



Manzoor Ahmed
Advisory Editor

Abu Hamid Latif
Editor

Volume 6 Number 1 June 2007

BANGLADESH EDUCATION JOURNAL

A half-yearly journal published jointly by BAFED and BU-IED with financial assistance from UNESCO.

Editorial Board

Advisory Editor	:	Manzoor Ahmed
Editor	:	Abu Hamid Latif
Member	:	Shamsul Haque Sekander Hayat Khan Siddiquir Rahman Harunur Rashid Khan Ali Md. Shahiduzzaman

Cover Design

Abul Mansur
Manan Morshed

Bangladesh Education Journal, Volume 6, Number 1, Published by Nazmul Haq, Executive Secretary, BAFED, on behalf of Bangladesh Forum for Educational Development (BAFED) and BRAC University Institute of Educational Development (BU-IED), 278/3 Elephant Road (3rd Floor), Kataban, Dhaka 1205. Phone: 9668593, E-mail: bafed@bangla.net, Website: www.bafed.org

Printed by Arka, 6/11 Eastern Plaza, Hatirpool, Dhaka-1205, Phone: 9661129.

Price : in Bangladesh Tk. 100.00, Abroad US\$ 5.00

E d i t o r ' s N o t e

This first issue of volume 6 marks the beginning of the sixth year of publication of the Journal. With this issue, BRAC University Institute of Educational Development (BU-IED) joins as a co-sponsor with BAFED and UNESCO in producing the journal.

Five articles have been selected for inclusion in the current issue. Four of these are based on research studies presented in the Tenth Educational Researcher's Conference organized jointly by BAFED and UNESCO on July 8, 2007. The article on health education in Bangladesh and Korea was prepared by Ms. Lan Joo, a student of the Graduate School of Education and Human Development at George Washington University, while she served as an intern at BU-IED.

The articles presented in the current number deals with different aspects of primary and preschool education in Bangladesh. The paper by Aftab Opel and his colleagues reported on an action research intervention for developing mathematical concepts at the preschool level. Badrul Alam and Khurshida Jahan presents the results of a survey of teacher's perception about quality in education. Khondoker Shakhawat Ali highlights the issues of management with participation and accountability through a case study of a primary school with a long history. M. Mahboob Morshed analyses the performances of students regarded as "high achieving" and "low achieving" in selected primary schools. Lan Joo compares health education programmes and practices in primary schools in Bangladesh and Korea.

Manzoor Ahmed
Advisory Editor

C o n t e n t s

Editor's Note

**Playing with Mathematics:
Evaluation of a Short Programme to Develop Skills of
Bangladeshi Preschoolers**

Aftab Opel, Suborna Camellia and Frances Aboud

7-16

Health Education in Korea and Bangladesh

Lan Joo

17-29

**Khalilnagar Government Primary School (1905-2005):
A Case Study**

Khondoker Shakhawat Ali

31-42

**Quality Education in Selected Primary Schools of
Bangladesh: Perceptions of Classroom Teachers**

A. K. M. Badrul Alam and Khurshidha Akhtar Jahan

43-51

**Academic and Non-academic performances of
High and Low Achieving Students at Primary
Level: A Comparative Study**

Mohammad Mahboob Morshed

53-64

Playing with Mathematics: Evaluation of a Short Programme to Develop Skills of Bangladeshi Preschoolers

Aftab Opel*, Suborna Camellia* and Frances Aboud**

Abstract

The purpose of the study was to examine the efficacy of a 6-week mathematics intervention with rural Bangladeshi preschoolers with the intention of increasing their basic mathematics skills. Eighty preschoolers from five randomly selected preschools received the program and their skills were compared with the same number who received the regular math program. Both the groups attended daily 40-minute math classes over 6-weeks using a math bag to practice math concepts. The intervention group participated in math games while the control group learned similar concepts in a more teacher-directed way. Before and after the program, a 77-item test was administered to assess skills of enumeration, patterns, shapes, measurement, sorting, comparing, and operations. Results confirmed significantly greater achievement of math skills by the intervention children compared to the control group. The score of the intervention children increased from 25% to 60% while the control group increased from 30% to 43%. The findings demonstrate that with lesson plans, everyday materials and training, paraprofessional teachers are able to implement activities that helped children learn mathematical concepts.

Introduction

The importance of preschool education for children's school readiness skills along with cognitive, language, and social development is now well-recognized (Engle, Black, Behrman, Cabral de Mello, Gertler, Kapiriri, Martorell, Eming Young, 2007). The preparatory experience for children from families who are poor and lack formal education is even more critical (e.g. Kagitcibasi, Sunar, & Bekman, 2001). However, the quality of these preschools is often not good enough to help children gain sufficient skills (Aboud, 2006). This study evaluated new activities to promote the development of basic mathematical skills among preschoolers (i.e. kindergarteners) in Bangladesh with a view to creating a high-

* Aftab Opel and Suborna Camellia, Senior Researcher and Research Associate respectively, Early Childhood Development Resource Centre (ECDRC) of BRAC University Institute of Educational Development. E-mail: aftab.opel@gmail.com

** Frances Aboud, Research Adviser of Early Childhood Development Resource Centre (ECDRC) and Professor, McGill University, Montreal, Canada. E-mail: frances.aboud@mcgill.ca

quality math programme for Bangladesh and other developing countries.

Preschool math programmes

Children develop a great deal of understanding about counting and comparative quantities (e.g. more and less, big and small) as a result of incidental learning from everyday experience, without direct instruction (Ginsburg, 2006). This was also found to be the case with rural Bangladeshi children who acquired many of the tested school-readiness math concepts without having attended preschool (Aboud, 2006). However, without preschool less than half the children were able to count nine stones or identify which of two bowls held the same number of items. Mathematics activities in the pre-primary grades typically provide only informal opportunities for counting, patterns, and shape identification in the form of general enrichment rather than focused activities (Starkey, Klein, & Wakeley, 2004).

However, with new evidence about children's eagerness to explore math operations and receptivity to logical explanations (Siegel & Svetina, 2006), a more systematic approach to math teaching is taking place. It is based on a cognitive constructivist view that children actively construct an understanding of logical relations when posed challenging problems. The benefits might be particularly crucial for children from disadvantaged backgrounds whose parents do not provide activities and materials for acquiring concepts (Starkey et al, 2004). In Bangladesh, math concepts and operations are systematically taught to 5-year-olds in preschools. However the didactic approach relies on rote learning whereby the teacher demonstrates a concept and the children repeat it many times with the same material (Moore, Akhter & Aboud, in press). Children learned the operations but their nonverbal reasoning, so essential for later math skills, lagged far behind (Aboud, 2006). It was therefore considered important to provide children with more systematic opportunities to engage deeply in math reasoning while in preschool.

Recognizing the need for a systematic introduction to math, education researchers have developed and in some cases evaluated preschool programs (e.g. Greenes, Ginsburg, & Balfanz, 2004; Sarama & Clements, 2004; Starkey et al., 2004; Sophian, 2004). Most provide activities to enhance math concepts related to enumeration, shapes, patterns and their rules, measurement, sorting and classifying, and comparison. There is also some introduction to operations such as addition, subtraction, and concepts underlying multiplication and division. With the explicit objective of learning these math skills, the activities entail hands-on playful experiences with objects in a group setting. Positive outcomes were found for most programs when evaluated in pre-kindergarten or kindergarten classes (e.g. Griffin, 2004; Sophian, 2004; Starkey et al., 2004).

The preschool situation in Bangladesh

In Bangladesh, preschools for disadvantaged rural children offer literacy and math instruction along with play for half a day. A recent survey in Bangladesh showed that a total of 147 organizations, most of which are non-governmental, have preschool programs

attended by about 790,000 children (ECDRC, 2006). They are expanding rapidly and considered essential in order to prepare children for primary school, reduce the drop-out rate, and increase the number of children passing fifth grade competency tests. Prior evaluations indicated that in some respects their quality was moderate (3.5 out of 7 on the Early Childhood Environment Rating Scale; Aboud, 2006). Recommendations to provide more hands-on materials in the form of play materials and math bags led to subsequently higher quality ratings in preschools implementing the changes (Moore, Akhter & Aboud, in press). Benefits were passed on to the children who attended the improved preschools in comparison to those who attended the regular program, matched for ECERS score the year before. In particular, children showed greater improvements in Block Design and Matrices, both measuring visual analytic reasoning that would later support math skills (Moore et al, in press). However, these scores were still very low and children were not improving at the expected rate. Action research indicated that teachers were using the same rote repetition approach only now with more materials. Children did not have the opportunity to solve problems on their own.

Because the preschools depend on paraprofessional teachers and use low-cost materials, questions may be raised whether they are capable of implementing a high quality math programme. A 4-week dialogic reading intervention showed that if carefully trained and supervised, these paraprofessionals could implement a sophisticated programme successfully to improve vocabulary (Opel, Ameer & Aboud, 2006). Math programmes require more intensive work because instruction and materials must differ daily to maintain children's interest and encourage wide application of skills. Consequently, a short 6-week math intervention was developed and implemented. Although the math programme was homemade, it used the same principles and targeted the same skills underlying more professional programmes (Greenes et al., 2004). The hypothesis was that preschoolers who participated in the math programme would acquire more math skills than those who followed the regular preschool programme.

Method

Design and sample size estimation

The design was a pre-post assessment of an intervention and control group. Using an alpha of .05 and power of .80, the sample size was 80 per group to find a difference of .5 SD. Therefore there were 5 preschools per group with 16 children in each school. Scientific and ethical approval of the protocol was provided by a review committee of academics and researchers in this field convened by BRAC University's Institute of Educational Development.

Preschool setting

Children were selected from 10 preschools in a rural sub-district of Gazipur in Bangladesh. Out of 62 preschools run by Grameen Shikha (a sister organization of Grameen Bank), five

preschools were randomly selected to be intervention schools and five to be controls. The organization had been operating early childhood programmes since 2001 and recently began using the materials provided by Plan International, an international child-focused NGO. Thus, all their current learning materials, operating costs, teacher training, staff development and other technical supports were provided by Plan International. In the usual half-day programme, teachers had a daily 40minute math class. The regular math curriculum had specific objectives, such as concepts of quantity, counting up to 30, reading and writing numbers, identifying shapes, and adding numbers up to 10. A math bag was provided to each student, as well as an exercise book with pictures and numbers. For example, the children might spend the class learning to count to 15: they would count objects, count flowers drawn by the teacher on the blackboard, count drawings in their exercise book, and count buttons from their math bag. Similarly, if learning about “the middle”, children would watch the teacher identify the middle object in a row of three; they would then line up three buttons from their math bag as demonstrated by the teacher and point to the middle button; finally they would point to the middle in a row of three flowers in their exercise book. This was the regular programme used as a comparison for the new programme.

The educational attainment of the preschool teachers, who usually came from the village, ranged from Grade 10 to Grade 12. They received 5 days' training at the beginning of the school year on basic knowledge for early childhood learning, child psychology, pre-mathematics, pre-literacy and classroom management. Teachers received another 4-day refresher training in mid-year focused on curriculum, syllabus and teaching techniques. Monthly, they received 1-day training on how to implement the lesson plans for that month. Most teachers had less than one year's experience in preschool teaching. The math intervention was implemented in the seventh month of the school year.

Participants

Sixteen students each from the 5 intervention and 5 control schools were randomly selected from a class list of 2530 children to participate in this study. Consent was obtained from mothers to assess children's mathematical skills before and after the intervention. Mothers were interviewed to obtain information on the child's age, her education and family assets. The remaining children attended classes as usual but were not tested. Of the 80 children enrolled for each group, 78 from the intervention group and 66 from the control group were available to take the posttest. Consequently data from 144 children were analyzed.

Measures and testing procedure

A test was created to assess math skills identified as age-appropriate (Ginsburg et al, 2006) and tested in other programmes (Starkey et al, 2004), namely, counting, patterns, shapes, measurement, sorting, comparing, and operations. The test had 77 items and each was scored as correct or incorrect (alpha coefficient .91). Items included: reading numbers from 1 to 40, identifying the larger of two numbers, classifying buttons according to size, creating two triangles out of a square, and adding using buttons. Children were pretested during the few

weeks before the intervention and posttested one week after its completion, meaning 8 to 10 weeks after the pretest. Individual testing was carried out in a quiet place, at the child's home or in the school compound. It took approximately 40 to 60 minutes to administer. Ten female research assistants, with university degrees in different disciplines, blind to the child's group, administered the test and mother interview. Four assistants had prior extensive experience assessing preschool children using different verbal and non-verbal measures. They received a half-day training before the pretest and again before the posttest on how to interact with the children, administer items, and record the scores.

Preschool intervention

Activities were selected from a document of “Everyday Math Play Activities” developed for Plan International by Llewellyn (2004). They were organized and embellished in such a way as to address each of the identified math skills. Teachers were to use them in sequence so that children could build on both enumeration and at least one other skill in the same lesson. For example, they might do enumeration of 10-20 objects, measurement, and patterns in the same day. Non-classroom materials were brought in so children would learn to apply math concepts to common village materials. Provision was made to do activities outside of the classroom but this was not possible due to the monsoon rains. Control children received their usual math programme.

Both intervention and control children used math bags with the following items: 120 buttons (5-6 different colors and 4 different sizes), two 1m long strings, one die, a box with 40 sticks, one cloth mat, 12 small cubes colored red, blue, green and yellow. Four additional items were provided to each of the intervention children: number cards (1-40), pattern cards, blank papers, and a practice workbook.

Most activities were intended to enhance math concepts related to enumeration, shapes, patterns and their rules, measurement, sorting and classifying, and comparison. The two criteria guiding the choice of activities were first that children learn through fun and play, and second that materials be low-cost and easily accessible. Examples of some of activities are provided below.

Counting and Enumeration: Counting and writing numbers from 1 to 40 were taught in multiple ways; the children had learned to count to 20 already so we went beyond that number. In addition, activities allowed for counting objects, recognizing numerals, following oral directions, locating the middle, dividing sets equally, comparing large and small numbers, grouping different items by 5 and 10. The activity of counting from 1 to 40 was divided into four sessions to be conducted in four days but in each session other skills (e.g., number recognition) were incorporated. Four sets of number cards were provided to each child: sets of 1-10, 11-20, 21-30, 31-40. In each session children took out a set of ten number cards and mixed them up so that they were not in order. They were then asked to arrange the cards in order in a column. Once completed, everyone checked his/her partner's work. Then the teacher said a number randomly and children held up the corresponding card.

Once all the numbers had been covered, she made the task more difficult by asking children to show the number that came before 7 or after 3. This way they practiced counting and number recognition.

No materials were required for some of the counting activities. For example, in one activity, the teacher asked the children to cover their eyes with their hands and listen. The teacher clapped and children silently counted. When the teacher stopped they called out the number of claps they heard. Then in turn each student was assigned to clap the number whispered to him/her by the teacher. Others covered their eyes and silently counted and called out the answer.

Shapes: Children explored ways that shapes can be partitioned and constructed from other shapes. Children also developed perspectives of three-dimensional buildings from a two-dimensional drawing. Activities were created to increase their ability to recognize shapes and their properties. In one such activity, the teacher asked the children to take out their sticks from the math bag. She drew a triangle on the board and asked the children if they knew the name of the shape. She then asked how many sides the triangle had. She then posed a problem: the children were to make as many triangles they could with their sticks and count them. She then increased the difficulty level by asking children to make triangles that connect to each other so that a new triangle shares one side of the first triangle. They counted these triangles and looked at each other's work. After introducing all the shapes, the teacher had them sort by shape. This way, recognition, counting and sorting skills were practiced.

