learning Assistance Project (CLAP) 2
		Chandina Learning Improvement Project (CLIP) 3
		অন্যান্য (লিখুন) _____ _____
	কোন প্রকল্পের আওতাধীন নয়	9

8. পাঁচ বছরের প্রাথমিক শিক্ষা গ্রহণ শেষে ছাত্রছাত্রীরা ৫৩টি যোগ্যতা অর্জন করবে বলে আশা করা হয়। জ্ঞানমূলক যোগ্যতাগুলো আপনারা পরীক্ষা গ্রহণের মাধ্যমে যাচাই করে থাকেন। বিশ্বাস মনোভাব এবং দক্ষতা অভ্যাসমূলক যোগ্যতাগুলো যাচাইয়ের প্রক্রিয়াটি সংক্ষেপে বলবেন কি?

9. আপনার স্কুলের অবস্থান, শিক্ষার পরিবেশ, শিক্ষকদের মান/ যোগ্যতা, ছাত্রছাত্রীদের আর্থিক অবস্থা ইত্যাদি বিবেচনায় নিয়ে বলুন যে, কোন কোন প্রতিবন্ধকতার কারণে আপনার স্কুলের ছাত্রছাত্রীরা সরকার নির্ধারিত ৫৩টি যোগ্যতা সম্ভাষণজনকভাবে অর্জন করতে পারছে না।

তথ্য সংগ্রহকারীর নাম :

তারিখ :

--	--	--	--	--	--	--	--

Annex 2.8: Questionnaire for educational and socio-economic information of students (English version)

Education Watch 2000
Educational and socio-economic information of students

Identification

Name of the institution: _____ Code: _____

Name of student: _____ Class roll number: _____ Code: _____

Father/Guardians name: _____

Residence: Union/Ward: _____ Village/Mahallah: _____ House name/number: _____

Parents or the guardians of the sampled students are the eligible respondents for this questionnaire

Serial	Questions	Codes
1	Sex	Boy 1 Girl 2
2	What is the age of your son/daughter (in year)	

3. Mention the respective grades enrolled by the student corresponding the following years.

Year	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
Grade										

Serial	Questions	Codes
4	Whether the parents or the guardians of the student visited teachers to discuss about academic progress of the student. If yes, mention the number of visit.	Father Mother Any other
5	Whether the student was provided private tutor/extra coaching this year. If yes, mention the type Code: Relative =1, Neighbour =2, School teacher =3, Coaching centre = 4, Any other =5, Not known = 8, None =9.	
6	Whether the parents provided tutoring at home.	Yes 1 No 2
7	Whether the student participated in any co-curricular activities. If yes, mention the activity. Code: Not participated =0, Debate =1, Cultural function/annual drama =2, Games and sports =3, Religious function =4, Scout/Rover/BNCC/Girl guides/Social work =5, Science fare =6, Educational tour =7, Not known =8	In school Out of school
8	Whether the parents/guardians participated in any school meeting. Code: Yes =1, No =2, Not known =8, Not applicable =9	Father Mother Any other

9		Educational expenses for the student during January to September 2000	
	Items	Amount (in Taka)	
	Admission, re-admission etc.		
	School fees		
	Buying/collection of textbooks		
	Buying/collection of supplementary books		
	Notebook, pen, pencil, geometry box, etc		
	School dress		
	Different fees (Milad, Puza, sports etc)		
	Examination fees		
	Transportation cost (home to school)		
	Salary for house tutor/ extra coaching fee		
	Transportation cost (home to private tutor)		
	Any other		
Serial	Questions	Codes	
10	Whether the mother went to school ever.	Yes	1
		No	2
		Not known	8
11	Years of schooling completed by her.		
12	Whether the father went to school ever.	Yes	1
		No	2
		Not known	8
13	Years of schooling completed by him.		
14	What is the main occupation of father? (See list for codes)		
15	Whether the mother involve with any income generating activity.	Yes	1
		No	2
		Not known	8
		Mother is dead	9
16	Religious belief	Islam	1
		Hinduism	2
		Others	3
17	Ethnicity	Bangali	1
		Non-Bangali	2
18	Self-perceived yearly food security status of household : Considerring total income and expenditure during last year.	Always in deficit	1
		Sometimes in deficit	2
		Balance	3
		Surplus	4
19	This question is specifically for the sample student only: Whether you have heard any radio programme, watched any programme on TV or read newspaper during the last one week. Code: Yes = 1, No = 2.	Radio	
		Television	
		Newspaper	

Name of the interviewer: _____ Date: _____/_____/_____

Annex 2.9: Questionnaire for survey of educational institutions (English version)

Education Watch 2000
Survey of Educational Institutions

Name of the institution: _____ Code: _____

Address: _____

Basic Information

Serial	Questions	Code						
1	What is the name of the school.							
2	When does it established (year)?							
3	Whether it is a co-ed school.	<table border="0"> <tr> <td>Only boys</td> <td>1</td> </tr> <tr> <td>Only girls</td> <td>2</td> </tr> <tr> <td>Co-ed</td> <td>3</td> </tr> </table>	Only boys	1	Only girls	2	Co-ed	3
Only boys	1							
Only girls	2							
Co-ed	3							
4	What is the type of the school? <i>Code:</i> 1=Government primary, 2=High school attached government primary, 3= Non-government primary (reg.), 4= Non-government primary (un-reg.), 5=High school attached non-government primary, 6=Ebtedayee madrassa, 7=Kamil/Fazel/Alim/Dakhel madrassa, 8= Non-formal primary (NGO).							
5	If it is a NGO operated school, please mention the name of the NGO.							
6	What is the lowest and highest grade in the school?	<table border="0"> <tr> <td>Lowest</td> <td></td> </tr> <tr> <td>Highest</td> <td></td> </tr> </table>	Lowest		Highest			
Lowest								
Highest								
7	How many classrooms are there in the school?							
8	How many teachers are there in the school?	<table border="0"> <tr> <td>Male</td> <td></td> </tr> <tr> <td>Female</td> <td></td> </tr> </table>	Male		Female			
Male								
Female								
9	How many students are there in the school?	<table border="0"> <tr> <td>Boys</td> <td></td> </tr> <tr> <td>Girls</td> <td></td> </tr> </table>	Boys		Girls			
Boys								
Girls								

Sitting arrangement and attendance in the classroom								
Grade and section		No. of students can seat with ease	Boys			Girls		
			No. of students in the register book	No. of students attended today	No. of students attended yesterday	No. of students in the register book	No. of students attended today	No. of students attended yesterday
Shishu	0	1						
	0	2						
	0	3						
	0	4						
One	1	1						
	1	2						
	1	3						
	1	4						
Two	2	1						
	2	2						
	2	3						
	2	4						
Three	3	1						
	3	2						
	3	3						
	3	4						
Four	4	1						
	4	2						
	4	3						
	4	4						
Five	5	1						
	5	2						
	5	3						
	5	4						

Income and expenditure during January to September 2000			
Income	Amount (in Taka)	Expenditure	Amount (in Taka)
Monthly fees from the students		Fixed assets	
Other fees from the students		Lands and school buildings	
Selling fruits, fishes and other food grains earned from the lands of the school		Furniture (Bench, chair, table, almirah)	
Donation received a) Government source b) Other sources		Educational materials (blackboard, Books for library, laboratory materials, any others)	
Rent out any wealth		Tube well, trees	
Any other (specify)		Any other fixed assets	
Last years surplus		Recurrent cost	
Last years deficit		Teachers and other employees salary and other benefits	
		Construction works (lands, school building, furniture etc.)	
		Buying stationaries	
		Rent in anything	
		Any other (specify)	
		Buying fixed assets	

School Management Committee and School Visit			
Serial	Questions	Code	
1	Whether there is SMC for this school?	Yes	1
		No	2
2	How many members are there in the committee? <i>Code: Not known=88, Not applicable=99</i>	Male	
		Female	
3	How many times the committee met this year (January to September 2000)? <i>Code: Not known=88, Not applicable=99</i>		
4	How many of the members were present in last meeting?	Male	
		Female	
5	What is the distance (in km) between your school and the local education office (TEO/ATEO/PO or any other)?		
6	Could you please mention the number of visits to your school by the local education authority (TEO/ATEO/PO).	TEO	
		ATEO	
		PO	
		Others	
Name of the interviewer: _____ Date: ____/____/____			

Serial	Question	Codes	
7	Do your school is covered by any special project towards improving quality of education? If yes, please mention the name of the project.	Intensive District Approach to Education for All (IDEAL)	1
		Community learning Assistance Project (CLAP)	2
		Chandina Learning Improvement Project (CLIP)	3
		Others (Specify) _____ _____	
		None	9

8. It is expected that the students would achieve 53 terminal competencies at the completion of primary education. We are much aware that you often assess the cognitive achievement of the students through exams. **Could you please mention the procedure for assessing non-cognitive (psychomotor and affective competencies) development of the students?**

9. Could you please mention the main constrains (with special reference to the location, educational environment, educational and other qualifications of the teachers, economic conditions of the students of your school) in achieving NCTB specified 53 terminal competencies by the students of your school.

