

# Consortium for Research on Educational Access, Transitions and Equity

## Age in Grade Congruence and Progression in Basic Education in Bangladesh

#### **Altaf Hossain**

#### CREATE PATHWAYS TO ACCESS Research Monograph No. 48

October 2010





Institute of Education and Development, BRAC University, Dhaka, Bangladesh



### Consortium for Research on Educational Access, Transitions & Equity

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#### **List of Acronyms**

**BRAC-Building Resources Across the Communities** 

COMSS-Community and School Study

CREATE- Consortium for Research on Educational Access, Transitions and Equity

DAM-Dhaka Ahsania Mission

**DPE-** Directorate of Primary Education

FIVDB-Friends in Village Development-Bangladesh

**GER- Gross Enrolment Rate** 

GIR- Gross Intake Rate

GOB-Government of Bangladesh

ICT- Information and Communication Technology

IED-BRACU- Institute of Educational Development-BRAC University

NER- Net Enrolment Rate

NIR- Net Intake Rate

PEDP- Primary Education Development Programme

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#### **Preface**

A large and persistent difference between gross and net enrolment in primary education in Bangladesh has signalled a mismatch between the officially designated age for entry to and completion of primary education and the actual age of participation of children at this basic level of education. It would not matter much if some children entered late into school, but completed primary education and went on to the secondary level. The age-grade incongruence is indeed indicative of serious problems that adversely affect access, participation and performance of children in school. It has been observed that the gap between gross and net enrolment narrows and age-grade congruence improves as a system moves towards universal participation, acceptable learner performance, and a high degree of transition from primary to the secondary level.

The ComSS study, based on two rounds of field data from six locations in Bangladesh involving some 6,700 children, has offered the opportunity to explore the nature and magnitude of the age-grade mismatch and how it has affected effective participation of children in schooling. Over 69 percent of the children of 6-15 years enrolled in primary and secondary schools were found to be "age-in-grade incongruent." They came from disadvantaged socio-economic groups, dropped out in larger proportions than children of the "right" age, and swelled the ranks of the "silently excluded."

This monograph makes a strong case for policy and action to inculcate social awareness and culture of the appropriate age for enrolling children in school. One essential measure would be to enforce the law and regulations regarding birth registration. Attention to health and nutrition of children at the stage of early childhood and as children approach school age is another necessary measure, so that children do not appear to parents and the family to be "too small" to go to school. The analysis and conclusions of the paper affirm that addressing the situations linked with age-grade incongruence would indeed make a significant contribution to advancing the goal of UPE with equity and quality.

Dr Manzoor Ahmed Institute of Educational Development, BRAC University, Dhaka Bangladesh CREATE Partner Institute Convenor

#### **Summary**

In Bangladesh gross and net enrolment rates are used to measure the overage and underage enrolment in the education system. However, due to the limits of these methods in understanding the issue of age in grade, the present paper explores the issue using the CREATE Community and School Study (COMSS) data from Bangladesh. COMSS was a longitudinal survey on 6,696 households with 9,045 children of 4-15 years old in 2007 and 2009. The paper shows that 69.4 percent of 6-15 year old children, enrolled in primary and secondary schools in 2007 are age in grade incongruent and in early grades of primary this proportion is even higher. Age in grade incongruent children come from relatively low income families and with relatively poor health. Age in grade incongruent children attend school irregularly and perform worse than the congruent children of the same grade. Less than 50 percent of primary grade 1, 2 and 3 children progress to the next grade on time, making classrooms full of 'silently excluded' children. These low progressing children are also coming from relatively low income families. These slow progressing children are found to have relatively poor health and inadequate learning materials compared to regularly progressing children of their grade group. The slow progressing children attend school irregularly compared to the regularly progressing group and get less primary school stipend money. Both these age in grade incongruent and low progressing children are increasing the number of 'silently excluded' children in the classroom.

### Age in Grade Congruence and Progression in Basic Education in Bangladesh

#### 1. Introduction

This research paper is the result of looking for answers to questions raised by Keith Lewin in the first CREATE Research Monograph (Lewin 2007). According to the paper:

Over-age entry and progression delays primary school completion to ages where boys and girls may be subject to growing pressure to contribute to household income and to enter into marriage they can result in grade groups with wide age range raising questions about appropriate pedagogy and cognitive strategies in the curriculum (Lewin, 2007:27).

He also suggests that age in grade and progression have to be understood in relation to patterns of participation by age.

In Bangladesh the issue of overage enrolment and its consequences on educational access and progression has long occupied educationists, policy makers and researchers, a fact reflected through the rigorous and persistent investigations of the difference in gross and net enrolment figures (Chowdhury et. al, 1999; 2002; Ahmed et al, 2005, 2006; Nath and Chowdhury, 2009). The Directorate of Primary Education (DPE), the implementing authority of primary education in Bangladesh, has also recognised the problem and has recently started collecting age specific enrolment data to understanding the magnitude of the problem. Although the government official statistics show a high rate of age specific enrolment rate; based on school information, the survey report (GOB, 2009) suggests being cautious of accepting the high rate of Net Intake Rate (NIR) at Grade 1, which is 95.3 percent. The report suggests:

In principle, parents are better placed to report the age of their children correctly and therefore household surveys would be a more reliable source of information on net intake (GOB, 2009:21).

The most commonly used indicators of progress in universalising primary schooling, the Gross Enrolment Rate (GER) and Net Enrolment Rate (NER), are unable to report clearly the overage and under age entry and repetition scenario. To overcome the problem two different measures are now used, these are: Gross Intake Rate (GIR) which is the total number of pupils in Grade 1 minus repeaters in Grade 1 divided by the population of the official school admission age (6 years for Grade 1) and Net Intake Rate (NIR) which is the number of pupils of the official admission age in Grade 1 divided by population of the official school admission age.