Patterns: Activities promoted identifying the rules underlying patterns. Patterns were created using many different materials as well as numbers. Children made their own patterns and extended patterns created by others. For example, children were asked to make a train that was 12 cubes long and used two colors, in a pattern. When finished, they were asked to break the train into sections that were 3 cubes long and to line them up one on top and observe the pattern. They were then asked to put the train back together and break it into sections 4 cubes long. The teacher asked them to explain what happened to the pattern with the two problems.

Measurement: Concepts of measurement included shortest and longest, length and width, and the way of measuring things. Activities were created to help children learn key concepts of measurement practically and use them in the classroom. For example, in one activity the teacher asked children to think about ways to measure the classroom. She divided students into groups of 4 and asked each group to find a new way. During the class it was observed that children used their hands, foot steps, strings, and books to measure things. She then asked the children to take out a string from their math bag and find 5 things smaller and 5 things longer than the string. This way they combined measurement and enumeration.

Sorting and classifying: Activities were created to help children learn and practice sorting objects by color, size, shape and other attributes. For example, in one such activity, children stood in a big circle with their shoes in the center. The teacher asked students to look at the

shoes and see if they could find a way to sort the shoes into groups. As each child sorted the shoes, other students guessed how they were sorted. Each way had to be different.

Comparison: Comparisons were used to introduce concepts of equal as well as more or less, big or small, tall or short. Children, for example, compared numbers by lining up buttons for each number.

Operations: Concepts of mental math, addition, subtraction, and division were introduced. As usual, other math concepts were combined with operations. For example in one activity, children were asked to take out 30 buttons from their math bag and divide them into two parts as they wished. When they finished doing this the teacher asked children to divide the 30 buttons into two equal groups and count how many buttons were in each. This way children divided buttons equally into two, three, four and five portions and counted how many buttons were in each.

Teacher training and supervision

Training was provided to the 5 intervention school teachers at two points: 3 half days of training were given immediately before the start of the intervention and another 3 half days in the middle of the programme.

A training manual was created describing different math activities and games to be used by teachers when implementing them in the classroom. For each, instructions were provided on how to introduce activities to the children and how best to use the available materials. Training was held in an informal way, first introducing the teachers to the concept of math play. Each of the activities was then introduced to the teachers followed by a demonstration; teachers then practiced the activity with the others acting the role of students. During training, modifications were made to the manual according to teachers' suggestions in order to make it easier for them to implement.

Intensive on-the-job supervision was also provided to the teachers during the 6-week intervention. Each school was visited almost every day to ensure that classes were held regularly and instructions followed. At the beginning of the program, most of the teachers had some problems ensuring child participation and use of materials. The problems were eventually resolved.

Results

Characteristics of the sample

Among the intervention children, 56.4% were girls and 43.6% boys. Among the control group the proportion was 57.6% and 42.4% respectively. One-quarter of the mothers had never gone to school and one-third had only some primary schooling. Table 1 presents the ages of the children, mothers' education and ownership of assets in terms of 11 household

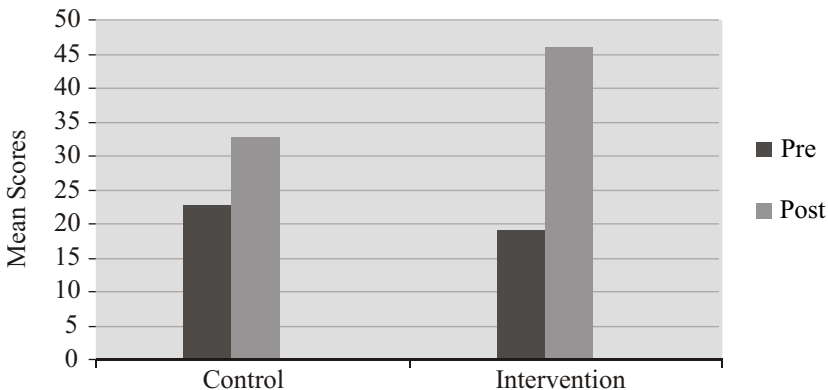
Table 1: Mean (S.D) and t-values comparing intervention and control preschool students.

Variable	Control	Intervention	t	p-value
Child's age (months)	68.89 (7.18)	68.32 (6.69)	.49	ns
Mother education (years)	4.80 (3.66)	5.59 (3.62)	1.29	ns
11 Household assets	6.73 (2.89)	7.94 (2.46)	2.71	.008

items; the last differed significantly with intervention children's families possessing more assets. These three variables were therefore covaried in the analysis of math scores. Land use and home ownership did not differ.

Math skills

Each child's score was the sum of points across all 77 items. The pretest and posttest unadjusted means are presented in Figure 1. The posttest scores were subjected to an analysis of covariance, covarying first the pretest score, the child's age, mother's education and assets. The pretest covariate was significant ($p < .0001$), as expected, and so was mother's education, $F(1, 138) = 4.86, p = .03$. The posttest score yielded a significant effect for group,

Figure 1: Scores of control and intervention children

$F(1, 138) = 90.48, p < .0001, \text{partial } \eta^2 = .40$. The control students had an adjusted mean of 30.47 (SEerror = 1.32) and the intervention students an adjusted mean of 47.91 (SEerror = 1.21). The effect size $d = 1.05$. Improvement as a result of the math intervention was strong.

Discussion and Implications

The hypothesis was that children who participated in the math activity programme would acquire more math skills than children attending the regular math programme. This was

strongly supported by the findings. The mean score of the intervention children increased from 24.7% to 59.7% while the control group increased from 29.7% to 42.6%. The control children were acquiring some skills as a result of their 6-week instruction but not as many as the intervention children. Both may also have benefited from a practice effect.

The findings are consistent with those from the United States demonstrating that more systematic approaches to teaching math skills in the preschool years can yield positive results (Sarama & Clements, 2004; Sophian, 2004; Starkey et al., 2004). Some of these programs (e.g., Sophian, 2004) were conducted with even younger children, suggesting that math concepts can be taught and understood in the early years. Although many children learn such concepts incidentally by playing with different materials and having exposure to a sophisticated environment, young Bangladeshi children do not typically have such access. They are likely to spend most of their early years at home without complex learning materials. Consequently, many do not possess math readiness skills, such as enumerating objects up to 10, unless they receive stimulation from preschools. Currently the preschools implement structured instruction in math, with exercise books and some manipulatives. This has led to the acquisition of some math skills but not always of the logical reasoning that allows children to apply skills to different problems. This may be because children tend to repeat what the teacher has done rather than test their skill on a new problem. The math games employed here for only 6 weeks benefited children's understanding.

The major effort here was in developing the activities and training the teachers to implement them. The manual developed and revised with the help of participating teachers was relatively easy for them to follow. Concerning teacher training, many of the paraprofessional teachers themselves did not have a good grounding in math. Also they were not accustomed to letting children come up with their own answers and permitting many different but correct answers to a problem. Developing math activities for a full-year program might be too onerous. Fortunately, many of the programs currently developed for preschoolers (e.g., Greenes et al., 2004) are amenable to contexts such as Bangladesh, using local materials such as buttons in place of commercial ones. Given the benefits of this short-term programme, it is clear that Bangladeshi children would learn a great deal about mathematical thinking and language from a full-year programme. This could lead to improved math and science achievement throughout primary school.

Acknowledgement

The authors would like to acknowledge the support provided by various individuals and organizations. The local organization Grameen Shikkha provided their preschools as venues for the programme. Dr. Manzoor Ahmed, Professor Nazmul Haque, Dr. Fahmida Tofail and Dr. Cassie Landers reviewed and provided important comments on the research protocol. Dr. Sudhir Sarker and Mahmuda Akhter provided administrative support for the programme. Shashoti Dwean, Nasrin Akhter, Tashmia Sultana, Khodeja Akhter, Afroja Sultana, Washima Parveen, Farah Deebea, Shamsunnahar Chonda and Nusrat Sharmin collected the data. Dilshana Parul entered the data and Faizun Nessa supervised. Finally, we are grateful to the teachers, students and mothers for participating in the study.

References

1. Aboud, F.E. (2006). Evaluation of an early childhood preschool program in rural Bangladesh. *Early Childhood Research Quarterly*, 21, 46-60.
2. Engle, PL, Black, MM, Behrman, JR, Cabral de Mello, M, Gertler, PJ, Kapiriri, L, Martorell, R, Eming Young, M, and the International Child Development Steering Committee (2007). Strategies to avoid the loss of developmental potential among over 200 million children in the developing world. *Lancet*.
3. Ginsburg, H. P. (2006). Mathematical thinking and learning. In McCartney, K. and Phillips, D.(Eds.), *Blackwell Handbook of Early Childhood Development*. Oxford: Blackwell.
4. Greenes, C., Ginsburg, H. P., & Balfanz, R. (2004). Big math for little kids. *Early Childhood Research Quarterly*, 19, 159-166.
5. Griffin, S. (2004). Building number sense with Number Worlds: a mathematics program for young children. *Early Childhood Research Quarterly*, 19, 173-180.
6. Kagitcibasi, C., Sunar, D., & Bekman, S. (2001). Long-term effects of early intervention: Turkish low-income mothers and children. *Applied Developmental Psychology*, 22, 333-361.
7. Llewellyn, D. (2004) Everyday Math Play: A kindergarten curriculum guide for problem solving challenges using low-cost materials. Dhaka: Plan Bangladesh.
8. Moore, A. C., Akhter, S., and Aboud, F. E. (in press). Evaluating an improved quality preschool program in rural Bangladesh. *International Journal of Educational Development*.
9. Opel, A., Ameer, S. S., Aboud, F. E. (2006). The effect of preschool dialogic reading on vocabulary among rural Bangladeshi children. BRAC University Institute of Educational Development.
10. Sarama, J., & Clements, D.H. (2004). Building Blocks for early childhood mathematics. *Early Childhood Research Quarterly*, 19, 181-189.
11. Siegel, R. S. & Svetina, M. (2006). What leads children to adopt new strategies? A microgenetic/cross-sectional study of class inclusion. *Child Development*, 77, 997-1015.
12. Sophian, C. (2004). Mathematics for the future: developing a Head Start curriculum to support mathematics learning. *Early Childhood Research Quarterly*, 19, 59-81.
13. Starkey, P., Klein, A., & Wakeley, A. (2004). Enhancing young children's mathematical knowledge through a pre-kindergarten mathematics intervention. *Early Childhood Research Quarterly*, 19, 99-120.

Health Education in Korea and Bangladesh

Lan Joo^{*}

Introduction

Although Bangladesh has made significant strides in enhancing access to education over the past 15 years, the progress of health education in schools has been very slow. At the request of BRAC University Institute of Educational Development, I undertook a comparison of Korea and Bangladesh in order to learn from Korea and be better positioned to assist people who work in health education in Bangladesh to develop health education programs at the primary school level.

While conducting research on health education programs in both countries, I had considerable difficulty obtaining the necessary literature. There are studies on health education programs in primary schools, but there is almost no literature specifically about these two countries. Because of this challenge, I had to rely on interviews with teachers and want to point out that my information might not be representative of all schools and all teachers.

With support from BRAC, interviews with Bangladesh teachers were conducted during my visits to three government schools in the Comilla District in the eastern part of Upazila Chandina in September 2005. These schools were selected because they were working closely with BRAC; for instance, receiving teaching materials from BRAC. At the first school, I interviewed two teachers (a B.A. in Commerce and an M.A. in Economics) and the head teacher. At the other schools, I spoke with four teachers, each of whom had a Certificate in Education (C-in-Ed).

In Korea's case, I interviewed four Korean teachers of different ages who worked or who had worked at the public schools in Ichun, Kyoungydo (1) and Pusan, Kyoungsanamdo (3). Given the fact that I was conducting my research in the US, it was difficult to access a large sample of Korean teachers. I had an opportunity to have an interview with Mr. Ha, Ms. Kwon, and Ms. Lee while they were visiting in the USA. Only Mr. Kim, who is currently still in the system and who has been teaching since 1992, was interviewed by telephone. Ms. Kwon had taught from 1955-1978, Mr. Ha from 1955-1990 and Ms. Chung from 1978-1998. Ms. Chung's experience was at a small school (600 students) while the three other teachers had worked in large schools (average 5,000 students).

Over the last forty years, health education has been seen as a fundamental need for every citizen. According to Numan, health education serves to educate the population en masse and

* Graduate Student, Graduate School of Education and Human Development, George Washington University and Summer Intern at BU-IED.

to improve the general level of a country's health. Education is viewed as an essential component strategy for human resource development and specifically for health improvement, quality of life, and the reduction of the death rate (Numan, 2001). So, in the late 1980s, when the definition of school health programs was elaborated in response to the changing roles of, and changing responsibilities within schools, Diane Allensworth and Lloyd Kolbe (1987) identified several areas in which schools should promote the health of children, youth and staff. Their framework identifies eight components of schools that can be organized into a comprehensive program: (1) school health education (instruction), (2) healthy school environment, (3) school health services, (4) physical education and fitness, (5) school nutrition and food services, (6) school-based counseling and personal support, (7) school site health promotion, and (8) school, family and community health promotion partnerships.

In the following, I will look at only two of these components; school health education (instruction) and school health services. To compare health education (instruction), I will look at curriculum and teachers and try to identify the reasons for any differences. What are the fundamental issues relating to the curriculum and teachers of each country? After comparing health education instruction, I will examine lessons for Bangladesh that might be learned from the case of Korea.

Health education

I often feel that educators and health workers do not appreciate the connection between a child's health and their education. According to the WHO, just as health exerts a powerful impact on the ability to learn, so too is regular attendance in school one of the essential means of improving health. The school itself has a direct effect on self-esteem, educational achievement, and therefore the health of its students (WHO, 1997). The development of this integrated relationship between health and education, so vital to both, is a slow process. In simple terms, this relationship implies that one needs to be educated in order to develop and protect one's health, and that one needs good health in order to make full use of one's education (WHO, 1997). However, as Oberteuffer points out, educators have yet to construct the educational programs that give full play to this reciprocal relationship (Oberteuffer, 1997). This is the case for both Korea and Bangladesh.

Curriculum

As part of primary classroom teaching, whether through formal health education sessions or, as is more common, through cross-curricular methods, children should be given health maintenance instruction. This includes sessions on what constitutes health-promotive behavior, and on how children should take responsibility for self-care so as to ensure that they eat well, pace the day and take exercise. (Mayall, 1996, p.75). However, in many countries including Korea and Bangladesh, health education is not part of the core curriculum and so may receive variable attention in schools (Mayall, 1996, p. 30).

The Bangladesh national primary school curriculum, which is based on fifty competencies that students should master, covers five subject areas: Bangla (language and literature), English (language), math, science/environment and social studies (USAID, 2002). In addition to these, arts and crafts, physical education and music are also taught. Health education is not an independent subject and can only be addressed at best, in an ad hoc manner as time permits. As Hossain shows, the average amount of weekly teaching hours in each grade at primary level is three hours for Bangla, three hours for mathematics, thirty minutes for music, arts and physical education, and two-and-a half hours for all the other subjects combined (Abdul Hossain and Jahan, 2000).

With regard to Bangladesh's textbooks, I reviewed books from grades 1 to 5 and found that the public health component is included in either science or social studies - or both. For grades 1 to 2, there are teacher's guides for science and social studies, but the Government has neither printed nor distributed them. Basic concepts of personal hygiene are informally taught to the students. In the teacher's guides for grade 2, health and school environment are included. From grades 3-5, there are textbooks for science/environment and social studies. Grade 3 social science includes population problems in Bangladesh and environment, and health rules (for latrines and about unsafe foods and water). In grade 4 science class, children are taught public health, more health rules, first aid and about the environment and population. In grade 5, more details of public health are presented in science and social studies. In science class, children are expected to learn about foods and nutrition, first aid, health rules (for preventing parasites and diseases such as cholera and tuberculosis), population and environment. Population and public health is addressed again during social studies. The textbook review revealed that First Aid is covered in grades 4 and 5, and nutrition is covered only in grade 5.