Name of the interviewer: _____ Date: ____/____/____

Annex 2.10: Sample size determination and weighting

Sample size determination: In order to determine the size of the sample, achievement of the students in the national terminal competencies was considered as principle variable. As the competencies were assessed dichotomously i.e., a student achieved a competency or not, following formula was used in determining the sample size (Cochran, 1977; Kalton, 1983).

$$n = \frac{z^2 \times p \times q}{\alpha^2}$$

where, n is the estimated size of the sample
 p is the probability of a student achieving a competency,
 q ($= 1 - p$) is the probability of a student do not achieving a competency,
 z is the area of standard normal curve under certain confidence limit, and
 α is the desired level of precision

Taking the value 0.5 for both p and q (because such values of p and q maximises the sample size) and considering the confidence limit as 95% (of which the value of z is 1.96) with 7% error level it was calculated that the required sample size for an estimate stands at 196. This means that for a single estimate 196 students are required. As a cluster sampling approach was followed in this study, to reduce cluster effect it was decided to double the size of the sample for each estimate. Thus the required sample size for an estimate stand at 392. This means that 392 children were required for a reasonable estimate against a competency.

Procedure for weighted estimate: The way was to find the proportion of the population for different stratum and calculate the pooled estimate by using the following formula.

$$P = \sum s_i \times w_i$$

where, P is the pooled estimate
 s_i 's are the un-weighted estimates for different stratum
 w_i 's are the weights.

Latest available information (data generated for *Education Watch 1999*) was used to find the weights for different stratum. These weights were used to find the pooled estimates at school, rural, urban and national levels.

Annex 2.11: Percentage of cases that matched between the main survey and the re-interview for selected socio-economic and educational variables

Variables	% matched	
	Fully	with \pm 1 unit
Socio-economic		
Age of student (in year)	64.0	95.7
Self perceived yearly food security status	70.3	96.8
Years of schooling completed by mother	91.3	93.8
Years of schooling completed by father	84.7	91.0
Educational		
Whether parents involve in tutoring at home	87.0	-
Having private tutor at home	95.8	-
Whether guardians discussed with teachers about academic matters	90.7	-
Whether guardians attended school meeting	80.8	-
Students participation in co-curricular activities	90.2	-

Annex 2.12: Some results from the tests of the students of the best schools of Dhaka city			
Different subjects	Number of competencies	Mean number of competencies achieved	Percentage of students achieving all competencies
Bangla	3	2.96	96.0
English	3	2.94	93.6
Language ¹	6	5.60	90.1
Mathematics	5	4.86	86.3
Social studies	6	5.88	89.1
General science	9	8.90	91.1
Environmental studies ²	15	14.78	80.7
Religious studies	1	-	98.5
All	27	26.53	63.9

¹ Language includes both Bangla and English;
² Environmental studies includes both social studies and general science
Source: Education Watch Learning Achievement Survey (2000)

Annex 4.1 :Percentage of students correctly answering various question items in the cognitive test by school type					
Question items	Type of school			All	Significance
	Government	Private	Non-formal		
Bangla					
Reading printed material: question A	48.2	51.4	41.5	48.0	p<0.001
Reading printed material: question B	56.6	54.6	65.8	57.4	p<0.001
Reading hand written material: question A	81.0	75.6	74.5	79.3	p<0.01
Reading hand written material: question B	69.6	68.3	68.3	69.2	ns
Description of a given scenario	65.1	53.5	68.9	63.6	p<0.001
Description of own house	71.0	61.7	76.7	70.1	p<0.001
Official form	85.6	80.8	91.3	85.5	p<0.001
Application	15.9	19.0	46.4	20.2	p<0.001
Listening comprehension: question A	57.8	60.0	61.5	58.6	ns
Listening comprehension: question B	62.8	69.3	69.9	64.8	p<0.01
English					
Reading printed material: question A	63.3	62.9	71.8	64.3	p<0.001
Reading printed material: question B	56.1	59.2	66.4	57.9	p<0.001
Reading hand written material: question A	53.2	51.5	64.6	54.3	p<0.001
Reading hand written material: question B	49.0	54.3	63.4	51.7	p<0.001
Description of a given scenario	9.3	12.9	29.0	12.3	p<0.001
Listening comprehension: question A	53.3	44.0	49.0	51.2	p<0.001
Listening comprehension: question B	49.9	36.6	47.4	47.3	p<0.001

(Contd.)

(Contd. of Annex 4.1)

Question items	Type of school				Significance
	Government	Private	Non-formal	All	
Mathematics					
Arrangement of numbers in ascending order	58.5	45.2	60.4	56.4	p<0.001
Identification of largest number	45.1	50.6	58.4	47.7	p<0.001
Addition	78.0	68.3	84.1	77.1	p<0.001
Subtraction	41.2	47.2	73.3	53.3	p<0.001
Multiplication	40.3	36.3	62.9	42.4	p<0.001
Division	17.9	13.0	37.9	19.5	p<0.001
Simplification	23.4	24.2	53.1	27.2	p<0.001
Basic arithmetic operation	26.5	23.3	46.5	28.5	p<0.001
Unitary method	7.4	4.5	18.1	8.2	p<0.001
Percentage	20.2	17.5	23.6	20.2	p<0.001
Graph	35.8	28.7	35.6	34.6	p<0.001
Convert hours to seconds	36.5	39.0	37.8	37.1	ns
Identify length of a pencil	15.8	20.4	26.7	17.9	p<0.001
Number of triangle and rectangle in a figure	11.1	12.8	10.9	11.1	ns
Identification of four geometric figures	49.8	43.4	45.0	48.5	p<0.05
Social Studies					
How can a family be happier	59.0	52.9	67.7	59.1	p<0.001
Children's main responsibility in a family	31.2	34.0	38.0	32.5	p<0.05
Children's main responsibility in a society	59.5	53.3	53.2	57.7	p<0.05
Neighbour's reaction in loud playing of radio, TV etc.	72.4	62.4	73.0	71.8	p<0.001
Main responsibility as a citizen of Bangladesh	53.4	47.7	50.8	52.2	ns
Eligibility of voting in national elections	41.5	41.4	51.0	42.7	p<0.001
Independence day	56.7	63.0	67.2	59.1	p<0.001
Main way of communication	30.5	32.9	27.0	30.5	p<0.05
Place of highest rainfall	40.4	42.8	57.7	43.0	p<0.001
Manners to the teachers	62.7	57.9	67.0	62.4	p<0.001
Manners to younger siblings	51.9	47.0	56.7	51.7	p<0.001
Main food of the children of Maldives	30.3	24.7	23.4	28.5	p<0.01
Popular games of Nepalese children	41.0	37.5	36.1	39.8	ns
General Science					
How can good health be achieved	68.7	64.0	78.3	69.1	p<0.001
Why do we take carbohydrate	56.4	52.8	60.6	56.3	p<0.01
Way to ensure safety in tube well water	59.5	60.6	69.5	61.0	p<0.001

(Contd.)