However, due to the lack of a proper birth registration system and inaccurate school data collection processes, the GIR and NIR measures in Bangladesh appear unusually high. A few studies have used the method to estimate the age specific enrolment rates. The baseline survey of PEDP-II (2006) revealed an unsatisfactory situation with regards to internal efficiency with around an 11 percent repetition rate, 54 percent survival rate to Grade 5 and 8.2 years of average number of years-input per graduate in contrast to the ideal years-input of 5 years. This demonstrates the low progression, high dropout, rates of repetition and the large number of overage children in the grade groups as a result.

Researchers and policy makers have downplayed issues of age in grade intentionally to avoid putting extra pressure on the government that was still grappling with achieving universal enrolment targets. Other relevant agencies ignored the problem to avoid implicating themselves in the pedagogical issues that overage children in schools raise. Finally, due to a lack of good data on age and grade, school authorities are unable to understand clearly the scale of the problem and the implications of age in grade incongruence on student's progression and performance. For a variety of reasons, there is no research investigating grade wise over and underage enrolment and its causes and consequences on children's educational achievements.

#### 1.1 The problem with overage enrolment assessment

There are two ways in which the issue of overage children in the classroom occurs. One is through initial overage enrolment and the other is through repetition or retention in the same grade. Overage enrolment is a complex issue and involves people's perception of schooling, the age and size of the children and the problem is usually compounded by a lack of birth registration documents. People's perception of school age may be influenced by older children's better performance in mixed age group classrooms. The reasons for differences in this performance of older and younger children in a class are varied. In the first grade of primary school, the relative immaturity of the youngest students within their age cohort may disadvantage them because they are less able to perform the same tasks. There is an issue of ability and maturity and if it confuses the teachers, the less mature younger children may be identified wrongly as low ability and low performing children. Strom (2004, cited by Sprietsma, 2008) shows the effect of being the oldest pupil in the cohort is generally estimated to yield between 10 and 27 percent standard deviation higher test scores than the youngest pupils. This experience may give the wrong information to the parents and community in favour of deciding to enrol their children into school for the first time when they are older.

A lack of awareness of the importance of sending their children in school at the right age is important, the reasons for this stem from pervasive illiteracy and poverty. Only a few parents recognise the stage and pace of child development and their implications on children's education. Health and nutrition sometimes play important roles in children's delayed enrolment and school performance (Ghuman, 2006; Alderman et al, 2001). However, the consequences of late primary school enrolment are clear and studies show that a two-years' late primary school enrolment, on average, costs individuals a substantial six percent of their lifetime income (Glewwe and Jacoby, 1995).

CREATE has developed an expanded vision of access. Among other aspects of meaningful access to education, the CREATE model emphasises the importance of entry to primary at an appropriate age and progression within a year of the appropriate age for each grade (Lewin, 2007). However, this is not the case in Bangladesh. Age of entry is delayed and progression is hampered by repetition and interrupted schooling that results in many children being overage by the end of the primary cycle.

#### 1.2 Age in grade congruence

In Bangladesh, the official age of entry at Grade 1 is six and it is expected that they will be promoted to Grade 2 in the next year at the age of seven and in the next year to Grade 3 at the age of eight and so on. However, for various reasons this is not happening.

Educationists and policy makers are upbeat about the issue but there is very little literature and research which explores the problem, its correlates and consequences.

To measure the dimensions and effects of the problem of a lack of age in grade congruence, two groups of children are identified in a grade; one group of children who are at the right grade at the prescribed age (for example, children those who are aged six and in Grade 1) and those who are not at the right grade at prescribed age (for example, those who are in Grade 1 at the age of seven, eight or ten). The first group of children is 'age in grade congruent' and the second group is 'age in grade incongruent'. Due to lack of birth registration records, the field researchers were instructed to examine the age rigorously and record it as a round figure. For example, if any child was 6 years, 11 months and 29 days old, the child was considered as 6 years old and any who were 6 year and one month old s/he was also recorded a 6 years old. Likewise, if a child was 7 year 11 month and 29 days old it was recorded as 7 years old and so no. Logically some children crossed the boundary of full year in the middle of the academic year when field data was collected. However, in calculating age in grade congruence for all grades the study calculated all the overage children (one year or above) in the same group and who are not overage for their grades in the congruence group. Breakdown of incongruence by 1-year, 2-year and 3-year could be more appropriate in measuring the effects of age in grade congruency. However there is a lack of such analysis in this paper due to the data recording system and potential inaccuracy of reported ages.

#### 1.3 Grade progression

The second issue that this paper examines is pupil progression, which is closer to repetition or retention in the same grade irrespective of age. There is a lot of literature in relation to the negative effects of repetition in developed countries (Biegler, 2000; Andri, 2008) and also some in sub-Saharan Africa (Liddell, 2001; Ndaruhutse, 2008) but in Bangladesh except for the percentage of repetition in the total school age population, this issue has not been researched in-depth, looking at the causes and effects of the issue. This study provides an opportunity to look at the issue from two different times (2007 and 2009) on the same sample children and this yields detailed longitudinal data.

Progression was calculated on the basis of schooling information of the learners from the years 2007 and 2009. The child who was studying in Grade 1 in 2007 was expected to be in Grade 3 in 2009 if s/he did not repeat, and same was true for 2nd, 3rd, 4th and 5th graders. However, the study identified a substantial amount of children who were not progressing on time. To understand the issues in more detail, the study divided children into two groups, those who progressed properly and those who lagged behind their projected grades. Those who dropped out in the mean time were excluded from the analysis of age in grade progression but will be discussed in another publication (Sabates and Hossain, forthcoming).

#### 1.4 Data source

CREATE's partner in Bangladesh, the Institute of Educational Development-BRAC University (IED-BRACU) initiated the Community and School Studies (COMSS) in six locations, one in each of the administrative divisions of Bangladesh. The study covered 6,696 households with 9,045 children aged 4-15 years from 18 school catchment areas (12 government primary schools and 6 registered non-government primary schools). The survey was designed to understand the overall access to basic education situation in

Bangladesh by using CREATE's conceptual model of 'zones of exclusion'. As a part of this COMSS study, a baseline survey was conducted in 2007 and after two years, in 2009, a follow up survey was done on the same households. The present paper uses the data from both rounds to understand age in grade congruency and progression in primary and lower secondary education in Bangladesh.