From grades 1 to 2, there is no textbook, and it is up to teachers to decide content and teaching methodology for health education. From grades 3 to 5, even though there is some health education taking place, content is very superficial. (Allocation for each subject is about 2 pages.) Also, as Chowdhury argues, although the provision exists for a weekly session on health education, this rarely happens in the daily routine of state-run schools. Moreover, there is no separate textbook for this, rather a few sections are put in the social studies syllabus (Chowdhury, 2001). Children in school learn very little about health education. For instance, as the research conducted by Nath and his colleagues shows, a minority of children knew about the 'benefits of vaccination' (36.3%) and 'prevention of night-blindness'. (36%) (Nath et al, 1997).

In the case of highly centralized Korea, the basic criteria for all primary schools, both public and private, are established by the Ministry of Education (although local educational authorities are encouraged to develop curricular variations that respond to the needs of their communities.) The Korean language, arithmetic, social studies, natural science, music, art, moral education, and physical education are taught in grades 1 to 6 ('practical education',

classes are added from 4 to 6 with the strongest emphasis on physical education¹ especially under military governments (Ministry of Education, 1962). Also, as Oberteuffer notes, Korea's case is one in which “School health education and physical education have often been thought of as the same thing” (Oberteuffer, 1997). Health education is included mainly in physical education and other related subjects such as moral education, social studies and practical education. Grade 1 and 2 students learn personal hygiene during physical and moral education. Grade 3 and 4 students learn physical development and disease prevention during physical education. Nutrition is taught during a practical education course in Grade 5 - which also studies physical development and disease prevention during physical education. Grade 6 students study personal hygiene and public health including the prevention of disease. As decentralization of the education system has progressed, principals in each school have been given the authority to determine the topics taught during a weekly ‘discretion class’. (Ministry of Education). Reproductive health is taught by teachers from grades 4 to 6 during science and physical education class, but is also taught by a school nurse teacher during discretion class once a semester (Ministry of Education, 2004). Other issues such as environmental studies, school safety education, prevention of smoking and alcohol abuse are taught during this discretion class. These subjects are touched on briefly in physical education and other classes as well. (Ministry of Education, 2004).

Like Bangladesh, Korea still does not have an independent health education subject. Instead, it is taught within other subjects. As Mayall notes, in many countries health education is not a part of the core curriculum. Even though it is not a core subject, one of the reasons that the time allocation for health education is larger in Korea is that the total number of official instructional hours is greater: Primary school in Korea must be in session at least 1000 hours per year, while primary school in Bangladesh is only for 444 hours per year. (World Bank, 2000) Secondly, because the Korean government emphasizes physical education, which is often seen as closely connected to health education, health education has also benefited. In the next section, I will examine how teachers deliver this health education curriculum in the classroom.

Teachers in Bangladesh and Korea

The role of teachers in health education is crucial. The primary reason for educating all teachers about health is the responsibility teachers have for the well-being of their students. According to Schaller, “All teachers are expected to have competencies in detecting and handling the health problems of school age youth and they must understand their own roles in the school health program.” (Varnes, 1994, p. 766). However, few teachers are professionally prepared in health education when compared to the number that are prepared

¹ *Physical education classes are provided to children in grades 1 to 12 in primary and secondary education. For children in the first and second grades, physical education is provided as a part of a subject for “Joyful living”. For children in the 3rd to 10th grades, physical education is provided as a mandatory subject, and class hours are set at three hours a week.*

in other teaching areas, and this is because, as Ames pointed out, health education is less likely to be part of university and college teacher preparation core requirements (Ames, 1994, p. 135).

In Bangladesh, many teachers are not professionally prepared as health educators. They have neither mastered the subject matter they are teaching, nor been trained in how to teach it. One of reasons for the low quality of teachers is that the government cannot provide sufficient training institutions to meet the increasing number of teachers. After independence, and particularly after the push by EFA for universal enrolment, the training facilities could not keep up with enrolment. In Bangladesh between 1990 and 1994, the number of primary teachers grew at a rate of 16.2 percent a year (Ground Work Inc., 2002). Primary school teachers are trained at Primary Teacher Training Institutes (PTIs), where, after a ten-month course, they receive a Certificate in Education (C-in-Ed) (Ground Work Inc., 2002). However, most PTIs are seriously understaffed, leading to larger class sizes and reduced quality in the training offered. In general, teacher training is costly, outdated, overly theoretical and irrelevant to the skills required by a professional primary teacher. The one-year C-in-Ed training is too short to train teachers who only have ten (SSC) or twelve (HSC) years of academic background. Teachers with such weak academic and training backgrounds cannot teach children with confidence. (Quddus, 2004)

Teachers do not enter a PTI for pre-service training; instead, they take leave for a year after they have been on-the-job for two or three years. Prior to their teaching service, some primary teachers receive a Bachelor of Education, Diploma in Education, or even a Master of Education, though these courses are designed for secondary school teachers. Once they are on the Job, teachers receive in-service training six days a year from their district education officers through “sub-cluster” training. The general consensus is that the quality of teacher training is poor. (Ground Work Inc., 2002) Given the poor quality of teacher training, some scholars like Rahman (1986) have attempted to establish harmonious and even rosy pictures of the teachers and their work. For example, “the typical rural male primary teacher involves himself in co-curricular activities: gardening, co-operation with parents and checking children's health.” However, as Quddus argued, this and other similar descriptions of teachers hardly represent the life of a primary school educator and this can be easily verified by visiting a few primary schools. (Quddus, 2004)

I found this during my first visit to a government school when I met with two teachers who were teaching social studies and science. One teacher had a B.A. in Commerce and the other had a M.A. in Economics. However, both never received education training and were not aware of the 50 competencies of the curriculum. The teachers in the two other schools that I visited informed me that they were trained at Primary Teacher Training Institutes (PTIs), and after a ten-month course, they received a Certificate in Education (C-in-Ed). Although theoretically, teachers receive in-service training six days a year from their district education officers, none of the teachers I interviewed had received this in-service training. In regard to health education, all teachers were not trained in health education during pre-service

training. They also pointed out that teachers did not do health checkups. Rather, voluntary health workers from NGOs did them irregularly. When I asked the teachers that had the B.A. in Commerce and M.A. in Economics respectively, (but never took teacher's training), how they teach the chapters related to public health, they said they were teaching based on their common sense. Unfortunately, teachers are poorly prepared for teaching health education.

On the other hand, in Korea, until 1961, graduates of the normal schools (grades 10-12) were qualified teachers of the primary schools. But with the upgrading of normal schools to two-year teacher colleges in 1962, the prerequisite for elementary school teachers was upgraded to two years of college (Ministry of Education, 1962). Before 1981, general education and pedagogic studies dominated teachers' education, but educational authorities then realized that elementary teachers needed to be trained in one or two specialized areas in order for them to develop the in-depth knowledge and research abilities necessary to deal with increasing specialization in all fields of endeavor. Thus, teacher colleges in modern Korea now require their students to declare a field of "subject matter specialization." The major areas are Korean language, ethics, social studies, mathematics, science, physical (including health) education, music, fine arts, practical/vocational arts, foreign language, and elementary education. Though all who graduate from the Korean teachers colleges receive elementary teacher certification with specialization, teachers may be assigned special duties related to this special area (Smith, 1994).

As scholars like Diane Allensworth and Lloyd Kolbe (1987) and WHO argue, health education (instruction) can be considered as one of eight components of health promotion in schools. This section has examined the roles of both the curriculum and teachers in health education. Although Schaller said, "all teachers are expected to have competencies in detecting and handling the health problems of school age youth", this is not the case in many countries - like Bangladesh. Teachers in Bangladesh appear to have weak academic backgrounds and pedagogical skills. The main difference between Korea and Bangladesh is the length of teachers' pre-service training: Bangladesh's primary school teachers are trained for ten-months, but C-in-Ed training is too short to train teachers who only have ten (SSC) or twelve (HSC) years of academic background. On the other hand, Korean teachers are trained for four years in one or two specialized areas in order for them to develop in-depth knowledge and research abilities. This helps Korean teachers to have more confidence in their academic and pedagogical skills while teaching health education. In the next section I will present what lessons might be learned from Korea by Bangladesh.

Lesson Learned from Korea

It is important to design a good school-based health program. As Kane argues, properly designed school-based health education programs help children and youth acquire the necessary awareness, knowledge and health-related skills, at the same time as they provide opportunities within the classroom and school for students to practice healthy behaviors (Kane, 1994, pp. 1189). Therefore, in this section, I will present lessons that Bangladesh

might learn from Korea. I will examine the development of Korean health education programs, the role of teachers, and physical examinations. The role of health education has been transformed from the prevention of communicable disease in schools, to a key topic covered during physical education with its own curriculum. Furthermore, the Korean teacher's role in health education is not limited to instruction: teachers are also responsible for other services: emergency care, identification of student health problems, maintenance of health records, physical examinations, stool testing and the distribution of de-worming medication. Lastly, I will demonstrate how Korean teachers conduct the physical examinations and the benefits of these.

Overview of health education in Korea

Korean health education has evolved since 1955 in seven stages under the respective national education plans: First (1955-1963), Second (1963-1973), Third (1973-1981), Fourth (1982-1987), Fifth (1987-1992), Sixth (1992-1997), and Seventh (1998-) (Ministry of Education). During the First Plan, the goal of health education was to achieve student health through physical activities and moral and social studies. Students were taught about personal hygiene, body structure, correct posture, nutrition, communicable diseases and parasitic worms during physical education and moral and social studies. Physical examination was also emphasized. In this period, neither a concrete curriculum nor pedagogy for health education was developed. (Ministry of Education)

Health education became a part of physical education in 1963. Under the Second Education Plan, health and physical education received attention from the Park government. Time allocated for physical education was increased in elementary schools from three to five hours a week (Education in Korea, 1962). During physical education class, which emphasized physical activities such as games and play, health education was taught, and the time allocation for this was 10-15%. Content included personal hygiene, nutrition, public health, prevention of diseases, and safety. It emphasized personal hygiene from grades 1 to 3 and prevention of diseases from grades 4 to 6. Health education was also taught during several other classes such as social studies and natural science (Sa-dal, Kim, 1962).

During the Third Educational Plan, although health education was still included in physical education, its goal became broader. Health education now included basic knowledge of public health. Health education was added to the physical education textbook only from grades 4 to 6, but it was taught during moral and social studies classes. Like the Third Plan, during the Fourth Educational Plan, health education was still part of physical education, and five percent of physical education was allocated to health. During the Fifth Educational Plan, health education became acknowledged as an independent subject. Besides physical education class (six hours per week), Grade 1 and 2 students were taught health education during other subjects: introduction to Grade 1, moral, and science classes. Grade 3 students were taught health education during moral, social studies, and Grade 4 was taught it during moral and practical classes. Grade 5 students studied health during practical and social

studies, while Grade 6 took it during science and practical studies. In addition to this, students discussed health issues during special classes (Ministry of Education).

Since the Sixth Educational Plan, in addition to personal hygiene and prevention of diseases, other issues such as environment, reproductive health, and drugs/alcohol have received attention. In many schools, teachers' efforts at teaching health education are supplemented by a school nurse who shares in-depth knowledge - particularly of reproductive health and drug/alcohol abuse during discretion class. However, there is neither an independent public health education class nor a textbook in the curriculum. Health education is still taught mainly during physical education and other related subjects (Ministry of Education). Recently, an independent health education textbook has been developed that can be used during discretion class. However, some educational specialists are concerned that it is possible that a principal would not choose to include health education in his or her school as an independent subject.

For the last half century, Korea has changed education policy seven times, and health education policy has been also changed substantially. At the beginning, the role of health education was only considered to entail the prevention of communicable disease in schools, but later, it was considered a part of physical education, which was strongly emphasized by the government. A proportion of health education is still included in physical education. This situation improved when, in 1992, health education became recognized as an independent subject. The government has been making efforts with regard to this initiative such as developing an independent health education textbook. Making an independent subject would be difficult for Bangladesh, given that the total instruction hours are only 444 hours per year, and most of the time is allocated to core subjects like English, Bangla and Math. However, as Korea did through physical, education, Bangladesh should consider placing health education under a single subject umbrella.

Teachers

As Varnes points out, in general, the classroom teacher in preschool to grade five is placed in a difficult position, as he or she is usually responsible for both identification of health problems and health instruction. This responsibility demands knowledge of health content and the visual indicators of health problems. (Varnes, 1994, p. 768). Although emergency care is now the school nurse's responsibility, it is still the teacher's responsibility to teach about health and know about each student's health problems. Teachers also do most of the work for physical examinations and are responsible for maintaining student health records.

Pre-service education is important in ensuring that all teachers learn about, and are comfortable with health related concerns. Pre-service education is the term used to describe the total teacher preparation program. It includes those courses taken prior to graduation and certification as a teaching professional (Varnes, 1994, pp. 765-766). In Korea, pre-service training emphasizes specialization such as physical/health education (Smith, 1994).

I interviewed four Korean teachers: Ms. Kwon (1955-1978, Pusan), Mr. Ha (1955-1990),

Ms. Chung (1978-1998, Ichon) and Mr. Kim (1992- , Pusan). Although their comments cannot be expected to represent all teachers, these educators provided me with information about health education in practice. According to Ms. Kwon, a school nurse did not exist until 1963 in large schools in Pusan, In fact, a school nurse was not assigned to small schools until the 1970s according to Ms. Chung. Both teachers pointed out that both student health and health education were a teacher responsibility if a school did not have a nurse. According to Mr. Ha, besides teaching duties, teachers were assigned to other special duties. There were several divisions in schools including art and health education, and teachers were assigned to one of these divisions according to their training background. Because teachers finished two years of college without specialization at that time, a health teacher had to take in-service training on this subject in addition to regular college training. Ms. Kwon told me she was a health teacher in her school (about 5,000 students) and had taken in-service training on health education during summer and winter vacation (one week to 10 days). Her duties included emergency care and liaison with a school-appointed doctor during physical examinations.

Ms. Chung told me a similar story. When she was a teacher in a small school of 600 students during the 1970s, there was no school nurse. It was therefore the teacher's duty to oversee student health. Because she was not a health teacher, she was not trained in health education during in-service training. Regardless of training, all teachers conducted physical examinations and stool tests and distributed de-worming medicine. Teachers also had to maintain records of each student's physical examination. Ms. Kwon added that after a school nurse was sent to her school, she was no longer the health teacher, but that teachers' general duties continued to include health education, physical examination, and distribution of deworming medicines. However, since 1992, school nurses became teachers that could teach specialized areas such as reproductive health and prevention of alcohol/drug abuse during discretion class. According to Park, who taught health education during physical education and other related courses, the nurse taught about topics calling for in-depth medical knowledge. As Oberteuffer said, in Korea "Nurses are becoming more important to the health program all the time. They are also becoming better educated, prepared and qualified to do a responsible job in health instruction". (Oberteuffer, 1997)

In Bangladesh, a lack of resources would make it difficult to hire a school nurse in each school, especially in rural areas. However, as with the curriculum, there should be someone who is accountable for students' health and education. Like teachers in Korea, there should be one appointed health teacher at each school. That teacher should be responsible for health education and emergency care. The duty could be rotated among teachers, but the designated health teacher should be trained during in-service training. Considering that pre-service training, the one-year C-in-Ed training, is too short to train educators in health specific subjects, in-service training should be emphasized. According to Burks and Fox, in-service training refers to training that takes place after a person has begun to practice a given profession. Teacher in-service training is an ongoing process necessary to establish and

maintain effective, comprehensive health education programs in schools (Burks and Fox, 1994, p. 783). After receiving training, teachers should share their new knowledge with other teachers during teacher meetings. Also, the teacher's role should not be limited to instruction. As Varnes argued, the classroom teacher in preschool through grade five is responsible for both the identification of health problems and health instruction. Like teachers in Korea, in addition to teaching health education, they should conduct other services: emergency care, identification of student health problems, maintenance of health records, physical examinations, stool testing and the distribution of de-worming medication.