(Contd. of Annex 4.1)

Question items	Type of school				Significance
	Government	Private	Non-formal	All	
How diarrhoea spreads	52.9	50.4	59.0	53.2	p<0.001
What does balanced diet mean	49.5	44.6	41.2	47.6	p<0.01
Why do the adolescents need to take extra food	42.8	41.4	50.2	43.5	p<0.001
Transmission of worm	40.7	39.9	46.8	41.3	p<0.01
Prevention of skin diseases	26.2	29.9	39.8	28.5	p<0.001
Identification of quickest mass media	72.0	75.2	73.9	72.8	ns
Identification of a certain season	29.9	31.6	38.4	31.3	p<0.001
Identification of a tree without branch	70.3	50.8	70.2	67.5	p<0.001
Identification of a plant having no flower	23.8	26.1	39.5	26.2	p<0.001
Investigation of a certain disease	53.7	50.1	54.3	53.1	ns
Hypothesise the probable effect of population growth	38.8	39.4	33.7	38.4	p<0.05
Power that effects the cap of a kettle to go up while water become fully boiled	40.9	44.0	42.5	41.7	ns
Power helps bullock to pull cart	42.8	40.1	50.4	43.3	p<0.001
Information communication	68.7	58.5	47.5	64.3	p<0.001
Modern agricultural technology	25.9	28.7	20.0	25.7	p<0.001
Religious Studies					
Life history of prophet Mohammed (SM) or the preachers of own religion	28.3	18.4	29.0	26.7	p<0.001

ns = Not significant at p = 0.05

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.2 : Classification of the competencies according to the level of performance of girls		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Basic rules of arithmetic Problem solving in Mathematics Life history of prophet Mohammed (SM) or the preachers of own religion	Very difficult
Mediocre	Writing in Bangla Reading in English Measurement units Identification of geometric figures Duties as citizen of Bangladesh Know about the country Know about the children of other countries Importance of balanced diet Prevention of common diseases Identification of cause and effect relationship	Difficult
Satisfactory	Reading in Bangla Listening in Bangla Listening in English Basic number skills Duties as family member Duties as member of society Manners with persons of various relationship Physical and environmental health systems Information collection ability Observation skills on natural objects Scientific investigation skills Science and technology in everyday life	Easy
Excellent	Importance of good health	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.3 : Classification of the competencies according to the level of performance of boys		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Problem solving in Mathematics Life history of prophet Mohammed (SM) or the preachers of own religion	Very difficult
Mediocre	Writing in Bangla Reading in English Basic rules of arithmetic Measurement units Identification of geometric figures Know about the country Know about the children of other countries Prevention of common diseases	Difficult
Satisfactory	Reading in Bangla Listening in English Basic number skills Duties as family member Duties as citizen of Bangladesh Manners with persons of various relationship Physical and environmental health systems Importance of balanced diet Information collection ability Observation skills on natural objects Scientific investigation skills Identification of cause and effect relationship Science and technology in everyday life	Easy
Excellent	Listening in Bangla Duties as member of society Importance of good health	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.4: Classification of the competencies according to the level of performance of the students of government schools		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Problem solving in Mathematics Know about the country Life history of prophet Mohammed (SM) or the preachers of own religion	Very difficult
Mediocre	Writing in Bangla Reading in English Basic rules of arithmetic Measurement units Identification of geometric figures Know about the children of other countries Prevention of common diseases Identification of cause and effect relationship	Difficult
Satisfactory	Reading in Bangla Listening in English Basic number skills Duties as family member Duties as citizen of Bangladesh Manners with persons of various relationship Physical and environmental health systems Importance of balanced diet Information collection ability Observation skills on natural objects Scientific investigation skills Science and technology in everyday life	Easy
Excellent	Listening in Bangla Duties as member of society Importance of good health	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.5 : Classification of the competencies according to the level of performance of the students of private schools		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Basic rules of arithmetic Problem solving in Mathematics Life history of prophet Mohammed (SM) or the preachers of own religion	Very difficult
Mediocre	Writing in Bangla Reading in English Measurement units Identification of geometric figures Know about the country Know about the children of other countries Importance of balanced diet Prevention of common diseases Identification of cause and effect relationship	Difficult
Satisfactory	Reading in Bangla Listening in English Basic number skills Duties as family member Duties as member of society Duties as citizen of Bangladesh Manners with persons of various relationship Importance of good health Physical and environmental health systems Information collection ability Observation skills on natural objects Scientific investigation skills Science and technology in everyday life	Easy
Excellent	Listening in Bangla	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.6 : Classification of the competencies according to the level of performance of the students of non-formal schools		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Problem solving in Mathematics Life history of prophet Mohammed (SM) or the preachers of own religion	Very difficult
Mediocre	Measurement units Identification of geometric figures Know about the country Know about the children of other countries Prevention of common diseases Science and technology in everyday life	Difficult
Satisfactory	Reading in Bangla Writing in Bangla Reading in English Listening in English Basic number skills Basic rules of arithmetic Duties as family member Duties as citizen of Bangladesh Importance of balanced diet Observation skills on natural objects Scientific investigation skills Identification of cause and effect relationship	Easy
Excellent	Listening in Bangla Duties as member of society Manners with persons of various relationship Importance of good health Physical and environmental health systems Information collection ability	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.7 : Frequency distribution of number of competencies by level of achievement and stratum							
Level of achievement	Rural govt.	Rural private	Rural non-for.	Urban govt.	Urban private	Urban non-for.	All
Poor	5	4	3	2	2	3	3
Mediocre	8	15	6	4	3	7	9
Satisfactory	14	8	13	10	11	10	12
Excellent	0	0	5	11	11	7	3

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.8 : Classification of the competencies according to the level of performance of the students of rural government schools		
Level of performance	Competencies	Difficulty level
Poor	<ul style="list-style-type: none"> Writing in English Basic rules of arithmetic Problem solving in Mathematics Know about the country Life history of prophet Mohammed (SM) or the preachers of own religion 	Very difficult
Mediocre	<ul style="list-style-type: none"> Writing in Bangla Reading in English Measurement units Identification of geometric figures Know about the children of other countries Importance of balanced diet Prevention of common diseases Identification of cause and effect relationship 	Difficult
Satisfactory	<ul style="list-style-type: none"> Reading in Bangla Listening in Bangla Listening in English Basic number skills Duties as family member Duties as member of society Duties as citizen of Bangladesh Manners with persons of various relationship Importance of good health Physical and environmental health systems Information collection ability Observation skills on natural objects Scientific investigation skills Science and technology in everyday life 	Easy
Excellent	None	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.9: Classification of the competencies according to the level of performance of the students of rural private schools		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Basic rules of arithmetic Problem solving in Mathematics Life history of prophet Mohammed (SM) or the preachers of own religion	Very difficult
Mediocre	Writing in Bangla Reading in English Listening in English Basic number skills Measurement units Identification of geometric figures Duties as citizen of Bangladesh Know about the country Know about the children of other countries Importance of balanced diet Prevention of common diseases Observation skills on natural objects Scientific investigation skills Identification of cause and effect relationship Science and technology in everyday life	Difficult
Satisfactory	Reading in Bangla Listening in Bangla Duties as family member Duties as member of society Manners with persons of various relationship Importance of good health Physical and environmental health systems Information collection ability	Easy
Excellent	None	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.10 : Classification of the competencies according to the level of performance of the students of rural non-formal schools		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Problem solving in Mathematics Life history of prophet Mohammed (SM) or the preachers of own religion	Very difficult
Mediocre	Measurement units Identification of geometric figures Know about the country Know about the children of other countries Prevention of common diseases Science and technology in everyday life	Difficult
Satisfactory	Reading in Bangla Writing in Bangla Reading in English Listening in English Basic number skills Basic rules of arithmetic Duties as family member Duties as citizen of Bangladesh Importance of balanced diet Information collection ability Observation skills on natural objects Scientific investigation skills Identification of cause and effect relationship	Easy
Excellent	Listening in Bangla Duties as member of society Manners with persons of various relationship Importance of good health Physical and environmental health systems	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.11 : Classification of the competencies according to the level of performance of the students of urban government schools		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Problem solving in Mathematics	Very difficult
Mediocre	Basic rules of arithmetic Measurement units Know about the country Life history of prophet Mohammed (SM) or the preachers of own religion	Difficult
Satisfactory	Reading in Bangla Writing in Bangla Reading in English Identification of geometric figures Duties as family member Know about the children of other countries Prevention of common diseases Observation skills on natural objects Scientific investigation skills Identification of cause and effect relationship	Easy
Excellent	Listening in Bangla Listening in English Basic number skills Duties as member of society Duties as citizen of Bangladesh Manners with persons of various relationship Importance of good health Physical and environmental health systems Importance of balanced diet Information collection ability Science and technology in everyday life	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.12 : Classification of the competencies according to the level of performance of the students of urban private schools		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Problem solving in Mathematics	Very difficult
Mediocre	Basic rules of arithmetic Measurement units Life history of prophet Mohammed (SM) or the preachers of own religion	Difficult
Satisfactory	Reading in Bangla Writing in Bangla Listening in English Identification of geometric figures Know about the country Know about the children of other countries Importance of balanced diet Prevention of common diseases Observation skills on natural objects Scientific investigation skills Identification of cause and effect relationship	Easy
Excellent	Listening in Bangla Reading in English Basic number skills Duties as family member Duties as member of society Duties as citizen of Bangladesh Manners with persons of various relationship Importance of good health Physical and environmental health systems Information collection ability Science and technology in everyday life	Very easy