#### 2. Research findings

#### 2.1 The magnitude of age in grade incongruence and low progression problems

#### 2.1.1 Dimensions of age in grade incongruence

Differences between gross and net enrolment rates suggested a large proportion of secondary age children's presence at primary level (Chowdhury et al, 2002). It was also assumed by CREATE studies that the range of ages of children within a grade are often higher in low enrolment countries (CREATE Policy Brief No. 2). The CREATE Country Analytic Report of Ghana (Akeampong et al., 2007) identified huge numbers of overage children's presence across primary as well as junior secondary schools. This study also shows a wide range of ages in different grades which suggest the prevalence of overage enrolment and repetition in the primary grades in Bangladesh (figure 1).

50 45 40 35 Grade1 % Enrolled 30 Grade3 25 Grade4 -Grade5 20 -Grade2 15 10 5 0 4 5 6 8 9 10 11 12 13 15 Age

Figure 1: Enrolment by age and grade

Source: Community and School Study (COMSS); Household Survey, 2007

Table 1 reveals the huge numbers of overage children in different grades with only 30.6 percent of children having the correct age in all grades. It is obvious from this information that overage entry of children at the initial grade is an acute problem and the comparatively high level of age in grade congruency in higher grades is an indication of many incongruent children dropping out of school at an early age. The lowest age in grade congruence is found in Grade 2. Further analysis shows that a significant number of children enrolled in Grade 1 in 2007 joined pre-primary schools and for the same reason the attrition rate of Grade 1 children was found to be higher in the COMSS second report than in the first round (see COMSS Bangladesh second report 2010). The most concerning finding is that more than one third of children are overage by more than two years. A pressing problem is to ensure that the needs of this wide range of age group children are being met in the classroom. The teaching learning process needs to be adjusted for this problem to ensure that teachers are not using mono-grade teaching strategies in a multi-grade setting.

Table 1: Percentages of over and under age children by grade 2007

Grade	Accurate age	Over age			Under age		
		1 year	2 year	> 2 year	1 year	2 year	> 2 year
Grade 1	17.5	31.8	23.3	27.4	1.0	-	-
Grade 2	15.7	30.6	20.3	29.4	4.0	-	-
Grade 3	23.8	26.9	19.8	26.9	2.2	.4	-
Grade 4	23.3	27.3	17.3	27.0	1.8	.3	-
Grade 5	27.0	27.5	22.4	21.1	1.3	.7	-
Grade 6	32.8	37.3	12.4	15.2	2.3	-	-
Grade 7	40.6	25.8	18.5	10.9	4.2	-	-
Grade 8	41.5	35.6	18.2	-	4.4	.3	-
Grade 9	42.7	39.1	11.7	-	6.2	.3	-
Grade 10	40.9	35.9	20.6	-	2.0	.6	-

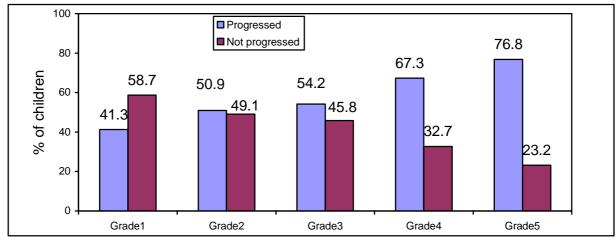
Source: Community and School Study (COMSS); Household Survey, 2007 Note: Overage estimates could be too low for later grades because the study only looked at 6-15 years old children.

#### 2.1.2 Dimensions of low progression

Progression is conceptualised and calculated based on children's position in school grade in 2007 and 2009. Here age is not a factor. If a child studied in Grade 1 in 2007 then progression expects him/her to be in Grade 3 in 2009 after two years. Academic attainment also is not a consideration. If a child goes up to the next class in time they are considered to be in the good progress group without reference to age. For progression issues, only primary school children are considered and followed.

Figure 2 shows that a little less than 50 percent of children in Grades 1, 2 and 3 have failed to progress to the next appropriate grades in 2009 and this failure rate goes down to 25 percent for Grade 4 and 5 children. The majority of the children enrolled in Grade 1 were unable to progress to the next expected grade. The COMSS second round report also identified a huge number of children dropping out at Grade 1 (Hossain, 2010). This large group of children who are not progressing in time are being retained, repeating or dropping out. This data indicates a serious problem or range of problems that is occurring in the first year of education.

Figure 2: Percentage of children by progression status and grade



Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

#### 2.2 The gender dimensions of age in grade congruence and progression

#### 2.2.1 Gender and age in grade congruence

No gender variations in age in grade congruence are found except for the trend of boys being more congruent in lower grades and girls in the upper grades (Figure 3). This probably happens due to the preference for encouraging boy's education which is a socially constructed patriarchal pattern of thinking. This means that more boys continue in education despite being over-age at secondary level compared to girls. This indicates the comparatively disadvantageous position of girls in continuing secondary education after a certain age due to marriage norms or for security reasons.

80 of age in grade congruent children Boys 70 ■ Girls 60 50 40 30 20 10 Grade1 Grade2 Grade3 Grade4 Grade5 Grade6 Grade7 Grade8 Grade9 Grade10

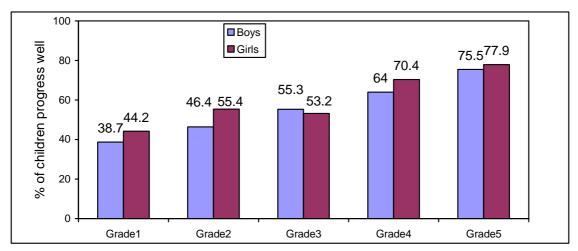
Figure 3: Percentage of age in grade congruent children by sex

Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

#### 2.2.2 Gender and progression

Boys are found to be substantially more vulnerable to low progression compared to girls (Figure 4). Boys are performing significantly lower than the girls at Grades 1, 2 and 4. This huge number of low-progress children is actually making the age in grade congruency situation graver and curriculum implementation tougher.