Physical examinations

As a requirement of the Ministry of Education, all students in all elementary schools annually undergo physical examinations. The government issues a standard manual to all schools and requires that physical examination include three components: physique, physical capacity and constitution. Teachers should conduct the physique exam: teachers measure height, weight, and chest and examine eyes, ears, and test for color-blindness. Teachers should also examine physical capacity. Here, teachers test students' lung capacity and abdominal capacity as well as their capacity for physical exertion. The process requires an ongoing effort on the part of teachers. For example, teachers should help students to improve their fitness after school. 'Physical constitution' examination refers to a health checkup that includes urine and TB testing. Doctors check the spine, eyes, ears, skin, heart, lungs, stomach, mental health and speech. (Kim, S.D., 1962) The manual shows all details of how to conduct the examination; for instance, it describes that when students measure their height, they must stand on the scale, pushing their head and heels toward the bar with straight knees.

After examinations, teachers are also required to record and maintain the results. Teachers should give a grade to each student depending on the status of their health and should document any physical problems such as signs of malnutrition, bad posture, or poor personal hygiene. Also, if a student displays symptoms of an illness such as TB, teachers are expected to inform parents immediately. The examination report, including the TB test result is sent to parents as well as to the Office of District Education (Kim, S.D., 1962).

According to Ms. Kwon (1955-1978), the annual physical examination was already being held in the 1960s. In the early 1960s, as a health teacher, she was responsible for the overall physical examination including working as a liaison with a doctor. She remembered that a doctor and a dentist did the health checkup, and the school gave small fees to them. After examinations, teachers were responsible for maintaining each student's record. Ms. Chung, who was a teacher at a small school (the total number of students was about 600) during 1970s, said that a 'doctor and a dentist did not attend the physical examination in her school. TB and urine tests were not conducted, but a simple health checkup, including a dental check, was done by teachers. In small schools, the physical examination was completely the teachers' work. Mr. Park, a current teacher, pointed out that the annual physical examination

is still conducted in all schools every May, and teachers continue to do most of the work.

In Bangladesh, teachers could conduct annual physical examinations. Some may argue that there is not sufficient time. Considering the short length of the school calendar and teachers' other work, holding the physical examination would involve more effective time management. At present, schools already close more days than they are authorized. A study conducted by Tietjen and her colleagues found that the school calendar is short because schools take more holidays than allocated by the school system. Indeed schools operate for significantly fewer days - 19% to 55% less-than scheduled in the school calendar. Rural, marginally staffed schools are vulnerable to closing due to teacher training and official demands made on teachers; and some schools' teaching staff take advantage of their remoteness and circumstances to close schools unnecessarily. (Tietjen et.al, 2004) If these kinds of unnecessary closing dates could be prevented, there would be time for physical examinations.

Second, if teachers' time could be utilized more effectively, teachers would be able to conduct physical examinations. The study conducted by Tietjen found that teachers were often absent for domestic tasks, special events and income-generating activities. The teachers tended to view their job as a task that must fit in with time demands and schedule of the other, more important activities of their private lives. Also, non-school-related official duties cause teachers to miss school, be late and leave early. Teachers are frequently called away from school to work on other official duties, such as health campaigns and elections. This high rate of teacher absence from school is caused in part by institutional reasons and in part by a lack of teacher professionalism. Also, the casual leave policy is overly generous - granting 20 days of leave. Moreover, the supervisory or accountability system is so weak and ineffective that teachers can get away with not showing up for school. (Tietjen et.al, 2004)

A lack of time, therefore, is not a serious barrier to physical examinations. Similarly, a shortage of resources does not represent an insurmountable obstacle. Physical examination already took place in Korea in early 1960s. The benefits of this component of health education should not be ignored. Students' health is carefully monitored from grades 1 through 6 and illnesses like TB are diagnosed together with other ailments like parasitic worms. Also, educational authorities are able to gain an overall picture of the student population's health.

Conclusion

Children learn about the importance (or lack of importance) of health issues through their schooling and, as such, there is a correlation between education and health. Furthermore, the school's role in fostering the healthy development of children should go beyond the teacher providing health education classes. As Kane points out, school systems must seek to understand the value of additional efforts to support the healthy development of children (Kane, 1994). This was my rationale for considering the topic of health education in this paper.

Korea delivers health education better than does Bangladesh. The total annual level of instructional hours for classroom instruction in Korea allows Korea to teach much more about health issues than Bangladesh does. Also, there is one specific course in Korea, physical education, which is responsible for health education. Korean teachers are trained for four years with one or two specialized areas; this instills more confidence in their academic and pedagogical skills. By contrast, Bangladesh's teachers tend to have weak academic backgrounds and pedagogical skills. This is because the government is unable to provide adequate pre-service training institutions. Bangladesh's primary school teachers are only trained for ten-months.

In conclusion, along the lines of the Korean model, Bangladesh should consider introducing one subject that focuses on health education and there should be a more organized and coordinated curriculum. Like Korea, there should be a teacher at each institution that is accountable for students' health and their health education. This person should be trained during in-service training. The role of the teacher should not be limited to instruction. In addition to teaching health education, teachers should provide other services like basic emergency care, the identification of student health problems, maintenance of health records, physical examinations, stool tests and the distribution of de-worming medicine. Time or resource-related issues need not pose a barrier to the provision of these services, which can also serve to gather valuable statistical data about the health of the nation's youth. A nation's economic status need not prevent it from implementing effective basic health education. It is the contention of this paper that the success of health education programs is more related to national priorities, organization and teacher professionalism than economic factors.

Bibliography

- Abul Hossain, M. & Jahan, S. (2000). Bangladesh: Curriculum Planning, Development and Reform for Primary and Secondary Education. Retrieved from <http://www.ibe.unesco.org/curriculum/Asia%20Networkpdf/ndrepbd.pdf>
- Abdul Quddus, S. M. (2004). Professional development of schoolteacher in Bangladesh (1971-2001). Paper presented in the CSP conference "Professionalism, Trust and Competence" held in Oslo on 17-19 June, 2004.
- Ames, E. (1994). Instructional planning for health education. In Cortese, P. & Middleton, K. (Eds.), *The comprehensive school health challenge: Promoting health through education*, volume one. California, USA: ETR Associates.
- Centre for Policy Dialogue. (2001). Policy brief on "Education Policy". Paper presented in forum "Election 2001: National Policy Forum" held in Dhaka on 20-22 August, 2001. Organized by Centre of Policy Dialogue, Prothom Alo, the Daily Star.
- Ground Work Inc. (2002). Bangladesh Education Sector Review: Report No. 1: Overview of the Basic Education Sector. Washington D.C.: Creative Associates International Inc.
- Gustavsson, S. (1983). *Primary education in Bangladesh: for whom?*. Dhaka: University Press.

- Kim, J. (1985). *Education and Development: Some Essays and Thoughts on Korean Education*. Seoul, Korea: Seoul National University Press.
- Kim, S.D. (1962). *Health Education*. Seoul, Korea: Monhosa Korea Institute of Curriculum & Evaluation (KICE). (2006). National Curriculum. Retrieved from <http://www.kice.re.kr/kice/eng/info/>
- Kane, W. (1994). Planning for a comprehensive school health program. In Cortese, P. & Middleton, K. (Eds.), *The comprehensive school health challenge: Promoting health through education*, volume one. California, USA: ETR Associates.
- Mayall, B., Bendelow, G., Barker, S. Storey, P., & Veltman, M. (1996). Washington DC., USA: The falmer press.
- Ministry of Education. (2004). *Korean Education Year Book 2004*. Seoul, Korea: the Ministry of Education.
- Ministry of Education. (1974). *Korean Education Year Book 1974*. Seoul, Korea: the Ministry of Education.
- Ministry of Education and National Commission for UNESCO. (1962). *Education in Korea*. Seoul, Korea: the Ministry of Education.
- Ministry of Education. (1981). *Education in Korea*. Seoul, Korea: the Ministry of Education.
- Ministry of Education. (2002). *History of Health Education*. Seoul, Korea: Ministry of education.
- Mohsin, U. *The Impact of Competency-Based Mathematics Curriculum on Student Achievement at Primary Schools in Bangladesh*. Hiroshima, Japan: Hiroshima University.
- Nath, S. R., Mohsin, M. & Chowdhury, AMR. (1997). Health knowledge of children in Bangladesh: an exploratory study. *Public health*, 111, 311-315.
- Oberteuffer, D. (1997). *Concepts and convictions*. Washington DC, USA: American alliance for health, physical education, and recreation.
- Smith, D.C. (1994). *Elementary Teacher Education in Korea*. Bloomington, Indiana: Phi Delta Kppa, Educational Foundation.
- Tietjen, K., Rahman, A., & Spaulding, S. (2004). *Bangladesh Education Assessment Time to Learn: Teacher' and students' use of time in government primary schools in Bangladesh*. Washington D.C., USA: Creative Associates International, Inc.
- US Department of State (2006). Bangladesh. Retrieved from <http://www.state.gov/p/sca/ci/bg/index.htm>
- US Department of State (2006). Korea. Retrieved from <http://www.state.gov/p/eap/ci/ks/index.htm>
- Varnes, J. W. (1994). Pre-service education: Providing health knowledge for all teachers. In Cortese, P. & Middleton, K. (Eds.), *The comprehensive school health challenge: Promoting health through education*, volume two. California, USA: ETR Associates.
- WHO. (1997). *Promoting health through schools. Report of a WHO expert committee on comprehensive school health education and promotion*. Geneva, Switzerland: WHO.
- World Bank. (2000). *Bangladesh: Education Sector Review, Vol. 1*. Dhaka, Bangladesh: The University Press Limited.
- World Bank. (2006). *Country Assistance Strategy*. Washington DC, USA: the World Bank.

Khalilnagar Government Primary School (1905-2005): A Case Study

Khondoker Shakhawat Ali*

Introduction

Education is relatively a new focus for Power and Participation Research Centre (PPRC). As basic education is critical in addressing poverty and local governance issues– the two broad areas that are the main thrust of PPRC– primary education was a natural choice for investigation. PPRC decided to initiate participatory research with the help of local NGOs for understanding the reality on the ground regarding primary schools in rural areas. With this purpose, a local agency ‘Uttaran’ was initially selected to work on a six-month pilot project from July 2003 to generate necessary information and data.

The local NGO Uttaran decided to make a case study of Khalilnagar Government Primary School of Tala Upazila of Satkhira district. Khalilnagar is the oldest primary school among 19 primary schools of the union, 8 government and 11 non-government. Information collection and initial report writing was done by local partner Uttaran and research design, analytical framework and final report were prepared by national partner PPRC.

Objectives of the Study

The objectives of the study were articulated in the following manner:

- To chart the course of chronological development of khalilnagar Government Primary School.
- To find out the salient features of the three phases of the school (1905-1952, 1952 -1972, and 1972 to till date).
- To check micro-level field reality and provide evidence for understanding problems and issues of primary schools in rural areas of the country.

Methodology of the Study

Attempt was made to develop national and local level research partnership between Uttaran and PPRC. Different methods such as checklist and interview of key informants, secondary data (official documents and records), community time-line, and focus group discussion were employed. A checklist was developed for preparing the case study report on Khalilnagar Government Primary School. After discussing with headmaster of the school, several other persons who were involved (former teachers and students, local govt.

* Research Fellow, Power and Participation Research Centre (PPRC) and Assistant Professor, City University, Dhaka.

functionaries, SMC members, upazilla education officers, old villagers) with the school were contacted for collecting data on the basis of the checklist. The field researchers had to cross check the history of establishment of Khalilnagar Government Primary School and information related to land, change of name of the school, change of infrastructure, teaching method, etc.

Time-Line of Khalilnagar Government Primary School

The School

Khalilnagar Primary School was established in 1905 on land donated by local Zamindar. Later on, when landlord system was abolished, land of the school became 'khas' land. The school came under District School Board in 1952 and school's land (50%) was registered in the name of the school. School building was constructed for the first time in 1905. It was renovated and extended in 1937, 1962 and 1991. The school has now six pucca classrooms and one tinshed classroom, two pucca toilets and one tubewell. But it has been detected that water of the tubewell is arsenic prone. The classrooms are adequately lighted, airy and fairly clean. As there is no peon, the students clean the classrooms. But the school does not have a library or laboratory. The children play in the empty land of the school having no playground.

Status of the school: The school started as Khalilnagar Managed Primary School. In 1959 the school was renamed as Khalilnagar Model Free Primary School. When all the primary schools of Bangladesh were nationalized in 1973, like all other schools it was named as Khalilnagar Government Primary School. It is included in 'B' grade.

Students and Teachers

Number of students: Table 1 provides the enrolment figures of students from 1968 to 2003. In 2003, the total number of students was 400; 195 boys and 205 girls. It was gathered that the dropout rate was 12% and completion 29%.

Year	No. of teacher	Boy	Girl	Total	Year	Boy	Girl	Total
1968	5	204	62	266	1973	190	71	261
1974	5	-	-	-	1978	144	81	225
1979	5	-	-	-	1983	95	70	165
1984	5	142	89	231	1988	-	-	-
1989	5	-	-	-	1993	247	279	526
1994	5	318	230	548	1998	147	167	314
1999	5	185	201	386	2003	195	205	400

Source: official files of the school, records

Enrolment of students: At the time of establishment of the school, the initiators went house to house to discuss with the guardians for recruiting their children for the school. It could not be known about the number of students at that time. According to information of UP chairman, the number of students was 50/60 (He was a student in 1933). According to an ex-student (1948), the number of students was about 100. According to headmaster (from 1953-1959), there were more than 300 students. The reason given was that the school became a model school in 1959. At present, the school authorities do not have to collect students, guardians themselves come to the school with their children for getting their children enrolled into the school.

Girls' education and role of the school (1905-2005): There is not enough information related school's role for spreading girls' education from the time of its inception. Old students could not remember if there was any female student during their time. But former headmaster (1953 to 1959) said that there were some female students but he could not remember the total number. It could be gathered that during 1960 to 1965 there were about 40/42 female students in the school. In 1968 among 266 students 62 were female students. If we observe Table 1, we find a gradual increase in number of female students in the school.

Stipend: Khalilnagar Government Primary School like all other government primary school are included in the stipend programme of the government. Each child gets taka 100 per month and two children get taka 125 per month.

Scholarship examination: According to government rule, it compulsory that 20% students out of total students of government and registered non-government schools are to participate in scholarship exams. For example, 10 students out of total 47 students of class V of Khalilnagar School participated at scholarship exams of 2003. Coaching for scholarship exams for two hours (from 10 to 12 in the morning) is a regular feature of most of the primary schools.

The students do not give any coaching fee. The students have to give taka 40 as a fee for the examination. The Examination Khatas and question papers are supplied from Thana Education Office. Instruction was given to take model test of clusterwise scholarship exams for developing quality of primary education. The students have to give taka 15 as a fee for modeltest examination.

Teachers of the school: Total number of teachers is 5; male 3, female 2. Out of 5 teachers, 2 teachers have MA, 2 teachers BA and one SSC holder. At present, 4 teachers have PTI and IDEAL training. The present headmaster is trained in MWTL, SLI and Club Scouts.