Source: Education Watch Learning Achievement Survey (2000)

ANNEX 4.13 : Classification of the competencies according to the level of performance of the students urban non-formal schools		
Level of performance	Competencies	Difficulty level
Poor	Writing in English	Very difficult
	Problem solving in Mathematics	
	Life history of prophet Mohammed (SM) or the preachers of own religion	
Mediocre	Writing in Bangla	Difficult
	Measurement units	
	Identification of geometric figures	
	Know about the country	
	Know about the children of other countries	
	Identification of cause and effect relationship Science and technology in everyday life	
Satisfactory	Reading in Bangla	Easy
	Reading in English	
	Listening in English	
	Basic number skills	
	Basic rules of arithmetic	
	Duties as family member	
	Duties as citizen of Bangladesh	
	Importance of balanced diet Prevention of common diseases Scientific investigation skills	
Excellent	Listening in Bangla	Very easy
	Duties as member of society	
	Manners with persons of various relationship	
	Importance of good health	
	Physical and environmental health systems	
	Information collection ability	
	Observation skills on natural objects	

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.14 : Classification of the competencies according to the level of performance rural students		
Level of performance	Competencies	Difficulty level
Poor	<ul style="list-style-type: none"> Writing in English Problem solving in Mathematics Know about the country Life history of prophet Mohammed (SM) or the preachers of own religion 	Very difficult
Mediocre	<ul style="list-style-type: none"> Writing in Bangla Reading in English Basic rules of arithmetic Measurement units Identification of geometric figures Know about the children of other countries Importance of balanced diet Prevention of common diseases Identification of cause and effect relationship 	Difficult
Satisfactory	<ul style="list-style-type: none"> Reading in Bangla Listening in Bangla Listening in English Basic number skills Duties as family member Duties as member of society Duties as citizen of Bangladesh Manners with persons of various relationship Importance of good health Physical and environmental health systems Information collection ability Observation skills on natural objects Scientific investigation skills Science and technology in everyday life 	Easy
Excellent	None	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.15 : Classification of the competencies according to the level of performance urban students		
Level of performance	Competencies	Difficulty level
Poor	Writing in English Problem solving in Mathematics	Very difficult
Mediocre	Basic rules of arithmetic Measurement units Know about the country Life history of prophet Mohammed (SM) or the preachers of own religion	Difficult
Satisfactory	Reading in Bangla Writing in Bangla Reading in English Listening in English Identification of geometric figures Duties as family member Know about the children of other countries Importance of balanced diet Prevention of common diseases Scientific investigation skills Identification of cause and effect relationship	Easy
Excellent	Listening in Bangla Basic number skills Duties as member of society Duties as citizen of Bangladesh Manners with persons of various relationship Importance of good health Physical and environmental health systems Information collection ability Observation skills on natural objects Science and technology in everyday life	Very easy

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.16 :Competencies those 'excellently' covered in the teachers' guide but not in the textbooks by level of performance				
'Excellently' covered competencies	Level of performance			
	Excellent	Satisfactory	Mediocre	Poor
Duties as family member		√		
Duties as member of society	√			
Duties as citizen of Bangladesh		√		
Physical and environmental health systems		√		
Writing in Bangla			√	
Listening in Bangla	√			
Problem solving in Mathematics				√
Measurement units			√	
Identification of geometric figures			√	
Identification of cause and effect relationship			√	
Importance of science and technology in everyday life		√		
Know about the children of other countries			√	

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.17 : Percentage of students achieved all the 27 competencies by school type, area of residence and sex							
Type of School	Rural Bangladesh			Urban Bangladesh			
	Girls	Boys	Both	Girls	Boys	Both	
Government	0.5	0.5	0.5	3.4	2.8	3.1	
Private	0.0	0.0	0.0	4.0	4.7	4.3	
Non-formal	7.1	7.1	7.1	1.4	2.4	1.8	
All	1.4	1.0	0.7	1.7	3.1	3.2	

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.18 : Some basic statistics of number of competencies achieved by the students by type of school, area and sex									
Type of school	Girls			Boys			All (weighted)		
	Mean	Sd	Median	Mean	Sd	Median	Mean	Sd	Median
Rural areas									
Government	14.5	6.2	14.0	16.1	5.6	17.0	15.3	5.9	16.0
Private	13.9	6.0	13.0	14.3	6.2	15.0	14.1	6.1	14.0
Non-formal	16.7	6.4	17.0	17.8	5.5	17.0	17.1	6.1	17.0
Urban areas									
Government	18.7	5.2	19.0	19.5	4.5	20.0	19.2	4.9	20.0
Private	19.6	5.3	21.0	19.9	5.4	21.0	19.7	5.3	21.0
Non-formal	17.4	5.7	17.0	18.4	5.3	19.0	17.7	5.6	18.0

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.19 : Socio-economic, school related and extra educational input variables considered in learning achievement study

Socio-economic	School related	Extra educational input by guardians
<ul style="list-style-type: none"> • Area of residence • Age of student • Sex of student • Mothers education • Fathers education • Household food security status • Religious beliefs • Access to mass media 	<ul style="list-style-type: none"> • School type • Participation in co-curricular activities • Class size • Teacher student ratio • Teachers educational qualifications • Teachers professional training • Number of SMC meeting • Distance between school and LEA • School visit by LEA • Teachers professional experience 	<ul style="list-style-type: none"> • Students having private tutor • Parents discussion with teachers • Parental mentoring at home • Guardians attendance in school meeting

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.20 : Measurement of the variables used in the multivariate analyses

Variables	Measurement
Dependent variable	
Competencies achieved	0 = 27 Number of cognitive competencies achieved by a student
Explanatory variables	
Sex of student	1 = Girl, 2 = Boy
Area of residence	1 = Rural, 2 = Urban
School type	1 = Government, 2 = Private, 3 = Non-formal
Age of student	9 – 15 Students age in years
Mothers education	0 – 16 Years of schooling of mother
Fathers education	0 – 16 Years of schooling of father
Self-perceived food security status of household	1 = Always in deficit, 2 = Sometimes in deficit, 3 = Balance, 4 = Surplus
Religious beliefs	1 = Muslim, 2 = Non-Muslim
Access to mass media	0 = None, 1 = 3 Number of media having access
Having private tutor	0 = Don't have, 1 = Have
Participation in co-curricular activities	0 = Don't participate, 1 = Participate
Guardians having discussion with teachers	0 – 15 Number of discussions held
Parental mentoring at home	0 = No, 1 = Yes
Guardians attendance in school meetings	0 – 2 Number of attendance
Class size	3 – 111 Number of students in Grade V
Teacher-student ratio	10 – 147 Number of students per teacher in school
Teachers educational qualifications	8 – 16 Mean years of schooling of teachers
Teachers professional experience	0 – 33 Mean years of professional experience
Teachers professional training	0 – 100 Percentage of teachers having professional training
Number of SMC meeting held	0 – 13 Number of meetings held
Distance between school and LEA	0 – 28 in Kilometers
School visit by the LEA	0 – 111 Number of visits held