Figure 4: Percentage of primary school children who progressed well by sex



Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

Note: Gender differences at Grades 1, 2 and 4 are statistically significant

#### 3. Characteristics of age in grade congruence and progression

Decisions about children's schooling are emotional as well as a practical. Emotionally, parents want to send their children to school to get a good education (Peters et al, 2007). However, practical reasons, like availability, affordability, social reasons and practices and self motivation influence children's enrolment at the 'proper age'. Sending children to school at the 'proper age' is a complex issue and is influenced by several factors. As described above, some children may be sent to school late due to the expectation that older children do better at school. The socioeconomic structure of the family is also important and will be discussed below. In addition, children's personal abilities and characteristics also play important roles in this regard.

#### 3.1 Income and incongruence

The influence of families' economic conditions on children's education is almost universal, however, whether income influences the age of enrolment at entry level is a moot question. This study shows that even at the early grades (Grade 1 and 2), people who send their children to school over-age have lower incomes compared to people whose children are age in grade incongruent (here incongruence is equated with overage entry as most of the age in grade incongruent children are over-aged). However, at secondary level the difference has disappeared (Table 2). This is because at the primary level, children from all economic categories participate in the school irrespective of their age but most of the overage and poor children dropout.

Table 2: Average monthly household income of the age in grade congruent and incongruent children by grades

Grades	Average monthly family incom	Significance	
	Age-grade congruent children		
Grade 1	6,464	5,588	p<0.01
Grade 2	7,450	5,748	p<0.000
Grade 3	6,056	6,126	Ns
Grade 4	6,804	6,095	Ns
Grade 5	6,317	6,510	p<0.04
Grade 6	7,441	6,457	Ns
Grade 7	7,879	7,228	Ns
Grade 8	7,061	7,293	Ns
Grade 9	7,837	7,255	Ns
Grade 10	8,071	7,989	Ns

Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

Note: 1 USD=70 Taka

#### 3.2 Income and progression

Children who have failed to progress come from comparatively low income families and this inequity pattern is found across the primary grades (Table 3). Age in grade incongruence in the lower grades of primary schools is associated with being from low income families. Some children enrol overage and some children become overage for their class due to repetition or retention and in both ways poor children are over represented in the grades lower for their age.

Table 3: Average monthly income of the children's households by their progression and grades

Grades	Average monthly income of the HH in Taka					
	Children who progressed well	Children who did not progress well				
Grade 1	6,310	5,610				
Grade 2	6,543	5,819				
Grade 3	6,717	5,595				
Grade 4	6,978	6,044				
Grade 5	7,431	5,822				

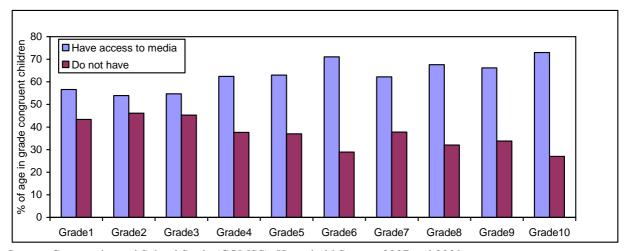
Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

Note: Level of significance is higher in the higher grades

#### 3.3 Access to ICT and age in grade congruence

Access to media or information and communication technology (ICT) indicates higher economic status or wellbeing status of the household as well as greater access to knowledge learning. To understand children's socioeconomic position within the community and the influence of the media on children's schooling, this study selected four key ICT assets which are usually used for information and communication purposes in both urban and rural areas in Bangladesh. These are radio, television, mobile phone and daily newspaper. The data show a significant amount of overage children, in the primary grades, come from the families which do not have any of those four ICT assets compared to families those who have the assets (at least one). However, in the higher grades the difference between congruent and incongruent children based on these assets was not significant due to small sample size for those grades (Figure 5).

Figure 5: Access to communication media (ICT) of the family and age in grade congruent children



Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

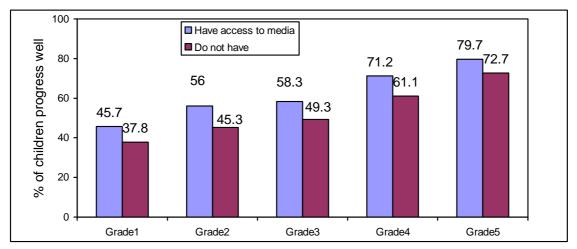
Note: Difference between children's congruency status on the basis of family asset holding is significant at the grades 1-6.

#### 3.4 Access to ICT and progression

A lower proportion of children from ICT asset poor families are progressing well compared to children of the families which have at least one of the four assets (Figure 6). A positive relationship between access to media (communication and information) and

educational achievement is established by several studies in Bangladesh (Education Watch, 2000). One study reveals that listening to the radio significantly increases the odds of achieving the pass mark in English examinations and reading novels or other storybooks has shown a clear correlation with attaining the pass mark in Bengali, English, and mathematics (Hossain, 2001).

Figure 6: Percentage of children who progressed well by access to communication media and grade.



Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

Note: All binary combinations are statistically significant at different levels

#### 3.5 First generation learners and age in grade congruence

The influence of parental education on children's schooling is well researched and documented (Blick and Sahn, 2000; Rose and Al-Samarrai, 2001; Cardoso and Verner, 2007; Ersado, 2005; Grant and Hallman, 2006; Pryor and Ampiah, 2003). Figure 7 shows that a significant proportion of age in grade congruent children come from families where at least one of the parents has some education compared to families where both parents are illiterate up to Grade 7. However from Grade 8, children from illiterate parents surpass the children from parents with some education in being age in grade congruent. This is also confirmed by the fact that 19.3 percent of children in Grade 1 are from illiterate parents (42 and 177) compared to 24 percent (35 and 106) in Grade 10.