Total working days in a year: Of the 365 days in a year, there are 52 Fridays and 75 different government holidays. So the number of actual working days is 238. Also, the teacher have 3 days optional leave, 6 days sub-cluster training, 1 day for cluster meeting and 27 days for three exams. So actual number of days for teaching comes down to 201 days.

Table 2: Teaching days in last five years

Total working days	Actual teaching days	Actual teaching days				
		2003	2002	2001	2000	1991
238 days	201 days	201 days	198 days for UP election	198 days for national election	201 days	201 days

Job description of teachers: At present, classes are taken by a total 5 teachers including the headmaster of the school. Three ‘block teaching’* classes are held from Class I and Class II everyday and six classes are held from Class III to Class V. So, total 18 classes are held in the school. The following table presents the picture of the number of classes taken by teachers and the time spent by them.

Table 3: Classes taken by teachers

Name	Description of classes of each day
Swapan Kumar Mitra	3 class + Class II. 150 minutes is fixed for class II=2.30m. and 110 m. for 3 classes 110 m. According to 1.50 m. $2.30+1.50=4.20$ hours.
Sarder Abdur Rahim	5 classes+ class I.2.30 hours is fixed for block teaching in class I and 175 minutes is fixed for 5 classes= According to 2.55 hours $2.30+2.55= 5.25$ hours.
Hasna Khandkar	5 classes+ coaching classes for scholarships. 2.30 hours is fixed for coaching class for scholarships and 175 minutes is fixed for 5 classes= According to 2.55 hours $2.30+2.55=5.25$ hours.
Tahmina Khatun	5 classes+ play Group. 2.30 hours is fixed for block teaching in play Group and 175 minutes is fixed for 5 classes= According to 2.55 hours $2.30+2.55= 5.25$ hours.

One teacher was recruited to fill in one vacant post on 04/11/03. The new teacher is sharing fixed classes assigned to five teachers in the class routine. Teachers give homework on Bengali, English and Mathematics from class III to class IV everyday. Teachers check homework after roll call. Teachers give lecture on specific subject in the class, and then make the students understand the subject. Teacher asks students to learn subjects at home for the next day.

Involvement of teachers besides teaching: Table 4 mentions activities teachers are to perform besides teaching:

* Block teaching activities are held from 9.30am to 12 o'clock (2.5 hours) for class I and class II. Only one teacher is responsible for overall teaching programme of these two classes.

Table 4: Teachers involvement besides teaching

Name of the Teacher	Description of the job	Date	Time in hour
Headmaster, Swapan Kumar Mitra	Participation on the discussion programme held on B.P. (Batten Powel)	22.02.03	2
	Went to Tala Upazila Education Office for work relating to Time Scale	24.02.03	2
	Went to Tala Upazila Education Office for the Question paper of 1 st Term Exam	19.04.03	5
	Participation in the cluster meeting	14.04.03	2.5
	Went to Tala Upazila Education Office for work relating to oriental course	25.04.03	3
	Went to Tala Upazila Education Office for submitting the question paper of 2 nd Term Exam	02.08.03	2
	Went to Tala Upazila Education Office for note books/papers	04.08.03	2
	Went to Tala Upazila Education Office for relating to the teachers	01.09.03 04.08.03	5
	Went to Uttarn Office for training on sanitation	14.09.03	2
	Went to Upazila Education Office for work relating to the accounting of the oriental course	17.09.03	10 am to 4 pm
	Went to Tala Upazila Education Office for submitting contingency voucher	27.09.03	3
	Went to Tala Upazila Education Office for submitting salt testing forms	20.10.03	2
	Went to Upazila Education Office for submitting the answer papers of the model test of the scholarship Exam 2003	08.12.03	2
	Went to Education Office to bring the programme for the examination	03.12.03	2
	Went to Upazila Education Office for submitting the demand sheet for the stipends	03.12.03	3
	Went to Education Office for taking approval of Education Officer & Assistant Officer in stipend card	27.04.03	3
	Went to Upazila Education Office for attending the seminar on stipend	03.05.03	3
	Went to TNO, Upazila Education Office & editor of the Scout for attending meeting of the scout, purchasing things for scout, training, submitting information related with scout etc.	11.03.03 18.05.03 21.05.03 26.05.03 17.07.03 03.07.03 24.07.03 06.12.03 16.09.03	32 hours in 9 days
	Attending the monthly co-ordination meeting (once every month, yearly 12 times)		10 am to 4pm
	Assistant Teacher, Sarder Abdur Rahim	Administering polio drops	03.03.03 04.04.03

Name of the Teacher	Description of the job	Date	Time in hour
Assistant Teacher, Tahmina Khatun	Administering polio drops	03.03.03 04.04.03	
Others teachers of the school	Participating in the training on sub-cluster (once in 2 months, 6 times yearly)		10 am to 4 pm
Others teachers of the school	Participating in the orientation of the scholarship Examination		10 am to 4 pm

Table 5: Profile of the school at a glance

School Profile		
1	Date of establishment	1905
2	Donor of the land	school land donated by the local Jamindar; construction
3	School construction in different times	first in 1905; second time in 1937; third time in 1962 and fourth time in 1991.
4	Who built the school building?	in 1905 and 1937, it was constructed with the initiative of the local community; in 1962, it was reconstructed with the help of the govt.district board; in 1991, it was rebuild by the central govt.
5	Grade of the school	B
6	Total students (enrolment)	Boys-195, Girls-205, Total-400 (year-2005)
7	No. of teachers (sex and education)	T5 (M-3, F-2), Edu: Masters -2, BA -2 and SSC
8	% of student dropout	12%
9	% of students completing Class V	29%

Educational Programme

There is not much information available regarding educational programme of the school at the time of its establishment in 1905. However, table 6 provides some information related to school subjects, learning materials, methods and practices used in teaching learning at different periods of the school.

Table 6: Subjects, learning materials, methods and practices (1757-2005)

Period and Curriculum	Methods used
<p>British period (1757-1947) Bengali, English and Mathematics</p>	<p>Teacher One teacher used to teach all the subjects. In one class room, pupil of different classes sat in groups on a mattress and the teacher supervised all students by moving around the classroom.</p> <p>Evaluation Every Saturday, old studies were evaluated. Students used to write on banana leaves or Tal pata, with a stick and some sort of gum on it. After completion of writing, dust of coal used to be spread over the talpata or banana leaves for making the syllable visible.</p> <p>Teaching method It was almost compulsory for the good students of higher classes to teach the students of the lower classes</p>
<p>Pakistan period (1947-1971) Bengali, English Mathematics, Religion, Science and Social Science.</p>	<p>Teacher Three teachers used to take all the classes.</p> <p>Learning Materials Paper, pencil and slate were used. Students sat on benches.</p> <p>School timing School ran from 10 am to 4 pm in one shift. During summer, from 7 am to 11 am</p>
<p>Bangladesh period (from 1972 till date) Bengali, English Mathematics, Religion Science, Social Science Arts, Music and Physical Exercise.</p>	<p>School Shift At present, there are two shifts. The first shift sits from 9.30 am to 12.00 pm</p> <p>Block teaching In the first shift, from Baby class to Class II, 3 Blocks are provided for Block teaching. From Class III to Class V, there are 18 classes with 6 periods for each class.</p>

Source: Focus group discussion with ex-students and teachers.

Subject-based weekly routine: The following table 7 presents a picture of subject-based class routine of Khalilnagar Government Primary School.

Table 7: Class routine: subject based timing (weekly)

Class	Subject	Time	Total hours
Class I and Class II	English	40m.*3 days = 120 m.	2 hours
	Bengali	(40 m.* 3 days) (35 days * 3 days) = 225 m.	3 hours 45 m.
	Mathematics	40m.*6days = 240 m	4 hours
	Environmental Studies	35m.*3days = 105 m	1 hour 45 m.
	Religion	35m.*2days = 70 m	1 hour 10 m.
	Physical Exercise	35m.*1 day = 35m	35 hours
	Arts and Crafts	35m.*2days = 70 m	1 hour 10 m.
	Music	35m.*1 day = 35m	35 hours
	Roll Call	5 m.*6 days = 30 m.	30 hours
Class III to Class V	Bengali	40m.*6days = 240 m	4 hours
	Mathematics	40m.*6days = 240 m	4 hours
	English	35m.*6days = 210m	3 hours 30 m.
	Social Science	35m.*3days = 105 m	1 hour 45 m.
	Science	35m.*3days = 105 m	1 hour 45 m.
	Religion	35m.*2days = 70 m	1 hour 10 m.
	Dictation	(30 m.* 1 day)(35 m.* 1 day) = 65 m.	1 hour 5 m.
	Arts and Crafts	30 m.*2 days = 60 m.	1 hour
	Physical Exercise	30 m.*2 days = 60 m.	1 hour
	Story telling and rhymes	35m.*1 day = 35m	35 hours
	Roll Call	5 m.*6 days = 30 m.	30 hours
	Gap	30 m.*5 days = 150 m.	2 hours 30 m.

Source: School and Upazilla Education Office, 2003.

Extra-curricular activities and observation of various days: Annual sports competition is held once in a year. The school observed 21st February in 2003 with a discussion meeting. In 2003, a rally was organized to observe the ‘National Sanitation Week’. Schoolteachers, SMC members, members of Khalilnagar Ward and about two hundred students were present in the event. Union Parishad gave the school authority taka 300 additional for organizing the rally. On the occasion of observing National Education Week 2003, a rally was organized.

Governance of the school: There is no specific information regarding school management committee during early periods. But people considered the school as property of the community or society. They used to come often to the school and discussed the problems of the school and also used to play important role in solving the problems. But after it became a government school, it came under the School Management Committee (SMC). Although SMC is to meet once in a month, it is usually not done. When a meeting is held, only 2/3 members remain present in the meeting. But it is the duty of the teachers to collect signatures of the members for maintaining the resolution khata correctly.

But at present, the SMC of Khalilnagar School is very active. Members of the school come to school often and discuss various matters. Teachers have good relationship with SMC members. In the new manual of SMC, many more duties and responsibilities are added but they do not have much power. For example, if a teacher of the school does not attend classes regularly or does not properly take classes, then if anyone complains to Thana Education Officer, he does not take any action.

Income and expenditure: The yearly expenditure from government fund stands at taka 3,07,034 which includes salary of teachers contingency expenditure (150 taka a month) of the school, and government stipend (taka 100 per child per month) to students given by the government. The school collects examination fees from students thrice a year and earns income from selling some produce from land of the school.

Sl.No	Head of income (annual)	Description	Taka
1	Fee of three exams (Class I and Class II)	5 Taka x 158 persons	790 taka
2	Fee of three exams (Class III and Class IV)	8 Taka x 190 persons	1,520 taka
3	Contingency	150 taka x 12 months	1,800 taka
4	Selling of wheat in 2003	33 KG	200 taka
5	Selling of paddy in 2003	2 maunds	600 taka
	Total Annual Income		4,910 taka

Source: School's Account, 2003.

School inspection: Information regarding school inspection in the past was not available. During Pakistan period, School Inspector (SI) and Assistant School Inspector (ASI) used to inspect the school. There was no hard and fast rule, inspectors came ones or 2/3 times in a month. There was no format, only remarks were written in the inspection book.

After the start of the Compulsory Primary Education programme in 1992, the Assistant Thana Education Officer (ATEO), now known as Assistant Upazilla Education officer (AUEO) is to fill up a two-page format. According to rules and regulation, it is not possible for the AUEO to inspect the school each month because there are 5 AUOE's for 6 clusters in Tala Upazilla (one cluster is formed with 2 unions). One AUEO is to look after 1 cluster. Though, AUEO is supposed to inspect each school once a month, but s/he can visit the school once in every two months because of other official works.

The Executive Upazilla Officer of Tala Upazilla came to visit the school in 1989. DPEO of Shatkhira District came to visit the school in 2001. Besides, ex-upazilla chairman used to visit the school. The field and classrooms of the school was clean and tidy, the students used to wear clean dresses during the inspection day. There was a festive mood everywhere. We do not find such a picture today.

Relationship between students, teachers and parents: It is reported that there exists good relationship between students, teachers and parents. The students informed that though the headmaster is slightly an angry man but he takes very good classes. It was also observed that teachers talk and inquire about students and their families. Some guardians were seen to come to school on a regular basis. Some of them came to inquire about the school. It was also found if children were absent, parents would come to school with application for leave of absence

Community involvement: The school played a great role in educating children in the area, as the school is a very old one in Khalilnagar Union. As the school's environment and quality of education was considered good, children used to come here to study from a distance of 5/6 k.m. At present, students come from a distance of 2 k.m. Although local public leaders initially helped establish the school, they gradually became disinterested in school matters. They said that there was no fund in Union Parishad to assist the school in its economic activities. At present, Union Parishad does not bear any responsibility and they have no duty and power to direct, maintain and supervise the school.

Discussion and Concluding Remarks

The school under three periods: a comparison

The chronology of Khalilnagar Government Primary School spans one hundred years (1905-2005). It is marked by three distinct periods, namely, colonial British period (1905-1947), semi-colonial Pakistani period (1947-1971) and independent Bangladesh period (1971 till date). No colonial government anywhere attempted to provide universal primary education to its colony. This is also true in case of Eastern Bengal now Bangladesh. Khalilnagar Government Primary School, like most of the primary schools of Bangladesh before independence in 1971, was established in 1905 by local community with patronage from local Zaminder and local philanthropists for educating children of the locality. The school was funded, managed and supervised by the local community. The school catered to

needs of a small number of children of the locality because Khalilnagar was a one teacher school with very limited facilities like most of the primary schools of that time. In the case of Khalilnagar, the situation changed for better when the school came under District School Board in 1952. More students, more teachers and required fund was available but participation of the community declined. After independence of Bangladesh in 1971, one of the big steps of the government was to nationalize all primary schools of the country in 1973 with the intent of universalising primary education. Thus all primary schools of the country including Khalilnagar became government primary schools.

Governance

Since government took over the responsibility of financing, managing, controlling and supervising Khalilnagar Government Primary School in 1973, local community gradually withdrawn themselves from school related activities. Although it is reported that the situation has improved in the recent past, the SMC is not active as it should have been. Besides, supervision by AUEO is highly irregular. This is a common situation in most of the government primary schools. It is to be remembered that primary education in Bangladesh is a vast sub-sector of the education system. It has been pointed out again and again by researchers and academics that such a vast sub-sector is very difficult to administer and manage centrally. As such, governance of primary schools of the country should be decentralised and the responsibility be given to local government institutions and involvement of local community in management and supervision should also be ensured. If it is done, Khalilnagar Government Primary School will automatically come under the same system and the governance of the school is expected to be improved. The school is financed and stipend to students is provided by government, but there is still scope for increasing the fund allocated to the school for its smooth functioning.

Ground reality

The number of students at Khalilnagar Government Primary School has increased gradually since Universal Primary Education (UPE) programme was initiated by government from mid 1980s. But what is remarkable is the attainment of gender parity in enrollment of students (195 boys and 205 girls in 2003). It is a reflection of the national scenario where gender disparity in enrollment of students of primary schools is eliminated. Khalilnagar also has same number (5) of teachers as in most of the primary schools in the country. Out of 365 days in a year, actual teaching days come down to 198 to 201 days. The school like most government primary schools run two shifts— one morning shift from 9.30 am to 12.15 o'clock (2.45 hours) and day shift from 12.30 pm to 4.15 pm. As a result, contact hours between teachers and students are reduced and teachers are overloaded because they have to take classes in both shifts. Moreover, teachers of Khalilnagar had to do or to be involved in 25 types of work or activity other than teaching during one academic year (Table 4). This has direct consequences on teaching-learning and it is reflected in student dropout rate (12%) and completion rate (29%). Although same situation prevails in most of the government

primary schools yet completion rate in Khalilnagar Government Primary School is very low. Corrective measures should be taken so that drop out rate is brought to minimum and completion rate is raised to 90 percent. One such measure could be to relieve the teachers from duties or activities they have to perform outside their professional tasks and obligations.