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.21 : Multiple regression model (stepwise approach) predicting number of competencies achieved by the students		
Explanatory variables	Beta co-efficient	Significance
Distance between school and LEA	-0.30	p<0.001
Fathers education	0.13	p<0.001
Number of SMC meeting	0.15	p<0.001
School visit by LEA	0.15	p<0.001
Age of student	-0.12	p<0.001
Access to mass media	0.10	p<0.001
Teachers educational qualifications	0.16	p<0.001
Parents discussions with teachers	0.10	p<0.001
Sex of students	0.08	p<0.001
Class size	-0.13	p<0.001
Teachers training	0.09	p<0.001
Students having private tutor	0.07	p<0.001
Religious beliefs	0.06	p<0.001
Teacher-student ratio	0.11	p<0.001
Participation in co-curricular activities	-0.05	p<0.01
Mothers education	0.09	p<0.001
Parental mentoring at home	0.07	p<0.01
Area of residence	0.05	p<0.05
School type	0.06	p<0.05
Adjusted R ²	0.31	
Analysis of variance	F = 55.02	p<0.001

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.22 : Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of rural schools		
Explanatory variables	Beta co-efficient	Significance
Distance between school and LEA	-0.34	p<0.001
Fathers education	0.11	p<0.001
Number of SMC meeting	0.20	p<0.001
School visit by LEA	0.23	p<0.001
Age of student	-0.13	p<0.001
Access to mass media	0.10	p<0.001
Teachers educational qualifications	0.16	p<0.001
Parents discussions with teachers	0.12	p<0.001
Class size	-0.22	p<0.001
Teacher-student ratio	0.17	p<0.001
Religious beliefs	0.10	p<0.001
Teachers training	0.08	p<0.01
Sex of students	0.08	p<0.001
Participation in co-curricular activities	-0.07	p<0.01
Students having private tutor	0.07	p<0.01
Adjusted R ²	0.31	
Analysis of variance	F = 35.45	p<0.001

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.23 : Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of urban schools		
Explanatory variables	Beta co-efficient	Significance
Mothers education	0.19	p<0.001
Distance between school and LEA	-0.15	p<0.001
Age of student	-0.16	p<0.001
Guardians attendance in school meetings	0.13	p<0.001
Access to mass media	0.13	p<0.001
Religious beliefs	-0.09	p<0.001
Fathers education	0.10	p<0.01
Number of SMC meeting	0.07	p<0.01
Sex of students	0.06	p<0.01
Adjusted R ²	0.22	
Analysis of variance	F = 36.48	p<0.001

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.24 : Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of government schools		
Explanatory variables	Beta co-efficient	Significance
Distance between school and LEA	-0.22	p<0.001
Fathers education	0.12	p<0.001
Age of student	-0.19	p<0.001
Teachers educational qualifications	0.15	p<0.001
Sex of students	0.10	p<0.001
Access to communications media	0.11	p<0.001
Number of SMC meeting	0.13	p<0.001
Teachers training	0.12	p<0.001
Parents discussions with teachers	0.11	p<0.01
Religious beliefs	0.07	p<0.05
Area of residence	0.07	p<0.05
Adjusted R ²	0.30	
Analysis of variance	F = 30.84	p<0.001

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.25 : Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of private schools		
Explanatory variables	Beta co-efficient	Significance
Distance between school and LEA	-0.33	p<0.001
Fathers education	0.12	p<0.001
Students having private tutor	0.12	p<0.001
Religious beliefs	0.09	p<0.01
Area of residence	0.08	p<0.05
Teachers professional experience	0.19	p<0.001
Teachers educational qualifications	0.20	p<0.001
Parents discussions with teachers	0.10	p<0.01
Class size	-0.11	p<0.01
Access to communications media	0.09	p<0.01
Mothers education	0.09	p<0.05
Adjusted R ²	0.37	
Analysis of variance	F = 40.84	p<0.001

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.26 : Multiple regression model (stepwise approach) predicting number of competencies achieved by the students of non-formal schools		
Explanatory variables	Beta co-efficient	Significance
Distance between school and LEA	-0.33	p<0.001
Number of SMC meeting	0.22	p<0.001
School visit by LEA	0.30	p<0.001
Parents discussions with teachers	0.14	p<0.001
Teachers training	0.14	p<0.001
Participation in co-curricular activities	-0.10	p<0.001
Teachers educational qualifications	0.10	p<0.001
Household food security status	0.07	p<0.05
Access to communications media	0.09	p<0.01
Area of residence	-0.09	p<0.01
Age of student	-0.08	p<0.01
Sex of student	0.06	p<0.05
Adjusted R ²	0.41	
Analysis of variance	F = 43.61	p<0.001

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.27 : Multiple regression analysis predicting number of cognitive competencies achieved by the students			
Explanatory variables	Multiple regression coefficients		
	Model I	Model II	Model III
Area of residence	2.61 ^a	0.76 ^c	0.72 ^c
Age of student	- 0.91 ^a	- 0.74 ^a	- 0.66 ^a
Sex of student	0.90 ^a	1.00 ^a	0.96 ^a
Mothers education	0.18 ^a	0.13 ^b	0.14 ^b
Fathers education	0.11 ^b	0.13 ^a	0.16 ^a
Household food security status	0.26	0.31 ^c	0.17
Religious beliefs	1.52 ^a	1.61 ^a	1.45 ^a
Access to mass media	0.76 ^a	0.68 ^a	0.67 ^a
School type		0.70 ^b	0.72 ^c
Participation in co-curricular activities		- 0.51 ^c	- 0.65 ^b
Class size		- 0.03 ^a	- 0.04 ^d
Teacher student ratio		0.02 ^a	0.02 ^a
Teachers educational qualifications		0.77 ^a	0.89 ^a
Teachers professional training		0.02 ^a	0.02 ^a
Number of SMC meeting		0.34 ^a	0.36 ^a
Distance between school and LEA		- 0.26 ^a	- 0.25 ^a
School visit by LEA		0.07 ^a	0.07 ^a
Teachers professional experience		0.01	0.01
Students having private tutor			0.82 ^a
Parents discussion with teachers			0.14 ^a
Parental mentoring at home			0.78 ^b
Guardians attendance in school meeting			- 0.13
Constant	17.53 ^a	5.28 ^c	0.93
Adjusted R ²	0.18	0.31	0.32
Value of F	66.42	58.07	50.0
Significance of F	0.0000	0.0000	0.0000

^a significant at $p < 0.001$, ^b significant at $p < 0.01$, ^c significant at $p < 0.05$

Source: Education Watch Learning Achievement Survey (2000)

Annex 4.28: Classroom situation at primary level at a glance

Name of school	School condition			Classroom teaching	Classroom management style	Ongoing evaluation	Performance	Action needed
	Attendance (%)	Physical condition	Teacher and Teaching aids					
A	56.4	Small play ground Commotion free No urinal facility Satisfactory space ventilation Traditional seat plan Manageable class size	Four teachers, all trained No lesson plan Inadequate text-book Blackboard use limited Shortage of copy <i>khata</i>	Teacher centered Mostly one way Reading-based Memory-based Question & answer (Q&A) underscoring	Less careful to the slow learners Careless to the classroom discipline Little appreciation No direct punishment	Mostly oral Little written test Written task checked irregularly Gauged only knowledge Little remedial measure taken	Reading Bangla satisfactory English not satisfactory Writing Bangla satisfactory English not satisfactory Speaking Bangla not satisfactory English unable Understanding Bangla not satisfactory English unable	Ensure: Learning materials Lesson plan Slow learners' participation Develop: Learner-centered teaching Learners' understanding Ongoing evaluation Special care for English
B	63.0	Big play ground Quite place Satisfactory urinal Satisfactory space ventilation Traditional seat plan Manageable class size	Three teachers, one trained No lesson plan Inadequate text-book Blackboard use limited Shortage of copy <i>khata</i>	Teacher centered One way Reading-based Memory-based Q & A underscoring Targeted to male	Apathetic to the slow learners Careless to class discipline No appreciation Smoldering words for punishment	Mostly oral Little written test Written task checked rarely Gauged only knowledge Little remedial measure taken	Reading Bangla satisfactory Most learners unable to read Writing Bangla satisfactory English most learners unable to write Speaking Bangla not satisfactory English unable Understanding Bangla not satisfactory English unable	Ensure: Learning materials Lesson plan Learner centered method Develop: Learners' understanding Ongoing evaluation Remedial measure for the slow learners Special care needed for English
C	37.5	Noise free Small play ground No urinal facility Satisfactory space ventilation Traditional seat plan Manageable class size	Four teachers, one trained No lesson plan Inadequate text-book Blackboard use limited Shortage of copy <i>khata</i>	Teacher centered One way Reading-based Memory-based Q & A emphasized	Careless to the slow learners Careless to the class discipline No appreciation Little physical punishment	Mostly oral Very little written test Tasks checked rarely Gauged only knowledge No remedial measure taken	Reading Bangla satisfactory English most unable to read Writing Bangla satisfactory English mostly unable to write Speaking Bangla not satisfactory English unable Understanding Bangla not satisfactory English unable	Ensure: Learning materials Following teacher's guide Learner centered method Develop: Collegiality among teachers Learners' understanding Ongoing evaluation Remedial teaching practice Writing skills of learners Special care needed for English