■ Parents have some education % of age in grade congruent children ■ Both father and mother illiterate 80 60 40 20 O Grade3 Grade4 Grade5 Grade2 Grade6 Grade7 Grade8 Grade9 Grade10

Figure 7: Percentage of congruent children by parental education and grade

Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

Note: The difference between parent's educational status and its influence on children's congruency status is significant across the grades except for Grade 8 children.

#### 3.6 Health status and age in grade congruence and progression

Pridmore (2007) and Sood (2010) have shown that poor health and nutrition make a significant contribution to educational exclusion across the first three zones of CREATE's model of access. There is substantial evidence in Bangladesh that children's poor health status is negatively related to the educational access and achievement of children (Chowdhury et al, 2002; Ahmed, et al., 2005). Parent's perception of their children' health is categorised into two groups- 'good health' and 'not so good health'. 'Not so good' health children are those who remain always sick or occasionally sick in a year according to their parents. Figure 8 shows that age in grade congruency is influenced by the health condition of the children, at least at the lower grades. The 'not so good' health children are more likely to be age in grade incongruent compared to the children with 'good health'. This implies that bad health condition obliges some children to enter school late and others to repeat grades and become over-aged for their grades.

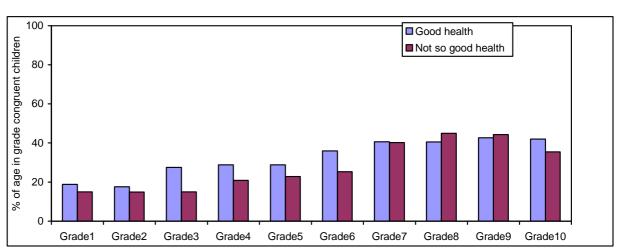


Figure 8: Percentage of age in grade congruent children by health status and grade

Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

#### 3.7 Health and progression

In the context of Bangladesh, health has always been an influential predictor of children's access however; there is no school health programme to protect children. Poor nutritional status has always been an influential factor on those who never enrol and/or drop out of school and it has a strong linkage with lower level learning achievement of the children. Sanchez (2009) shows that a one standard deviation increase in past nutrition is associated with an increase in school grade attainment that represents 14-20 percent of the school grade attainment standard deviation in Peru and India using longitudinal survey data. This study shows how children are becoming comparatively more vulnerable to low progression due to health problems. In the lower primary grades (Grades 1, 2 and 3) a lower proportion of children with poor health are progressing to the next grade compared to children with good health (Figure 9). Therefore, other than ensuring health facilities for the school children or somehow improving their health and nutrition, it will not be possible to ensure overall access to education for all in Bangladesh.

100 880 80 60 Grade1 Grade2 Grade3 Grade4 Grade5

Figure 9: Percentage of well-progressed children by their health status and grade

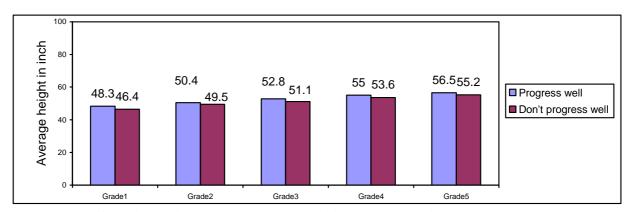
Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

#### 3.8 Height, weight and progression

At the primary level, both height and weight have significant influences on children's progression. Children with low height and weight progress to the next grade in significantly lower proportions compared with children who are taller and heavier (Figures 10 and 11). Height and weight is related to the nutritional status of the children. Usually poor children suffer from malnutrition and become stunted with low height and weight.

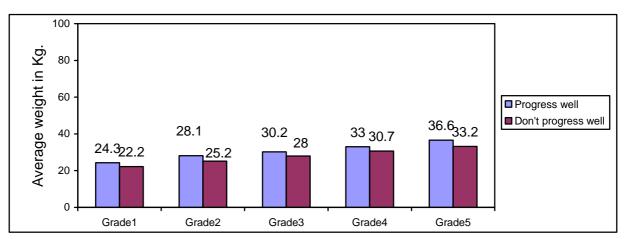
Controlling for the age of the children for a specific grade, the study also found that the proportion that are progressing is positively influenced by the weight and height of those particular age group children. This means that even in the same age group, the children who have lower weight and height are progressing less compared to those who are taller and heavier.

Figure 10: Average height of the children by progression status and grade



Source: Community and School Study (COMSS); Household Survey, 2007 and 2009 Note: All binary combinations between progressed and non-progressed children on the basis of their height are statistically significant at p<0.000.

Figure 11: Average Weight of the children by progression status and grade



Source: Community and School Study (COMSS); Household Survey, 2007 and 2009 Note: All binary combinations between progressed and non-progressed children on the basis of their weight are statistically significant at p<0.000.

#### 4. Correlates of progression

#### 4.1 School costs

Although primary education is free and compulsory in Bangladesh, this study shows that parents had to pay a significant amount of money for their children's education. This study collected information on the private costs of schooling on transportation, tiffin (light refreshment), tuition fees, examination fees, pen/paper, other materials, private tutoring, notebooks, session charge (yearly school fees), and school uniform.

The study reveals that families are spending Taka 2,418 per year per child at primary level and Taka 6,047 per child per year at secondary level. Yearly average school expenditure is strongly correlated to the children's progression status at school. Children who are not progressing well are spending comparatively less money on school expenditure compared to those who are progressing well (Table 4). This alludes to the causes of some children's low progression are lack of necessary learning materials. In the next section I will discuss this in more detail.