Education programme or course offering at primary level has been widened since UPE programme was initiated. More subjects are included at primary level now (Table 6). However, the subject-wise class routine at Khalilnagar Government Primary School (Table 7) shows a packed package where students of class III to V are to attend 6 classes each day but time allotted for each class is very short. It is difficult to grasp by tender aged children what is dished out to them within such a short period. This is mainly because of two shifts in the school at Khalilnagar like all other government primary schools. It is argued that there is no alternative because of increasing number of students in primary schools. Whatever is the argument, this is done at the cost of providing quality education to the children. The situation can be improved if number of classes and number of teachers in government primary schools are increased so that the schools can avoid two shifts school routine and run on one shift basis. Quality assurance is presently the most important agenda of primary level of education of the country. As such, it should be given serious attention by all concerned.

Reference

1. Ali, Khondoker Shakhawat and others, (2005), Community and State Interface in Growth of a School in Rural Bangladesh, Khalilnagar Govt. Primary School, Tala, Shatkhira 1905-2005, Primary Education Scenario in Rural Bangladesh - 2, PPRC-Uttaran Working Paper, Dhaka.
2. Rahman, Hossain Zillur and Ali, Khondoker Shakhawat, (2005), PPRC Education Policy Brief - 1, Quality Improvement in Primary Education: Micro Insights for a Macro Agenda, PPRC.
3. Rahman, Hossain Zillur and Ali, Khondoker Shakhawat, (2006), Annual Report on Primry Education, Halkhata, (Bangla), Dhaka.
4. Uttaran (2004), The Truth Behind, Primary Education Scenario in Tala Upazila.

Acknowledgement

Nurul Anwar, Field Research Specialist and Sumana Latif, Research Officer, respectively of Power and Participation Centre (PPRC) and Hasina Mridha Riva, Research Assistant, Uttaran, for their active participation in field research and report writing.

Dr. Hossain Zillur Rahaman, Executive Chairman of PPRC and Professor Ahmed Kamal, Department of History, Dhaka University, for their valuable comments.

Quality Education in Selected Primary Schools of Bangladesh: Perceptions of Classroom Teachers

A. K. M. Badrul Alam and Khurshidha Akhtar Jahan*

Abstract

The study was undertaken to ascertain views and opinions of classroom teachers of selected primary schools regarding certain issues and obtain their suggestions especially for quality assurance in their schools. Teachers provided their opinions regarding what constitutes quality of education at primary level. Useful information was obtained regarding infrastructure of schools, environment, curriculum, teaching-learning materials, relationship between headteacher and other teachers, among teachers, teachers and the community and SMC and PTAs' involvement in school matters. All of these have direct relationship with the status of quality of education in the schools. The teachers recommended a number of steps for improving quality of education in the schools they serve. These are: improvement of physical infrastructure, attractive environment, teachers' professional development and regular supervision of AUEOs and supportive feedback from them to teachers.

Introduction

Bangladesh has achieved a commendable progress in enrollment in primary education. This quantitative achievement is diluted by slow or little progress made in quality of learning. According to a research (Chowdhury et al., 2002), one-third of those who complete primary education have been found to be functionally illiterate. ADB (2003) mentioned that although there has been a rapid growth in enrollments and strong overall growth in the primary education system, the quality in primary education in Bangladesh is not at a satisfactory level. However, in enhancing quality teaching and learning, a lot of factors play an important role such as, curriculum, teaching-learning methods, assessment, teaching materials, school environment, learners' socio-economic background, etc. Classroom teachers also play an important role in enhancing quality teaching and learning. Teachers' views should be very important in taking any initiative for quality education as they have a major role in classroom situation. It was for this reason it was considered necessary to investigate classroom teachers' perceptions for identifying possibilities and challenges of quality education in selected primary schools.

* The authors are Unit Manager in Capacity Development Unit, BRAC Education Programme and Trainer in Centre for Training and Research, Caritas Development Institute respectively.

Research Questions

The study aims at presenting the answers of certain questions about quality of education and the ways of improving the quality according to perceptions of classroom teachers. Accordingly, the following research questions were formulated:

- a. What constitutes quality primary education according to perception of teachers under study?
- b. What are the specific problems and obstacles teachers identify in improving quality of education?
- c. What are the specific challenges and obstacles class teachers face in playing their role properly for improving quality of teaching learning?
- d. According to class teachers' view, what can be done to ensure quality of primary education in their respective schools?

Research Methodology

The study planned to make a small-scale survey with purposive sampling technique. A questionnaire was used as a data collection tool. The questionnaire consists of 48 statements under 8 major sub-headings. In the questionnaire for most of the items 'The Likert Scale' had been used inviting respondents to 'agree' or 'disagree' with given statements on a four-point scale. The survey was carried out in 'Gaibandha', a district of northern part of Bangladesh and the data had been collected from 'Sadar Upazilla', one of the seven 'Upazillas' of Gaibandha district. There were three open-ended questions to provide an opportunity for respondents to present their in-depth understandings.

Findings

Basic information

Basic information collected (as part of the questionnaire) regarding respondent teachers numbering 106 out of total 120 from 20 selected government primary schools are provided hereunder.

Out of 106 teachers, 76% was female and 24% was male. Table 1 below shows the age ranges of teachers. The highest percentage (28.3%) of teachers belong to age-range 21 to 30 years. There are similar proportions for all other ranges.

Table 1: Teachers' age ranges

Age (in years)	Frequency	%
21-30	30	28.3%
31-40	27	25.5%
41-50	23	21.7%
51-60	26	24.5%
Total	106	100.0%

Figure 1: Teachers' educational qualifications

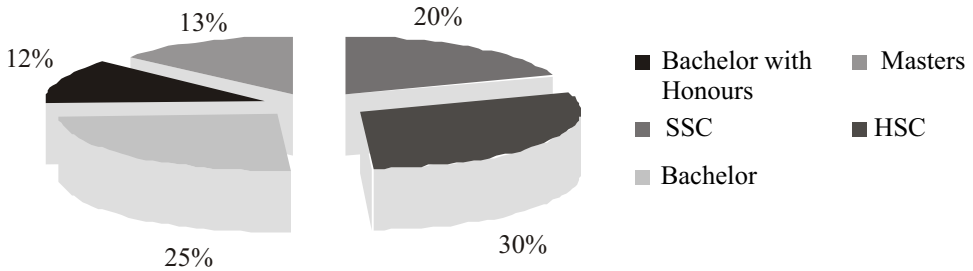


Figure 1 shows educational qualifications of the teachers. The highest number of teachers (50%) has a Bachelor degree and above; of which 25% have a general Bachelor degree, 12% have a Bachelor with honours and 13% of the teachers have Master degree. Thirty percent teachers have HSC, which is followed by 20% teachers with SSC.

In terms of professional training, as seen in table 2, 12.3% teachers did not receive any kind of professional training, 87.7% teachers received some professional training, of which 74.6% teachers have C-in-Ed and the remaining 13.1% teachers have Bachelor of Education (B. Ed).

Table 2: Professional training received by teachers

	Frequency	%
1. C-in-Ed	79	74.6%
3. B. Ed	14	13.1%
5. No training	13	12.3%
Total	106	100.0%

From Basic information above, it is found seen that teachers who participated in this study are of a wide range of ages, predominantly female, mostly qualified with professional training.

Quality of primary education

The sub-heading related to quality of primary education included six components. The findings are presented below:

- The highest percentage of teachers (48.1%) thought that the most important component of quality primary education is ‘to prepare children as good citizens’.
- 35.8% were of the opinion that quality primary education is for children ‘to pass the examinations’;

- 33.0% believed that it is 'to be able to get rid of poverty'; 31.1% of the teachers were of opinions that 'achieving' maximum competencies set by the NCTB'.
- 29.2% teachers were of opinion that quality primary education is 'to prepare children to 'get a job' and
- 28.3% felt that it is 'to enable the children to cope with real life situations'.

These information provide teachers' understanding about quality of education at primary level. It is difficult to say what factors moulded teachers' opinion regarding quality of primary education.

School building and campus

Large number of teachers responded negatively when asked about school facilities like serchas teachers availability (95.3%), teacher-student ratio (95.3%), classrooms availability (95.2%), availability of rooms for teachers (90.5%), classroom size (87.8%), schools' physical infrastructure (96.2%) and water and toilet facilities for the students (92.5%) and water and toilet facilities for the teachers (78.3%). The highest number of teachers (95.3%) responded negatively in response to the statement about the availability of teachers.

At the same time, teachers also responded negatively when they were asked about the relationship among the classroom teachers (54.7%), classroom teachers' relationship with the head teacher (52.8%) and other classroom teachers' professional commitment (70.7%). They opined positively regarding head teachers' leadership ability. 51% teachers thought it is good enough and 49% teachers thought it is not good enough to lead the schools effectively.

Curriculum, textbooks and teaching-learning process

A large majority of teachers (79.3%) thought that the contents of the textbooks were relevant to competencies set by the NCTB. 20.8% of them did 'strongly agree' and 58.5% teachers 'agree'. Similarly, a majority of teachers (77.3%) thought that the contents of textbooks were presented in easy and attractive way and that attracts learners' interests. In this case, 59.4% teachers did 'agree' and 17.9% teachers did as 'strongly agree'.

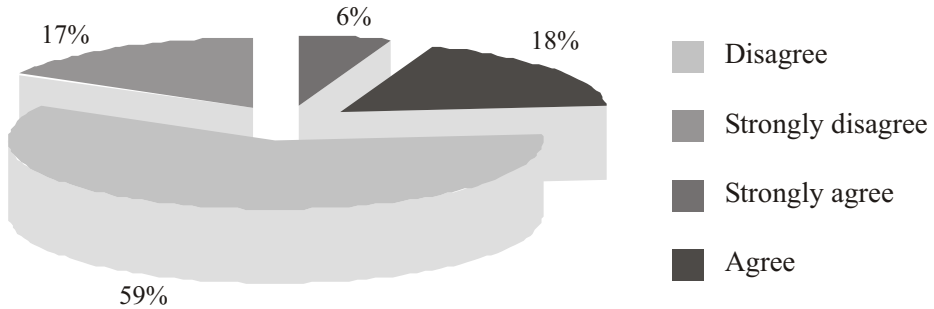
On the question whether textbooks and other supplementary learning materials are supplied in time, majority of teachers (57.6%) replied in the negative, about supplying teachers' guides and other supplementary materials, 70.7% teachers responded in negative.

About use teaching-learning materials in lessons, 53.8% teachers responded negatively and about pay attention to all children in each subject period, 84.9% teachers responded negatively.

Teachers were also asked the question whether education in primary schools is useful for the learners in their real-life situations. Most of the teachers (63.2%) replied negatively. They said that learning at primary schools did not keep learners' in their everyday real-life situations, whereas only 36.8% teachers thought that it helps students in real life situations.

Figure 2 furnishes information on the teachers’ satisfaction with the existing quality in primary education. Teachers were asked to give their opinions regarding their satisfaction with the existing quality in primary education.

Figure 2: Teachers’ satisfaction with existing quality of primary education



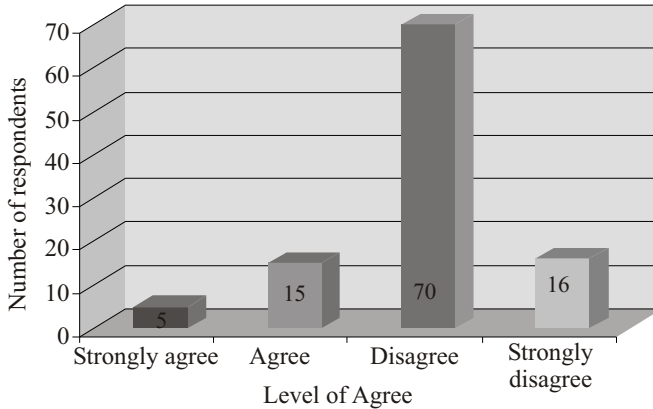
According to pie chart, 76% teachers were not satisfied with the quality in primary education; 59% of respondent teachers ‘disagreed’ with the given statement and 17% ‘strongly disagreed’. On the other hand, 24% teachers were satisfied with the existing quality; 18% ‘agreed’ with the given statement and 6% of them ‘strongly agreed’.

School management

Most of the teachers (72.7%) responded positively as regards opportunities provided by the schools to all children coming from different socio-economic background. Teachers were also asked whether the members of School Managing Committees (SMCs) were committed to their roles and responsibilities and most of the teachers (67%) answered negatively. When teachers were asked to what extent SMC members are competent enough to play their roles and responsibilities, most of them (65.1%) replied negatively. Their responses were also negative related to activeness of Parent-Teacher Associations (PTAs), parents’ awareness, involvement of the community in educational matters of the locality.

Figure 3 provides information on the parents’ awareness about their children’s education. As in the graph, highest number of teachers (86) thought that parents’ are not aware about their children’s education. Only 20 out of total 106 teachers responded positively regarding the parents’ awareness towards their children’s education.

Figure 3: Parents’ awareness about children’s education

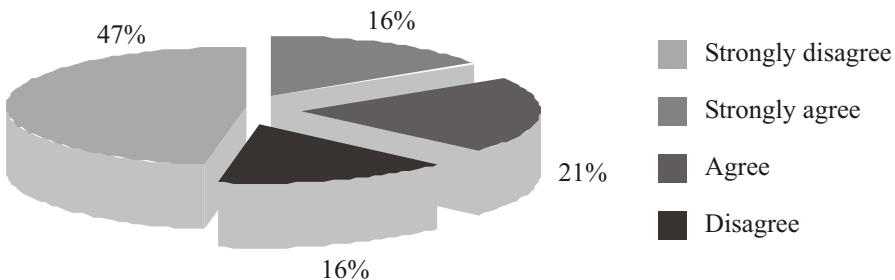


Teaching as a profession and professional development

According to teachers’ perceptions most of the teachers (68.9%) were not satisfied with opportunities provided for their professional development. Most of them responded negatively (69.8%) regarding the sub-cluster training’s contribution in enhancing their professional development. Most of them (56.6%) thought that training provided by Upazila Resource Centre (URC) was helpful to improve their professional development. Majority of them (56.6%) were also happy with training syllabus of C-in-Ed programme that reflected their practical professional needs. Furthermore, when teachers were asked whether their salary was enough to maintain a reasonable standard of life, 98.1% teachers replied negatively. Most of them (84.9%) said that too much load was given to teachers other than teaching activities, such as national survey, tree plantation, voter registration etc.

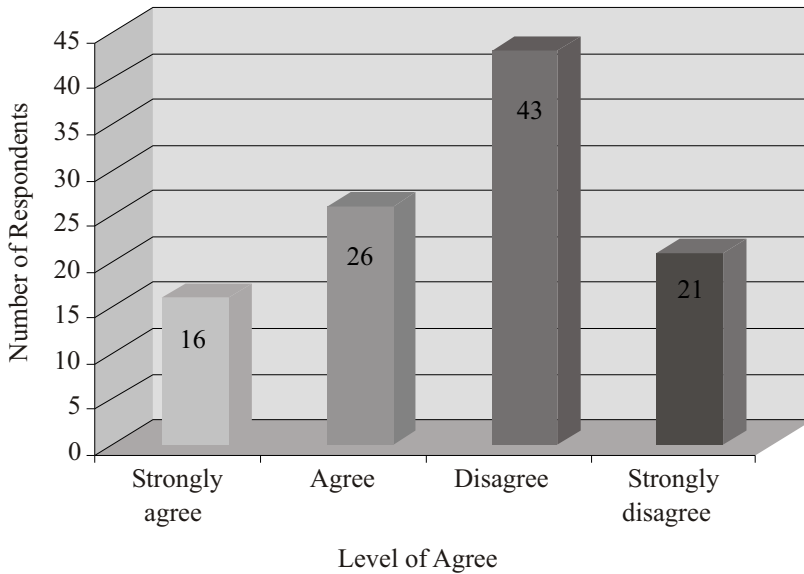
Figure 4 shows information on the teachers’ selection of teaching profession as first choice for their career. According to the chart below (Figure 4), most (63%) teachers did not choose teaching profession as a first choice. Only 37% teachers responded positively on this matter.