A= Government Primary school (good school); B= Government Primary School (not so good school); C= Non-government Registered primary School (good school)

(Contd.)

Annex 4.28: Cont. ...

Name of school	School condition		Classroom teaching	Classroom management style	Ongoing evaluation	Performance	Action needed
	Attendance (%)	Physical condition					
D	64.0	Quite noisy Smaller play ground Poor urinal facility Unsatisfactory space Poor ventilation Inconvenient seat plan Small class size	Teacher centered Wholly one way Reading-based Memory-based Q&A underscored Trained at good learners	Overbearing attitude of the teachers Resentful to the slow learners Careless to classroom discipline No appreciation Pierce words for low performance	Mostly oral Gauged only knowledge Remedial measure not taken No written test	Reading Bangla not satisfactory English unable Writing Bangla not satisfactory English unable Speaking Bangla not satisfactory English unable Understanding Bangla unable English unable	Ensure : Physical facilities Learning materials Following teacher's guide Learners' participation Develop: Learners' understanding Ongoing evaluation skills Remedial teaching Writing ability of learners Special care needed for English
E	79.4	Comnoition free No play ground No urinal facility Satisfactory space Satisfactory ventilation Innovative seat plan Manageable class size	Learner centered Two way Activity-based Memory and understanding emphasized	Careful to the slow learners Careful to the classroom discipline Reward given No punishment	Oral and written Understanding measured Remedial measures taken	Reading Bangla satisfactory English not satisfactory Writing Bangla satisfactory English not satisfactory Speaking Bangla satisfactory English not satisfactory Understanding Bangla satisfactory English unable	Ensure: All learnerOs participation More definition Develop: TeacherOs understanding English teaching
F	92.7	Little noisy No play ground No urinal facility Classroom little clumsy Poor ventilation Innovative sitting Manageable class size	Learner centered Moderate participation Activity-based (Impaired) Instigate little understanding	Less careful to the slow learners Little careful to the classroom discipline No reward No punishment Careful to the student's attendance	Oral and written Understanding measured Little Remedial measure taken	Reading Bangla satisfactory English not satisfactory Writing Bangla satisfactory English not satisfactory Speaking Bangla satisfactory English unable Understanding Bangla satisfactory English unable	Ensure: Physical facilities Regular lesson plan More participation More definition and explanation Develop: Effective ongoing evaluation Remedial teaching Special training for English needed

D= Non-government Registered Primary School (not so good school); E= NGO School (good school); F= NGO School (not so good school)

Annex 4.29 : Case Studies of a government and a BRAC school

Government Primary School Observation period: 4 - 8 March 2000

Classroom condition

The school was a little away from the highway and had three classrooms and a teacher's room. In the classroom where Class V students sat, there were three windows and a door which provided sufficient ventilation and light. There were twelve benches in three rows with space enough to accommodate 24-30 learners. There was no toilet facility in the school and the learners had to go to the nearby bush to respond to nature's call. There was an open space in front of the school where the students played in their breaks.

Although there were four teachers, one male and three female including the head teacher, only two were assigned to Class V. One teacher taught Science, Social Studies and Mathematics and the other Bangla and English. The relationship amongst teachers was warm although two assistant teachers showed some resentment for being involved in preparing certain official documents they considered to be the head teacher's responsibility. However, no substitute teacher took the English class in the absence of the designated teacher for two days. Between 23 to 33 students attended on the days of observation out of 50 with the attendance increasing on third and fourth day. This poor attendance may be due to the beginning of the academic year.

As the students were yet to receive the English and Science books from the government, and some others didn't have other books the students were found to stare at each other creating noise and indiscipline. Many of the learners had no exercise *khata* (or copybook).

Classroom teaching

Neither of the teachers came to the class with a lesson plan. On one of the last days of observation the Science teacher brought a lesson plan. At the end of the class she explained to us that it was not possible for them to prepare a lesson plan every day, as they needed to do a lot of non-academic work including official documentation and reporting. On the same day she also brought a picture of a 'mustard tree' to use it as learning material. It became clear that she did all these for us. It was also apparent that the teachers made no prior preparation since at times they were reading the lessons quietly before starting a class or while taking a class.

The teacher introduced the lesson with a picture related to the topic and asked the students to identify it. Before introducing the English poem, 'Every day', the teacher asked the students to look at the picture and discuss amongst themselves. She then alluded to some aspects of the picture to encourage them to understand the key concept of the lesson. In a Bangla class, the teacher while presenting a poem *Sisur Prarthona* by Annadasankar Roy, wrote the name of the lesson on the blackboard and then asked the students to read the text with her. Afterwards, the teacher asked the learners to read the poem quietly and try to understand the substance. The students responded by trying to learn that by heart. She then asked the students to identify difficult words in the text and she herself wrote down those along with their meanings on the blackboard. The teachers did not go on to explain the poem.

In English also where the students are traditionally very weak, the teacher didn't explain the lesson or give line-to-line meaning. She asked the students to read with her and except two or three everybody was just humming with the teacher. When the teacher asked each student to read the text loudly, only three boys and a girl did. Despite the teacher's request some girls refused to read, ostensibly to avoid being embarrassed. Finally the teacher wrote down some English words with their meanings on the blackboard and asked the students to copy it. At this stage the teacher asked in English some questions from the lesson but the students couldn't respond. When she explained it in Bangla two or three learners were able to respond.

In the Mathematics class, the teacher didn't give any introduction or explanation of the concepts behind multiplication or simplification. She just started working out the sums on the blackboard and after completion of the sum she asked the learners to solve one of the sums of similar kind from the same chapter. When most of the learners were unable to work it out she worked it out for them and then asked them to do another one. This was the usual pattern of Mathematics teaching in the classroom. In Social Studies and Science classes the teacher started with pictures too. It became easier for the learners to contextualise and explain different parts of a tree, their function, with the help of the real tree. Participation of the learners in this class was much higher than any other class because of the use of teaching material. In Social Studies, the teacher started with a lecture on different types of natural disasters that people face every year in Bangladesh and tried to involve the learners in the discussion by asking their experiences in this regard. In the class, the teacher ended the class sometimes by giving an assignment or sometimes abruptly in the height of a discussion. There was no summarisation of the lessons taught.

(Contd.)

(Contd. of Annex 4.27)

Ongoing evaluation

The evaluation of students was mostly oral. Teachers, while reading the text or after giving the lesson, asked questions on the topic to get an idea of the level of this understanding. In the English class whenever the teacher asked a question from the textbook, the learners just couldn't answer. But when she translated it in Bangla, 2/3 students responded in Bangla too. In Social Studies and Science classes the learners were unable to answer questions even on the next day since the concept was not made clear to the students. In Bangla and Mathematics classes some written tasks were given but the teacher hardly checked those.