Table 4: Average yearly school expenditure of the children

Grades	Average yearly schooling expenditure (in Tk.)					
	Those who progressed on time	Those who did not progress well				
Grade 1	2,466	2,171				
Grade 2	2,741	2,492				
Grade 3	3,227	2,433				
Grade 4	5,522	2,753				
Grade 5	5,517	4,333				

Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

Note: All binary combinations between progress and non-progress children's schooling expenditure are significant except for Grade 2.

#### 4.2 Learning materials

The influence of the adequacy or inadequacy of learning materials on progression of children through education is explored in this study. Learners were asked whether they have all the required text books, writing materials and whether they have a school bag and geometry box as per their class requirements. The results show that a higher proportion of children who have all their books progress well compared to children who do not have all the required books, except in Grade 3. A substantial amount of children are not progressing well due to a lack of writing materials such as a pens and pencils. In the upper grades of primary and in the secondary level, a geometry box is an essential instrument and its cost puts pressure on some poor families. Children who have their older brother or sister studying in the upper class can share a geometry box. A significant proportion of children did not progress well who had no geometry box compared to children who had one (Table 5). It does not necessarily mean that those who have no geometry box are all failing; rather it seems that a significant amount of children who don't have the box tend to fail and are retained in the same grade.

Table 5: Percentage of children who progressed on time by their having learning materials and grade.

Grades	Books		Pen/pencil		School bag		Geometry box	
	Have	Don't have	Have	Don't have	Have	No	Have	Don't
	all	all books	adequate	adequate	school bag	school	geom. box	have
	books					bag		
Grade 1	41.8	21.7	42.0	37.0	47.4	38.1	91.4	83.8
Grade 2	51.6	13.3	52.4	38.3	57.1	46.9	78.8	56.2
Grade 3	54.3	42.9	55.5	44.3	57.4	52.5	71.7	51.1
Grade 4	66.2	85.0	69.0	55.1	71.1	64.5	80.7	53.5
Grade 5	77.4	69.8	78.5	62.7	76.9	76.7	83.1	65.7

Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

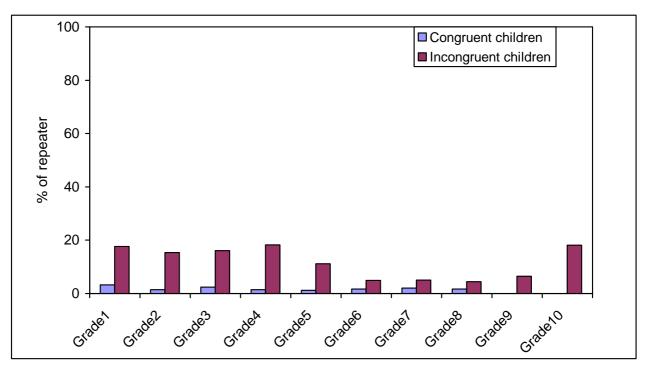
Note: All the binary combinations are significant at different level except for Grade 3 books, Grade 1 pen/pencil and Grade 5 school bag.

#### 5. Consequences of age in grade incongruence and low progression

#### 5.1 Age in grade incongruence and repetition

This study shows that around 10 percent of 6-15 years old children of primary and secondary schools repeated a grade during their student life. One of the most significant effects on age in grade incongruent children is their high rates of grade repetition across the grades (Figure 12). Although this study cannot confirm the rates of dropout of incongruent children who repeated once or twice; decreasing differences of repetition in the upper grades indicates a significant amount of age in grade incongruent children's dropout of the system at earlier grades compared to the congruent group. In the higher grades of secondary (Grades 9 and 10) no congruent children are found to have repeated.

Figure 12: Percentage of children (6-15 years) who repeat grades by congruence status and grade

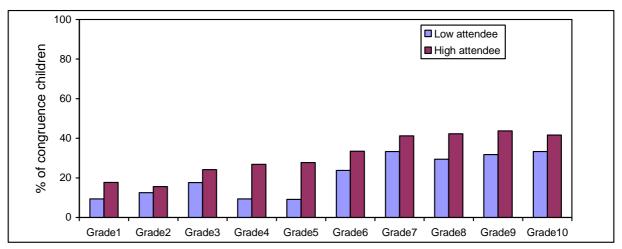


Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

#### 5.2 Age in grade congruence and attendance

The proportion of low attendees is found to be significantly higher among the age in grade incongruent children at the primary level. However at the secondary level, this difference gradually decreases (Figure 13). The attenuating difference at the secondary level may be due to the huge amount of attrition of the age in grade incongruent children at the primary level. Low attendance of the children usually reduces to the ability of children to grasp the curriculum, reduces their classroom participation, and decreases their achievement levels. All these lead them to repetition and eventually dropout.

Figure 13: Percentage of congruent children (6-15 years) by attendance status and grade

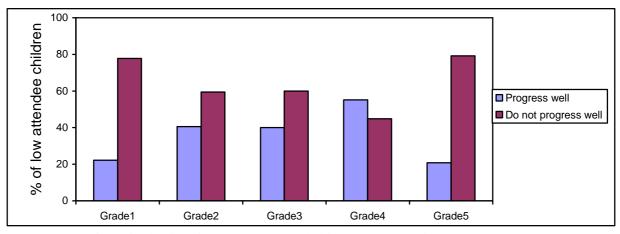


Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

#### **5.3 Progression and attendance**

Attendance rates are higher among the children who progress well compared to those who do not progress well (the difference is not statistically significant due to smaller sample, see Figure 14). Overall, attendance rate is not found to be a very good predictor in explaining children's performance as the data collection time was just before the second term school exam and most of the enrolled students were present at the school. On the other hand, the insignificance of attendance suggests that children's presence in the school is reasonable irrespective of their background. The problem is the difference in achievement levels. Many of the poor children are coming to school as regularly as other non-poor children, but are failing to achieve equally.