Figure 4: Choice of teaching as a profession



When teachers were asked whether they were satisfied with teaching profession, 64 teachers responded negatively. Only 42 teachers responded positively (Figure 5).

Figure 5: Teachers’ satisfaction with teaching profession



Teachers’ recommendations for improving quality of education

Most of the classroom teachers recommended that the following steps might be considered for improving the quality of education at their schools.

- 96.2% teachers opined that it was necessary to improve physical infrastructure of the school.
- 98.2% teachers recommended that improvement of the schools’ surrounding environment needs to be taken into consideration to make it attractive to the children.
- 91.5% teachers supported the view that it is necessary to improve teachers’ professional development to enhance teachers’ roles and responsibilities.
- 94.4% teachers emphasized ensuring regular school supervision by Assistant Upazila Education Officers (AUEOs) whereas 87.8% responded positively when they were asked if regular supportive feedback to teachers by AUEOs could be a way of improving quality of education at the schools.

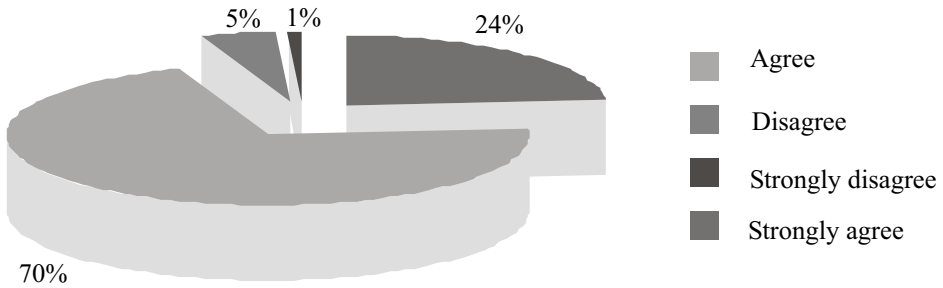
Figure 6: Necessity of regular school supervision by AUEOs

Figure 6 shows information about teachers' opinion regarding the necessity of school supervision by AUEOs. Most of the teachers (84%) recommended that the regular school supervision by AUEOs needs to be ensured to enhance the quality of education.

- 82% teachers supported that SMC's involvement was necessary to enhance the quality of education and 97.2% teachers recommended that it was necessary to strengthen PTA's involvement. Community involvement should also be strengthened, as identified by 82.1% respondents.
- 99.1% teachers opined that all the children from different level of socio-economic and cultural background need to be treated equally to ensure quality education for all.
- 99.1% teachers responded positively when they were asked whether the textbook and other supplementary teaching materials should reach the school in time.
- 98% teachers recommended that the classroom teachers should have opportunity autonomy to provide suggestions to the government authority to improve classroom-teaching quality.

Obstacles faced by teachers

The teachers were asked three open-ended questions. The questions were on three major obstacles they thought hampered quality of primary education. Most of the teachers identified poverty as the major obstacle. Lack of parents' awareness regarding their children's educational needs was identified as the second whereas lack of schools' friendly environment was identified as the third major obstacle in improving quality of education at their schools.

Answering the second question on further professional development, teachers accorded subject-based training as the highest priority. They also asked for training in classroom management as third priority, along with training with computers. When asked as to what they can do as classroom teachers to help improve quality of education, most of the teachers suggested that it was necessary to build up a child friendly environment and good

understanding with the learners. They also mentioned that lessons in classrooms need to be attractive to the children so that they get interested in classrooms learning. Ensuring the proper use of teaching aids was identified as the third priority for improving quality primary education.

Discussion and Concluding Remarks

The study ascertained the views and perceptions of classrooms teachers regarding quality of education in selected primary schools. It was inevitable that there would be differences in their perceptions but the six quality components presented to them received due importance and accordingly they formed their views. Teachers also provided useful information regarding infrastructure of schools, environment, curriculum, teaching-learning materials, relationship between headteacher and other teachers, among teachers, teachers and the community and SMC and PTAS' involvement in school matters. All these factors have direct relationship with the status of quality of education in the schools. Keeping in view those factors, the teachers recommended a number of steps for improving quality of education in the schools they serve. These are: improvement of physical infrastructure, attractive environment, teachers' professional development and regular supervision of AUEOs and supportive feedback to teachers. These recommendations of teachers are not difficult to fulfil and authorities concerned should take note of it for improving the quality of education at the schools. But poverty and lack of awareness of parents regarding children's educational needs due to lack of their own education—the two factors that have direct bearing on quality of education of children are beyond control of schools and teachers. This is an unfortunate situation for the country as a whole.

References

1. ADB (Asian Development Bank), 2003. News Release: ADB Leads New Sector Approach to Improving Primary Education in Bangladesh, Available from: <http://www.adb.org/documents/news/2003/nr2003155.asp> [Accessed 20 June 2006].
2. Anderson, G. and Arsenault, N., 1998. *Fundamentals of Educational Research* (2nd Ed.). London: Falmer Press.
3. Chowdhury, A. M., Nath, R. S., Choudhury, R. K. and Ahmed, M., 2002. *Renewed Hope Daunting Challenges: State of Primary Education in Bangladesh*. The University Press Limited: Campaign for Popular Education.
4. Gall, D. M., Borg, R. W., and Gall, P. J., 1996. *Educational Research*. New York: Longman Publishers.

Academic and Non-academic performances of High and Low Achieving Students at Primary Level: A Comparative Study

Mohammad Mahboob Morshed*

Abstract

This study was designed to: i) determine the extent of difference between academic performances of high and low achieving students, ii) identify the kind of supports provided by teachers in classroom as well as guardians at home for high and low achieving students' academic activities, iii) compare non-academic performances of high and low achieving students, and iv) find out the difference between parental behavior of high and low achievers towards their non-academic engagements. In this study the term 'performance' was used to indicate both engagements and accomplishments in academic and non-academic activities. The study found high differences in classroom engagements, class achievements and summative test achievements between high and low achieving children. Both teachers' and guardians' academic support was also significantly higher for high achieving students than low achieving students. High achieving children's accomplishments in non-academic activities were significantly better than that of low achieving children. But their engagements in nonacademic activities did not differ significantly. Parental behavior for high and low achieving students' non-academic engagements was found similar for both the groups', which indicated majority of parents' indifference in this matter.

Introduction

Recent efforts in primary education of Bangladesh are focused on ensuring quality of education. Right and equity are of great importance for quality education. EFA Global Monitoring Report (2005, p. 31) states that equity and right reflect a basic belief that all children can develop basic cognitive skills if provided with right learning environment. The report also states that many of those who go to school fail to develop these skills due to deficiency in educational quality. Therefore, ensuring right and equity in education require fulfilling each individual's need irrespective of his/her academic achievement, physical, intellectual, social, economic, ethnic, gender and religious background. One of the big differences, that is difference due to academic achievement, was not addressed much in our primary classroom. The range of achievement along with average achievement of students in academic activities may provide significant information about the level of performance of

* Former Research Student, Institute of Education and Research, University of Dhaka

students of primary level. It is normal that there will be differences in academic performances of high and low achieving students. But if the difference is very high, it may indicate some equity issues in classroom and at home as well. Sinha (1993, pp. 143-148) states several factors that influence high academic achievement such as higher mental abilities, enriched environment at home and school, sufficient assistance and acceleration provided by parents and teachers, high self-concept, high motivation and efforts for achievement, better study-habits etc. On the other hand, according to Guilford (1979, pp. 9-17), low achievement can be caused due to slow learning, retardation, maladjustment, poor home and school environment, less motivation or less desire to learn etc. Therefore, this study was intended to determine the extent of difference between academic performances of high and low achieving students. Besides, since teachers' and guardians' support are very crucial for learner's academic achievement, this study also examined its relevance for high and low achieving children. A comparative picture of high and low achieving students' academic performances and supports received shall provide information which school authority, teachers and parents will find useful for improving students' academic performances, especially for low achievers. Educators can use this information to diagnose academic problems, determine area of improvement, develop learners' academic interest, develop study styles, increase classroom engagement and improve class performances of students, especially low achievers.

Learners perform non-academic activities through co-curricular and avocation activities. Non-academic activities mainly include various hobbies, reading, involvement in sports and cultural activities, engagement with friends and different social behaviors etc. Non-academic activities provide learners with experiences necessary for their social development. Eccles and Barber (cited in Hofferth and Jankuniene, 2001, p. 19) emphasized the importance of non-academic activities to learners' academic achievement and social development. Mahoney and Cairns (cited in Holloway, 2002, p. 80) found that participation in co-curricular activities create positive connection among students whose prior commitment to school remained marginal. Mcneal (ibid, p. 81) indicates that participation in co-curricular activities provide, previously marginalized students, with access to a more "elite" stratum of the student population and expose the students to peers who have better attitudes toward school. This study also compared non-academic performances of high and low achieving students in primary school. Parental behavior for high and low achieving students' non-academic activities was also measured.

It is to be mentioned that as this research studied primary level students, it defined performance with a relatively broader sense, which included both level of engagement and quality of accomplishment in academic and non-academic activities.

Objectives

The Objectives of the study were to:

- 1) determine the extent of difference between academic performances of high and low

achieving students,

- 2) distinguish between supports provided by teachers in classroom as well as guardians at home for high and low achieving children's academic activities,
- 3) compare non-academic performances of high and low achieving students, and
- 4) find out the difference between the parental behavior of high and low achievers towards their non-academic engagements.

Methodology

Selection of sample

For the study schools, teachers, class, and high and low achieving children were selected. The selection procedure is stated below:

Selection of schools: Eighteen primary schools from six selected areas of Bangladesh; 3 schools from each Upazila, were randomly selected for broad geographical coverage. The areas were Dinajpur sadar, Dinajpur (north-west of Bangladesh), Shonatola, Bogra (north of Bangladesh), Debidwar, Comilla (middle of Bangladesh), Ramna, Dhaka (middle of Bangladesh), Bauphol, Potuakhali (south of Bangladesh) and Teknaf, Cox'sbazar (south-east of Bangladesh). The ratio for Government Primary School (GPS) and Registered Non-government Primary School (RNGPS) was 2:1 in each area. The ratio of rural and urban schools was also 2:1 except Ramna. Three urban schools were randomly selected from Ramna to include metropolitan urban schools, which are different from upazila level urban schools.

Selection of class: For this study grade five was selected purposively. The reason for selecting grade five was that it is the final year of primary level and therefore, a comprehensive picture of learners' performance in primary level was expected.

Selection of high and low achieving children: Five high and 5 low achieving students from class five of each school were selected on the basis of average total score in last two terminal examinations. Available top 5 and bottom 5 scorers were selected as high and low achievers respectively. Thereby, 10 learners were selected from each school. The total number of sample learners was 180 where number of high and low achieving children was 90 each.

Selection of teachers: In order to assess high and low achieving children's non-academic performances, class teacher of class five was purposively selected considering his/her better ideas about the students.

Research instruments

For data collection, six research tools were developed. Necessary try out was done for finalizing instruments. Operational definitions were also developed for the terms (for example: spontaneous engagement, engagement by teacher, almost correct answer, partially correct answer, almost wrong answer, satisfactory feedback, moderate feedback, poor

feedback, front, middle and back benchers, disruptive behavior etc) used in the research instruments. The research tools were: analytical record sheet for selecting high and low achieving children, summative test score sheet of high and low achieving children, class observation schedule, performance checklist for written class work & home work copies, interview schedule for high and low achieving children, and 5-point rating scale for class teacher to measure high and low achieving children's non-academic performances.

Data collection and analysis

At first, analytical record sheet was executed to select high and low achieving children. Summative score sheet provided with necessary information about high and low achievers' academic and co-curricular subject-specific tests performances. After selecting high and low achieving students, two days' class observation was conducted in class five of each school. This provided information on high and low achievers' class performance and teacher's support provided for learners in classroom. A total of 166 classes were observed. During observation, the identity of observed students was not disclosed. At the end of class observation, 5-point rating scale for class teacher was executed to assess high and low achieving students' non-academic performances. In the checklist students' names were placed randomly to avoid bias in teacher's assessment.

Then, students' interview was conducted in order to get information about high and low achieving children's study habits at home, supports received from guardians, achievements and engagements in non-academic activities and parental behavior for their engagement in non-academic activities. High and low achieving children were interviewed separately. At last, checklist for written class works & home works was executed in order to assess performance of students in written class works and home works as well as quality of feedback provided by teachers for class works and home works. A total of 443 class works and home works of high achievers and 350 class works and home works of low achievers were assessed.

Both descriptive (for example: frequency, percentage, mean) and inferential (for example: test of significance) statistics were applied. For performing inferential statistics confidence level was set at 95%.

Findings

Comparison between summative performances

A significant difference, as expected, was found between the test-total scores of high and low achieving children. But the difference between the scores is noticeable. The average total score of high achieving children was 74.3 (converted into out of 100), while it was only 31.4 for low achieving children. The difference of mean scores was 43. The table below represents subject-specific score comparison between the groups:

Table 1: Subject-specific scores of high & low achieving children (out of 100)

Subject	Type of student	Mean score	Achievement difference	Significance
Bangla	High	72.03	45.70	$p < 0.05^a$
	Low	26.33		
Mathematics	High	73.93	53.17	$p < 0.05$
	Low	20.76		
English	High	73.68	50.07	$p < 0.05$
	Low	23.61		
Social Science	High	71.06	38.01	$p < 0.05$
	Low	33.05		
Natural Science	High	75.01	44.00	$p < 0.05$
	Low	31.01		
Religious Studies	High	75.42	40.27	$p < 0.05$
	Low	35.15		

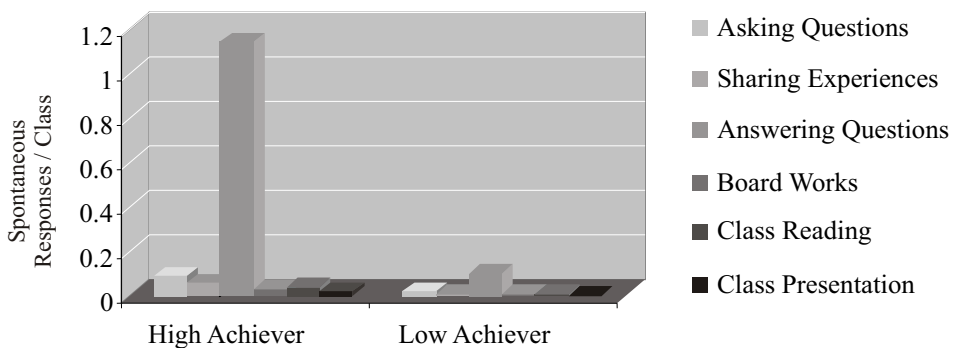
^aSignificant at $p < 0.05$.

In different academic subjects, high achieving children’s scores ranged from 71 to 75. In these subjects, low achieving children ranged from 21 to 35. Achievement differences between the groups in these subjects ranged 38-53, which is very high. In fact achievement difference in all the subjects between the groups were higher than the achievement scores of low achievers.