Classroom management

The weaker students sat at the back of the class and whenever any task was given they just didn't make any effort to do it, as if they were not expected to do these. Also the teachers did not ask any direct questions to them. Some of the learners who sat in the middle benches pretended to be attentive but the teachers never came to them to see what they were actually doing. Only the good learners, who sat in the front bench and received most attention from teacher, were found to be more or less attentive and were participating in the classroom activities. When the teacher asked 'who can do this sum?' All the students looked at the students in the front row as if they were the learners who were expected to respond.

Sometimes a teacher appreciated the learners and induced others to applaud but it was done perfunctorily. No physical punishment was observed in the classroom but we sometimes heard the sound of whipping drifting from adjacent classes that adduced to the existence of the practice. Girls were found to be less receptive, especially in Mathematics and English classes. In Mathematics class when the teacher tried to involve the students in the discussion most of the girls were looking outside or started gossiping. To create a healthy competitive environment the teacher sometimes gave the four rows different names. In these groups the learners just read things and sometimes worked as competitive groups in the question-answer session. Sometimes group leaders were asked to check their peer's works.

Performance of the students

The learners were more or less able to read their textbooks except for English. Some of the learners, however, didn't know the English alphabet well. It was also observed that some good students had to take recourse to their notebooks to pronounce some English words (in the notebook pronunciation of English words were written in Bangla). The practice of writing was absent in most of the classes except for a bit in Bangla. Whatever the learners wrote was mostly to copy the teacher's notes on the blackboard. Students were given written tasks only a few minutes before a class suspended and the teacher checked the copies of only those who came to her. The learners were found to be very shy in participating in any discussion.

BRAC School

Observation period: 9 - 14 March 2000

School condition

This is a 'one classroom' type of school. It's a rented tin shade room with four windows and a door. Lighting and ventilation was not bad. Students sat on mattresses. They usually drink from the landowner's tube-well and use their urinal facility. This school was just beside the road. The easy communication may be one of the reasons that ensured good supervision and helped a lot to make this school a good school.

Books, exercise books, slate-pencil, and chalk- are the materials used in the classroom. Every student had all the materials and in good condition. There was no library facility but it was observed that students got a BRAC publication, 'The Monthly Gonokendra' which rotated among the learners. It is basically a magazine on current issues and includes a quiz, a story, and issues on social awareness. Students showed their interest through their impatience to have the turn. The teacher of this school was a female who passed her HSC exams and started teaching in a K.G. school. Almost at the same time she was appointed as a BRAC schoolteacher. She received a 15-day basic teacher's training from BRAC and then monthly refreshers. The class consists of 33 students. On average 26 out of 33 learners were present during the observation period. 'Usually students' attendance remain nearly 100 percent but with the Eid holiday afoot their attendance rate has gone down a bit', the teacher explained.

Classroom teaching

The teacher followed lesson plans. Since the BRAC programme officers closely and regularly supervise their work, teachers have to show their lesson plans and prove that they are up to date. This teacher seemed to be well organised since every day, at the beginning of the class, she checked English spelling of the learners and wrote them on the blackboard. She revised the previous topic by asking questions and collected in their homework. In some cases it was felt that the lack of subject knowledge sometimes caused her to avoid

(Contd.)

(Contd. of Annex 4.27)

an explanation or incurred her to give a wrong explanation. For example, while teaching a lesson on 'Birds of Bangladesh' there was a paragraph about the concept that birds assure environmental balance. The teacher tried to explain that we come from different families and different environments and so do the birds. This also happened in Social Studies and Sciences.

The teacher of this school always introduced the lesson precisely. In Bangla, the teacher normally started with picture and asked the students 'what is it all about'. Students and teacher discussed the topic for a while. Then the teacher mentioned the day's topic. In Social Studies she tried to give an introduction by asking relevant questions on the topic she was going to present. For example, while giving lesson on 'Agricultural and Industrial goods' she asked the students how do we eat', 'where do we get it' 'who produced those things' etc. Then she mentioned the topic's name. After that she introduced a map to show different areas, famous for different goods. In Mathematics, the teacher asked learners to reproduce all the activities on sums that were done from the very beginning. Then she discussed the new concept prescribed for that day. For example, on the very first day of school observation the teacher discussed the rules of simplification (*Saral Anker Niom*), and tried to make this concept clear by giving them several types of exercises. Students at first couldn't do it, but the teacher helped them to think and they gradually did it.

Presentation of lesson was quite systematic in this school. In Bangla, the teacher gave a short summary on the issue that she was going to present and then determined the portion that would be taught on that particular day. The teacher read the lesson and then asked the students to follow her. While reading the text she tried to explain difficult words. Her local dialect helped her in explaining the text with the help of colloquial terms. Then she asked the learners to sit in-groups and read the text one by one. But the students got busy learning the text by heart, which became evident when the teacher asked them to make a summary of different paragraphs. The learners were regurgitating the paragraph line by line. The learners were found to be very attentive since anytime anyone could be picked to read the text. The teacher contextualised the lesson by explaining its presence and impact on our every day lives. For example, to present a lesson on birds she put forward a vivid picture of how people wake up with the sound of birds and how they live with them and compared human lives with birds' one. The lively delineation of the topic gave an impression that the learners were visualising it with a great enthral. Sometimes due to lack of knowledge, the teacher could not clarify the concept and misinterpreted it. No Contextualisation was found in the case of Mathematics. In Social Studies the teacher indicated the raw materials as a source of these goods and brought the learners in the discussion process to share their experience and conceptualise its importance in their real life. On the other hand, while explaining production of silk the teacher expressed her ignorance about the process and then a student shared his experience since he had seen it. English and Science classes were revision classes, so there was no scope for such generalisation and Contextualisation. Summing up the lesson at the end of the presentation was a general practice of this school. Before asking the students to write the summary of each paragraph (in Bangla) the teacher summed up and in math she tried to explain where students had made mistakes. In Social Studies the teacher ended the class by asking for a summary of each paragraph they had learnt in small groups. The teacher also helped the students when they were struggling. No summarising in the English class was observed since it was a revision class.

Ongoing evaluation

Before starting the class the teacher asked questions from the previous lesson. Besides, she also asked short questions during lesson presentation to keep the learners attentive. After finishing the lesson the teacher asked the students to do the exercise section in the class and also gave a written assignment as homework. She was not observed to comment on the students' homework. Sometimes she called the weak learners to come to the board and do the sums. She also tried to find common mistakes after checking students' work and explained or did it on the board. The teacher also evaluated students in different games, such as asking students to name different agricultural and industrial goods one after another while clapping their hands.

Classroom management

Students' participation was ensured carefully. For example, every student had to read one by one; they had to write every thing on their slate individually. Teachers asked questions individually, not in a group. The teacher's explanation was that if she asked questions in a group it wouldn't be clear who lagged behind and it wouldn't be possible to help them. This practice was done very quickly and students were also good at the process. Students were found to share their experiences freely in the classroom. It was observed that those who were irregular were slow learners, but the teacher was not aware of that and tried to ask more questions in order to update them, and she scolded them over and over again. There was no physical punishment, however.

Performance of the learners

The overall performance of the learners in this school was fairly good. All of the learners could read Bangla, Science, and social studies book fluently and understand the subject matter discussed in the class. Most of the learners were unable to read their English books. None of them understood English independently, nor could speak English. Freehand writing was widely practised in this school and learners could write a summary of the lessons quite confidently in Bangla. Learners' frequent and spontaneous participation in classroom activities was a distinctive feature of this school that enabled the learners to speak their minds. Handwriting of the learners in this school was very clear and legible.