Figure 14: Percentage of low attendance children by their progression and grade



Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

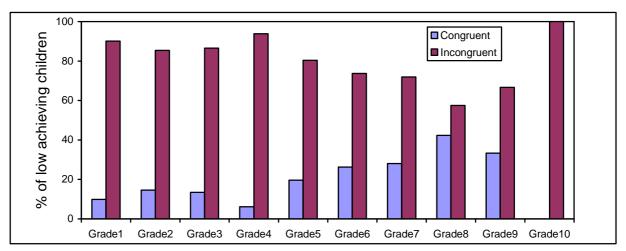
Note: Difference between progress and non-progress children in terms of their school attendance is statistically significant only at Grade 1 (p<0.004). This may be, due to the small number of low attendee children.

#### 5.4 Age in grade congruence and achievement

This study could not include achievement tests to measure children's attainment. A proxy variable for achievement was applied. Parents were asked to rank their children's position in the class compared to other children. The ranked positions were: 'top 25 percent', 'upper middle 25 percent', 'lower middle 25 percent' and 'bottom 25 percent'. This analysis identifies children as low achievers if their parents ranked the child as being in the 'bottom 25 percent' of the class.

It is clear from the data that most of the low achieving children are coming from the age in grade incongruent group (Figure 15). At the primary stage, the level of statistical significance was very high and at the secondary level it gradually reduced although the difference was still significant. It appears from the results that the children who came to school at the proper age and were promoted each year to the next class were considered to be good achievers by their parents.

Figure 15: Percentage of low achieving children (6-15 years) by their age and grade congruence status and grade



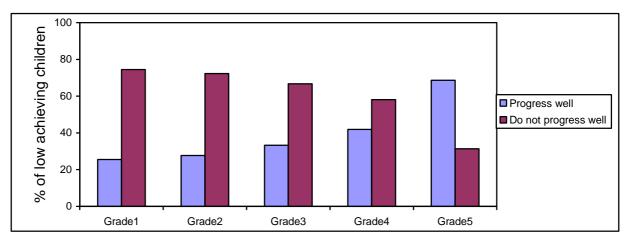
Source: Community and School Study (COMSS); Household Survey, 2007 and 2009

#### 5.5 Progression and achievement

When children are not progressing well it means that they are repeating grades. There are two major negative effects that have emerged from the study about the non-progression or retention problem.

It is evident from the study that a substantial proportion of the children who are not progressing well are being identified as being in the 'bottom 25 percent' of children by their parents in terms of school performance compared to those progressing well (Figure 16). This indicates that a large number of repeated or retained children are just going to the school, but getting little benefit from the system and are 'silently excluded' from education. Policy interventions do exist to help the poor attend school in the primary education stipend project however, as the next section and research in another paper (Hossan and Zeitlyn, forthcoming) demonstrate, the stipend is not very effectively targeted.

Figure 16: Percentage of low achieving children by their progression status and grade

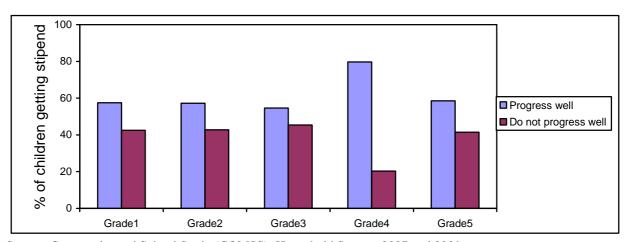


Source: Community and School Study (COMSS); Household Survey, 2007 and 2009 Note: Difference between progression and non-progressing children in terms of achievement is statistically significant at grades 1, 2, 3 and 4 (p<0.000).

#### 5.6 Progression and primary education stipend attainment

The rationale of the primary education stipend programme is that regular attendance will improve pupils' learning outcomes and contribute to good grades in examinations. The condition applied to the stipend of attaining 40 percent marks will motivate the children to study and the pupil's family to support his/her studies. Combined, these conditions are expected to lead to reduced repetition and drop-out and increased completion. However, a study shows that the stipend programme is unlikely to be successful in improving the quality of education because it places the entire burden of quality improvement on the child (maintaining high attendance and grade) and household (purchasing educational inputs to ensure good grades), rather than on the teacher or school (Tietjen, 2003). This study shows that a large proportion of children, who are repeating grades, are not getting the primary education stipend money compared to those who are progressing well. It indicates that the redistribution of resources to disadvantaged groups by improving their educational investment and attainments thereby is being inhibited (Figure 17).

Figure 17: Percentage of children getting the stipend by their progression status and grade



Source: Community and School Study (COMSS); Household Survey, 2007 and 2009 Note: Difference between the children who progress well and those who do not progress well in terms of getting stipend is statistically significant at grades 2, 3, 4, and 5.

#### 6. Discussion and conclusions

Age in grade and progression in education is an important and topical issue in the context of Bangladesh as it is traversing through the phase of access to quality education with equity instead of access only. It has been clearly exposed through different CREATE studies that access and quality in basic education are inextricably related to each other. Sending children to school alone will not solve the access problem if the schools are unable to make a difference in the lives of the children. It is clear from this research that the age in grade and progression issue is covertly undermining the potential of education to promote equity in society by depriving disadvantaged children of educational achievement. This research raises several serious issues for policy makers, education implementers and teachers.

#### **6.1** Overage enrolment

The study shows that over 80 percent of the children enrolled in Grade 1 in 2007 were overage and among them 23.3 percent were overage by more than two years. Although the study cannot confirm what proportion of these overage children were overage at enrolment and what proportion are repeating from the previous year, it is clear that a large proportion of them are enrolling in school late. The lack of a proper birth registration system, improper catchment area survey by the school, people's perception of children's schooling age, and stunted growth of the children for malnutrition are most probably the reasons for children's overage enrolment. Overage enrolment increases the risk of children leaving school early due to marriage norms for older girls and family needs for older children's assistance for economic activities. It also jeopardises classroom teaching learning process by putting diverse ability and maturity children in the same classroom. People always blame the school and especially the teachers for their low levels of performance in improving children's achievement level but it has never been explored what a difficult situation the school system is imposing upon them. In the same class children from 5 to 13 years old children are participating in the same lesson with different stages and paces of learning ability, maturity and needs. It is really a multi-grade situation but teachers are trying to deal with a mono-grade pedagogical approach.