Comparison between class performances

Class presence was found more than 80% for both the groups. High achievers were more frequently front and middle benchers, whereas low achievers were more middle and backbenchers. Disruptive behavior between both groups was observed very low and similar (near 6% of students in both groups).

Figure 1: High & low achievers’ spontaneous engagement in teaching-learning activities



High achieving students' self or spontaneous engagement in teaching-learning activities was found significantly higher than low achievers'. Mean number of self-engagement in different teaching-learning activities per class (excluding written class works and home works) was 1.38 and 0.15 for high and low achieving group respectively. The t-value was 8.815, which was found significant at 95% confidence level. Both the groups engaged themselves in answering questions more than any other teaching-learning activity. Self-engagement in other teaching-learning activities was very few in both the groups. No low achieving child was found to be self-engaged in asking questions, sharing views and class presentation. It is to be mentioned that, the numbers do not represent the engagement of an individual high or low achieving child; rather it represents the engagement of the whole group. So, spontaneous engagement in teaching-learning activities was very low for both the groups where, low achievers' engagement was even very much lower.

The table 2 draws a comparative picture of their performances in different teaching-learning activities except written class works and home works:

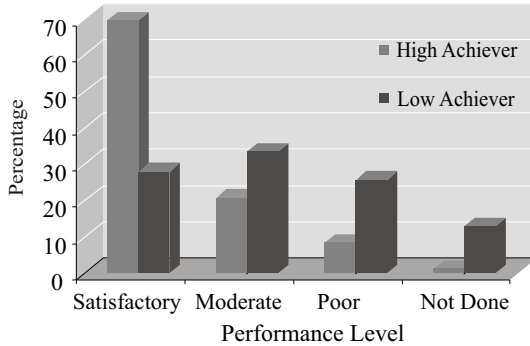
High and low achieving children performed almost correctly in about 72% and 47% responses respectively. So, high achieving children's correct responses are remarkably higher than that of low achieving children. Moderate response was about 17% for both the groups. Again, low achieving children made remarkably higher wrong responses than high achieving children. Inquiring performance on specific teaching-learning activities explores that high achieving children performed 'Almost Correct' more in class presentation and less in class reading. Low achieving children performed 'Almost Correct' more in answering questions and less in board work and class presentation.

Table 2: Accuracy of responses of high and low achieving children

Teaching-learning activity	Type of student	Almost Correct (%)	Partially Correct (%)	Almost Wrong (%)
Answering Question	High	70.86	16.26	12.88
	Low	54.91	16.18	34.68
Doing Board Work	High	78.41	12.50	9.09
	Low	28.95	26.38	47.37
Doing Class Reading	High	64.41	35.59	00
	Low	46.15	23.08	30.77
Doing Class Presentation	High	86.67	13.33	00
	Low	20	40	40
Total Responses	High	71.55	17.12	11.33
	Low	47.27	17.38	35.45

High and low achieving children's performance on written class works and home works is visualized in the graph below:

Figure 2: High & low achievers’ performance on written class & home works



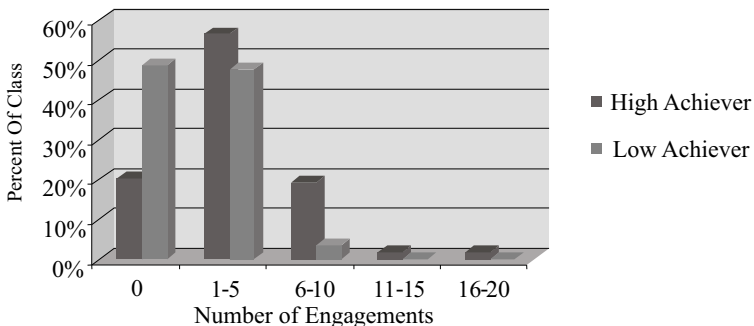
In written class works and home works, high achieving children performed ‘Satisfactory’ in 70% copies, while low achieving children performed that level only in 28% copies. ‘Moderate’ performance was done more by low achieving children than high achieving children. While ‘Poor’ performance and escaping the work is remarkably higher in low achieving children than high achieving children.

Comparison between academic assistance from teachers and guardians

Teachers provided individual teaching assistance or clarified concepts to 8.45% high and 7.82% low achievers. Although the numbers do not differ much, it can be said that low achieving children might have needed more individual support and concept clarification.

High and low achieving children’s engagement by teacher in teaching-learning activities (except written class works and home works) was found significantly higher in favor of high achievers. Mean number of engagement by teacher in different teaching-learning activities per class was 3.51 and 1.27 for high and low achieving group (all high and low achievers as group) respectively. The t-value was found 7.394, which was significant at 95% confidence level. The graph further explores number of engagements of high and low achievers by teacher per class:

Figure 3: High & low achieving Group’s engagement by teacher per class.



The graph clearly shows that teacher engaged low achieving children in teaching-learning activities in fewer classes and with a fewer extent than high achieving children. In about 49% classes low achieving children were not engaged at all. It was the case in 20% for high achieving children. Teachers engaged high achieving children 1-5 times in 57% classes and low achieving children in 48% classes. Engaging 6-10 times is few for both the groups; still high achieving children were engaged by teacher to that extent in 19% classes. Low achieving children were never engaged 11-15 and 11-20 times, whereas high achieving children were engaged in 1.80% and 1.81% classes to those extents respectively.

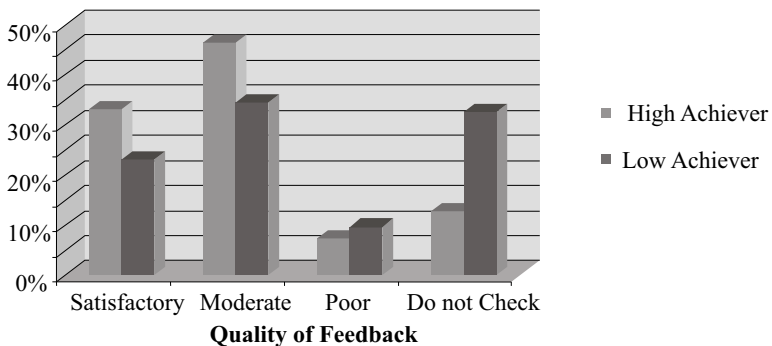
The table 3 explores about teacher’s feedback for responses in teaching-learning activities except written class works and home works:

Table 3: Feedback for responses other than written class works & home works

	Type of student	Gives praising & feedback	Gives feedback	Don't give feedback	Gives punishment
		(%)	(%)	(%)	(%)
For Correct Response	High	27.33	72.67	0	0
	Low	28.57	71.43	0	0
For Partially Correct Response	High	3.58	64.75	28.78	2.89
	Low	2.44	56.10	41.46	0
For Almost Wrong Response	High	0	65.22	26.08	8.70
	Low	0	46.43	36.90	16.67

Teacher’s feedback was similar for both high and low achieving children for correct responses. But for partially correct and almost wrong responses, feedback varied. For partially correct and wrong responses, high achievers got feedback remarkably more than low achievers. On the other hand, teachers left low achievers without feedback and gave punishments remarkably more to low achievers than their counterparts for similar responses. Feedback for written class and home works are illustrated below:

Figure 4: Quality of feedback provided by teachers for written class and home works



Teachers provided high achievers with a certainly higher quality of feedbacks than they provided for low achievers, which is evident from the percentages of satisfactory and moderate level feedbacks. Low achievers got poor feedback in about 10% copies. High achievers children got it in about 7% copies. Teachers even did not check about 33% copies of low achieving children, which is about 13% in case of high achievers.

Guardians' academic assistance at home

Almost 89% of high achieving children and 84% of low achieving children were provided with guardian's assistance for their academic activities. Mean weekly assistance hours provided by guardians were 10.57 and 7.41 for high and low achieving children respectively. Mean difference of assistance hours per week was 3.16, which was found significant at 95% confidence level.

Guardians displayed much positive behavior towards high achieving children than low achieving children while providing assistance. 57% low achieving children viewed that their parents or guardians keep hostile by behaving like scolding and/or beating during assistance. It was the case in 20% of high achieving children. On the other hand, 77% high achieving children viewed that their guardians are usually friendly by behaving with patience, praising and inspiring towards them. Only 4% high and 10% low achievers noticed that their guardians usually keep indifferent during assistance.

Performance in non-academic activities

Class teacher, on a 5-point scale, measured high and low achieving students' non-academic performances. Here point was assigned like this: 5 = very good, 4 = Good, 3 = Moderate, 2 = Poor, and 1 = Very poor. According to class teacher's rating, high achieving children performed significantly higher than low achieving children in every non-academic activity which is evident in the graph below:

The mean performance of high achievers was 4.32, which indicate an overall 'Very Good' and 'Good' performance in non-academic activities. Mean performance of low achievers was 3.61 which indicate an overall 'Good' and 'Moderate' performance.

High achieving students also performed significantly better than low achievers in co-curricular subject tests in terminal examinations. The achievement score of high achieving students in Art & Craft, Music and Physical Education was 82.85, 79.70 and 85.47 (out of 100) respectively. On the other hand, low achieving students achieved 67.80, 65.61 and 72.93 respectively in the following subjects. Although the difference in these subjects was found large enough to be significant, the achievement differences were not as high as were in academic subjects.

From students' interview, it was revealed that nearly equal number of students from both the groups participated at least once in sports competitions held in schools or locality. But in cultural activities, remarkably higher number of high achieving students participated (60.5%) than low achieving students (32.9%). Again learners who took part in these competitions, percentage of winning prize both in sports and cultural activities was

remarkable higher in high achievers (82.6% and 75.5% respectively) than low achievers (40.7% and 52.2% respectively).

Engagement in non-academic activities

Students' interview also revealed that number of students in both the groups who engaged in different non-academic activities such as hobby, personal reading, sports, cultural activities and spending time with friends was similar. Among learners who got engaged in nonacademic activities, high achievers' spend hours for hobbies, sports and cultural

Table 4: Performance of high & low achieving children in non-academic activities

Nonacademic performance area	Type of student	Mean score	Significance of difference
Respect for Elders & Teachers	High	4.81	$p < 0.05$
	Low	4.44	
Respect for Rules & Regulations	High	4.58	$p < 0.05$
	Low	4.04	
Interest for Personal Reading	High	4.46	$p < 0.05$
	Low	3.06	
Confidence to Succeed in Work	High	4.33	$p < 0.05$
	Low	3.22	
Interest for Sports	High	4.09	$p < 0.05$
	Low	3.60	
Interest for Cultural Activities	High	3.83	$p < 0.05$
	Low	3.20	
Cooperative Attitude for Peers	High	4.26	$p < 0.05$
	Low	3.80	
Cleanliness	High	4.46	$p < 0.05$
	Low	3.90	
Leadership Ability	High	4.06	$p < 0.05$
	Low	3.28	
Performance as a Whole	High	4.32	$p < 0.05$
	Low	3.61	

activities in last one week were higher than those of low achievers'. On the other hand, low achievers spend more times with friends than high achievers. But in no activities, weekly spend hours were different enough to be significant.

Parental behavior for non-academic engagement

Reaction of parents towards children's engagement in non-academic activities is summarized in the graph presented below.

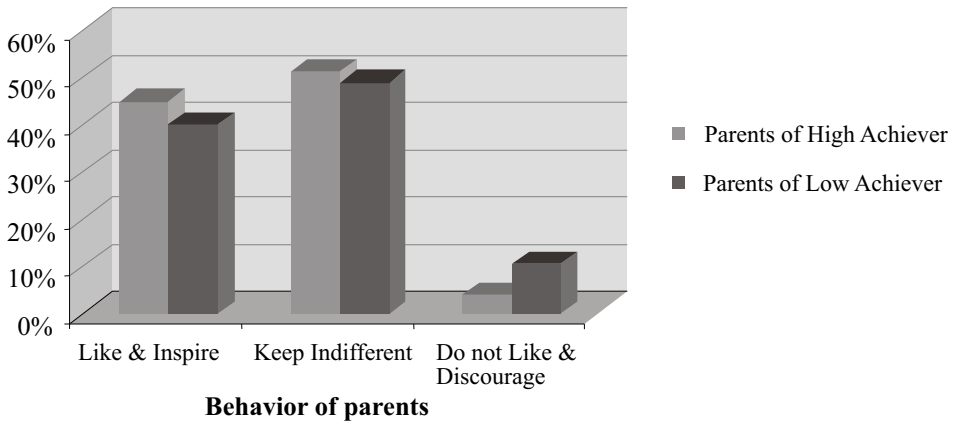
Majority of the students of both the groups viewed that their parents keep indifferent for their non-academic engagement. A large number of students from both the groups viewed that their parents like their non-academic engagements and inspire their engagement. Percentage of parents showing positive reaction is slightly higher in case of high achieving children than that of low achieving children. But percentage of low achieving children showing negative reaction is higher in parents of high achieving children.

Table 5: High & low achievers’ weekly spend hours in non-academic activities

Non-academic activities	Type of student	Mean weekly spend hour/student	Significance of difference
Hobbies	High	3.92	ns ^a
	Low	3.46	
Sports	High	4.61	ns
	Low	4.18	
Cultural Activities	High	2.06	ns
	Low	1.98	
Weekly Spend Hours with Friends	High	3.45	ns
	Low	3.96	

^a not significant

Figure 5: Parental behavior towards engagement in non-academic activities



Discussion and Suggestions

The study found very low school achievement of low achievers and their low engagement in classroom. It was also found that teachers tend to engage high achieving children more in class activities and give them better feedback than the low achieving children. Education Watch Report 2003/4 (p.95) found that teachers consider low achievers as inherently

incapable of learning. That might explain the behavior of the teachers so far the low achievers are concerned. Parental involvement in educational matters of high achieving children were higher compared to low achieving children. High achievers are also treated with positive behavior than their counterparts by parents. Non-academic performance of high academic achievers was also high, but low achieving children, although did not perform as good as high achievers, performed well in non-academic activities. Parental behavior in respect of non-academic engagements was not much different for both the groups. Majority of parents were found indifferent in this matter.

This study has significant implications for higher attendance in school, reducing drop out rate, significantly improve completion rate and overall learning achievements of primary school children. It is suggested that developing an efficient monitoring and information system in primary schools is required so that record of progress of each child can be kept and remedial measures can be taken accordingly. Teachers need to involve children more frequently in classroom teaching- learning activities; especially low achievers should be involved more in class activities and provided with better feedback by teachers. Guardians' role also need to be improved as they were found to be less mindful to low achievers in giving necessary assistance and care. Schools require organizing co-curricular activities more and on a regular basis to develop multi-dimensioned interests of learners, both high and low achievers. Guardians also need to be more mindful and show positive attitude towards children's non-academic engagements so that their all-round development is facilitated. These recommendations might seem difficult to implement overnight, but it is important that the process of taking necessary measures are initiated at the earliest.

References

1. Education Watch Report 2003/4. (2005). *Quality with Equity: The Primary Education Agenda*. Dhaka: CAMPE.
2. EFA Global Monitoring Report 2005. (2004). *Education for All: The Quality Imperative*. France: UNESCO.
3. Guilloford, R. (1979). *Exploring Education: Backwardness and Educational*
4. *Failure*. Windsor, Berks: NFER Publishing Company Ltd.
5. Hofferth, S.L., & Jankuniene, Z. (2001). Life After School. *Educational Leadership*, 58(7), 19-23.
6. Holloway, J.H. (2002). Extracurricular Activities and Student Motivation. *Educational Leadership*, 60(1), 80-81.
7. Sinha, N. (1993). *Academic Talent*. India: The Associated Publishers.