Annex 5.1 : C-in-Ed course-contents in terms of learning outcomes and practical work, 2001				
Sl. No.	Subject	Learning outcomes	Activity based outcomes	Comments on content and practical activity suggested in the syllabi
A. Educational-science related		1		
	Principles of education	27	6	Vast content and descriptive, no practical work except a few chart making
2	Primary education	41	7	Vast descriptive contents and few practical exercise
3	Child psychology and learning	32	6	Mostly descriptive but relevant to primary school children, have relevant exercises
B. Teaching-subject based				
	Bangla	30	17	Contents are need based and descriptive; exercises are relevant and participatory
	English	29	12	Effective practice oriented content; lots of in-class drills are done
	Mathematics	14	4	Vast content reflect primary curriculum, the practical work is inadequate
	Social Science	22	12	Descriptive content, practical work is diversified, relevant and creative
	Science	53	17	Vast content, difficult to cover. Lots of practical exercise but less creative
	Islam	74	14	Descriptive content, almost no practical exercise
	Hinduism	11	2	Descriptive content with little practical work suggested
	Buddhism	47	4	Descriptive content with little practical work suggested
	Christianity	18	2	Descriptive content with little practical work suggested
	Physical Education	36	9	Contents are in descriptive fashion with little practical work
	Arts and Crafts	50	18	Have descriptive contents with large number of practical work suggested

Index

- Achievement, xxvi, xxviii, 2, 3, 4, 15, 16, 18, 19, 22, 23, 25, 31, 42
- Adult education, 1
- Affective domain, 12
- Asian Development Bank, xiii
- Assessment of basic competencies (ABC), vii, 1, 2, 41
- Attendance, 1
- Background characteristics xxvii, 15, 43, 50
- Bangla, 15
- Bertrand Russell, viii
- BANBEIS, xii, xxv, 8
- Bangladesh Institute of Development Studies (BIDS), ix, xi, xxv, 35
- Bangladesh Unnayan Parishad, xi
- BRAC, vii, ix, xiii, 3, 27, 31, 49
- Budget, xxvi, 45
- Campaign for Popular Education (CAMPE), viii, x, 1
- Centre for Policy Dialogue (CPD), xi, xxv, 50
- Certificate-in-Education, 33, 34, 36, 49
- Classification of competencies, 23
- Classroom condition, 31
- Classroom management, 31
- Civil society, xxiii
- Cognitive domain, 12, 13, 28, 41
- Competencies, vii, xxv, xxvi, xxix, 3, 5, 8, 15, 16, 20, 23, 25, 41, 42, 45
- Competency-based education, 11
- Contact time, 1
- Curricula, vii, xxvii, 1, 2, 3, 34, 41
- Dakar Conference, ix, 1
- Data quality, 6
- Decentralization, xxviii, 50
- Department for International Development (DFID), x, xii
- Education for All (EFA), 1, 4, 41
- Educational management, xxix, xxx, 50
- Education policy, 1
- Education Watch, vii, ix, xxiii, 1, 3, 8, 41, 45, 47
- Effective school, 3
- English, 16
- Enrollment, 1
- Equity, xxx
- Essential learning continuum (ELC), 11
- ESTEEM project, xii
- Focus group discussion, 34
- Food-for-Education, xxx, 1
- Gender gap, xxviii, 1, 15, 42, 48
- General science, 20
- Government of Bangladesh (GoB), xi, xii, xiii
- Government Primary school, 3, 6, 16, 18, 19, 20, 21, 22, 23, 36, 37, 38, 43
- GNP, xxviii, xxx, 51
- IDEAL project, 34
- Instruction materials, 31
- Internal efficiency, 2
- Institute of Education & Research (IER), ix, xii, xxv, 34
- Interactive ratio index (IRI), 38, 39
- International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), xii
- Jatiya Sangsad, ix
- Kuder-Richardson formula, 8
- Learning achievement, xxvi, xxviii, 2, 3, 4, 15, 16, 18, 19, 22, 23, 25, 31, 42
- Listening, 15, 16
- Map of Bangladesh, 7
- Mathematics, 18

- Methodology, 5
 Minimum level, 15
 Minister of Education, 2
 Mohammed (SM), xxvi, xxvii, 13, 24
 Multiple choice question (MCQ), 15, 16, 20
 Multivariate analysis, 29
- National Academy for Primary education (NAPE), xii, xxv, 8,
 National Curriculum and Textbook Board (NCTB), vii, xii, xxv, 3, 5, 8, 11
 Non-cognitive, 5, 30
 Non-formal education, vii, xxv, 3, 16, 48
 Non-cognitive competencies, 30, 42
 Novib, x
 NGO, ix, xxiii, xxvii, 1, 3, 33, 49, 50
 Non-formal schools, vii, xxvii, xxviii, 16, 18, 19, 20, 21, 22, 23, 24, 27, 30, 36, 38, 43
- Overall achievement, 23
- Performance, xxvi, xxviii, 2, 3, 4, 15, 16, 18, 19, 22, 23, 25, 31, 42
 Pedagogy, xxix, 3, 8, 30
 Physical facilities, xxviii, 2
 Policy implications, 47
 Primary and Mass Education division (PMED), xxv, 1, 8, 35
 Primary Education Development Project (PEDP), xxviii
 Primary Teachers Training Institute (PTI), xxv, xxvii, 4, 8, 33, 35, 36, 43
 Private primary school, 3, 6, 16, 18, 19, 20, 21, 22, 23, 24, 27, 30, 36, 37, 38, 43
 Proshika, xii
 Psychomotor domain, 12
- Quality of primary education, vii, xxvii, 2, 41
- Rabindrabharati University, x
 Rabindranath Tagore, viii, 45
 Reading, 15, 16,
 Recommendations, xxix, 50
 Reliability, 6, 8
 Religious studies, 22
 Resources, xxix, 50
- Sampling, 6
 Sample size, 6, 8
 School level analysis, xxvi, 26, 43, 50
 Social studies, 20
 Source materials, 11, 12, 25
 Study objectives, 5, 8
- Taxonomic analysis, 5, 27,
 Teacher education, training, xxvii, xxviii, 3, 4, 8, 31, 33, 43, 49
 Terminal competencies, vii, xxv, xxvi, xxix, 3, 5, 8, 15, 16, 20, 23, 25, 41, 45, 42
 The 3 R's, vii
- UNDP, xi, 1
 UNESCO, xi, 1
 Unicef, xi, xii
 Universal primary education (UPE), vii, 11
 University of Dhaka, xi, xii,
 Urban-rural difference, xxviii, 15, 42, 48
- Validity, 6
 Vision of education, 2
- WCEFA, 1
 Weighting, 6
 Women for Women, xii
 Writing, 15, 16

About 18 million of Bangladesh's 130 million population, are in the primary school age (6-10 years) group. Nearly 80 percent of these children are now attending school. Some studies have raised questions about the quality of education imparted in the schools. This report presents results from a new study that looks at the quality aspect more comprehensively. It is done for both formal and non-formal sub-systems by (i) assessing students completing the primary cycle against a set of terminal competencies recommended by the government and (ii) by studying the state of teacher education. The results have both short and long-term policy implications. It indicates that Bangladesh has to strive hard if it wants to reach the new goal of quality **Education for All** by the year 2015. The report is published in three volumes. **Volume I** presents the main findings and a synthesis, **Volume II** the results on the achievement of competencies and **Volume III** presents the results on teacher education.

This report is the second from the *Education Watch*, an initiative by several individuals and organizations representing the civil society in Bangladesh. The first report, entitled *Hope not Complacency*, which looked at the internal efficiency of primary education, was published in 1999.

A Mushtaque R Chowdhury is Deputy Executive Director and Director Research of BRAC. He obtained a PhD from London and contributed many articles and books in the areas of public health, education and poverty eradication. He is co-ordinator of the Working Group of *Education Watch*.

Rasheda K Choudhury is Director of Campaign for Popular Education (CAMPE). She is the editor of *Shakkarata* (literacy) Bulletin, a newsletter of CAMPE and contributes to major national dailies. She is Member Secretary of the *Education Watch*.

Samir R Nath is Research Statistician and Co-ordinator of the Education Research Group of BRAC. He studied at Oxford and contributed many articles in journals at home and abroad. His research interests include basic and primary education, health knowledge, and learning achievement of students.

Manzoor Ahmed is former Director of UNICEF. He has authored many books and articles, and is active in research and writing on educational policy issues in Bangladesh.

Mahmudul Alam is Senior Research Fellow and Division Chief of Human Resource Division of the Bangladesh Institute of Development Studies. He has a DPhil in economics from Sussex. His current research interests include socio-economic and action-oriented topics in education, health and nutrition.

Tk. 325.00