#### **6.2 Repetition and retention**

The study shows that the repetition or retention in primary and secondary schools is astoundingly high in the study areas. In Bangladesh, children's progress is usually measured using yearly examination along with two other term tests. These are norm-referenced tests and the major reason for using it is to produce rank order of students, from high achiever to low achievers. The children who remain at the lower end of the scale are asked to repeat in the same grade for an additional year. They repeat the year with a different group of children with no special care and attention. This repetition doubles the household cost of schooling for the children and yields little benefit for them. Around half of the children who repeated in 2007 informed us that repetition did not help them in improving their learning attainments and ability. Repetition is not only a pedagogical issue but also a social issue inbuilt in people's perception of achieving a level of attainment at a certain age. In this way, with impunity, schools are shifting their own inefficiency onto the learners and their families. The consequences of retention should be researched well to inform the school and related stakeholders of the grave consequences of it.

#### 6.3 Causes of age in grade incongruence and low progression

The study indicates poor children's higher likelihood of entering primary school overage and slower progression compared to non-poor children that have been corroborated by family income, asset holding, and parental literacy status. In addition, low height and weight and overall poor health of many children is associated with being age in grade incongruent and repeaters. A lack of learning materials, textbooks, pens / pencils, writing materials, geometry box, influences children's progression negatively. Lower ability to spend on school costs is also found to be associated with children's slow progression in school.

#### 6.4 Consequences of age in grade incongruence and progression

At Grade 1 this study identified only 17.5 percent children's age in grade congruence status which indicates that the majority of incongruent children's overage enrolment in school. Most of these incongruent, overage children start repeating consecutively in later grades. At the primary level, attendance rates of these incongruent children are found significantly lower but at the secondary level the difference has attenuated. However, the significantly low achievement rate of the age in grade incongruent children is found across the grades.

It is interesting to see the attendance level of the slow progressing children is not significantly different from the well progressing children's group. That means that the age in grade incongruent group and slow progression group are not the same children, however, there is an overlap between these two groups.

The slow progressing children are attending school like other children but they are unable to progress well for the reasons discussed above. Therefore, a closer look into the classroom culture is needed to understand better the causes of silent exclusion for children who attend the school regularly but repeat years and have poor attainment.

#### 7. Policy Recommendations

The issue of 'silent' exclusion should be discussed among the relevant school authorities to let them understand magnitude of the problem by measuring it with a simple measurement tool. It is important to have a common understanding of the characteristics of silently excluded children in the school to know how and when this process starts in the classroom, what are the causes and how it can be handled.

Secondly, dealing with a wide range of age group children in the classroom is a pedagogical issue which should be given proper attention considering the multi-grade settings of the class. This issue should be incorporated in the teachers training module. Teachers should use and be trained to use appropriate teaching methods and techniques to address the needs of a mixed age group of children.

Thirdly, birth registration policy should be followed and implemented properly in the rural areas of the country.

Fourthly, the school should prepare and preserve a profile of students for all grades separately including basic socioeconomic background of the learners and age. On the basis of the profile respective schools and designated teachers, responsible for a grade, should prepare the cohort analysis reports and teachers should be given opportunity to be involved in the research process and to take necessary actions.

Fifthly, this study indicates that children who have not adequate reading and writing materials are not progressing well. It is also evident from the study that private costs of education are growing fast (in 2007 and 2008 see COMSS, 2010) and the primary education stipend money (1,200 Taka per year) is not commensurate with the yearly cost of education. Therefore, the government should provide basic reading and writing materials free of cost instead of giving cash.

Sixthly, the primary education stipend programme is not working properly. Due to conditions and distribution problems, around 50 percent of non-poor children is presently availing this equity resource (Hossain and Zeitlyn, forthcoming). To fulfil children's nutritional needs and thereby improve children's attendance and attainment, a school feeding programme should be introduced by the government.

Seventhly, health problems are found to be an important factor for age in grade incongruence and low progression of poor children. Therefore, to increase access, retention, and progression and cycle completion rate, the government of Bangladesh should introduce a 'school health programme' (discussed in Hossain and Zeitlyn, forthcoming).

Finally, for the intermediary or short term 'stop gap method', additional academic support for the silently excluded poor children should be provided by employing additional, local community teachers in low performing schools or by providing extra academic support to poor and silently excluded children by creating low cost out of school learning centres involving local NGOs, working in education.

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2010



#### **Report summary:**

In Bangladesh gross and net enrolment rates are used to measure the overage and underage enrolment in the education system. However, due to the limits of these methods in understanding the issue of age in grade, the present paper explores the issue using the CREATE Community and School Study (COMSS) data from Bangladesh. COMSS was a longitudinal survey on 6,696 households with 9,045 children of 4-15 years old in 2007 and 2009. The paper shows that 69.4 percent of 6-15 year old children, enrolled in primary and secondary schools in 2007 are age in grade incongruent and in early grades of primary this proportion is even higher. Age in grade incongruent children come from relatively low income families and with relatively poor health. Age in grade incongruent children attend school irregularly and perform worse than the congruent children of the same grade. Less than 50 percent of primary grade 1, 2 and 3 children progress to the next grade on time, making classrooms full of 'silently excluded' children. These low progressing children are also coming from relatively low income families. These slow progressing children are found to have relatively poor health and inadequate learning materials compared to regularly progressing children of their grade group. The slow progressing children attend school irregularly compared to the regularly progressing group and get less primary school stipend money. Both these age in grade incongruent and low progressing children are increasing the number of 'silently excluded' children in the classroom.

#### **Author notes:**

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