

Low Mean & High Variance: Quality of Primary Education in Rural West Bengal



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Director's Message



Since Independence, the focus of government interventions in primary education has been on increasing access to schools. Today net primary school enrollments in India are over ninety percent. Even in very remote areas of India, it is likely that there is a primary school. But whether these schools are functioning efficiently or whether children are learning in these schools is another matter. The Right to Education 2009 bill is also largely silent about the quality of education that is to be provided to children 6-14 years. Only indirect references are made regarding steps to improve the quality of primary education.

Scattered evidence on learning achievements of primary school students indicates very low knowledge levels. Time has come to move beyond strategies to increase enrollments and to focus attention on the quality of learning in schools.

This timely report provides rigorous evidence from rural West Bengal on the quality of learning in primary school and its correlates at different levels: students, households, schools, local communities, and school administration. The research shows that learning achievements in numeracy and language skills are very low among Class IV students (terminal year in primary school in West Bengal). Yet there is substantial heterogeneity across districts, administrative blocks and schools, and among people belonging to different socio-economic groups. While there is some anecdotal recognition of unevenness of schooling access and achievements across states and people, there is little rigorous analysis of the patterns in education disparities across households, schools, and regions. To an extent, this report tries to fill the gap by focusing on rural West Bengal.

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1 | Overview



Since independence, the Government of India, individual state governments, businesses and NGOs have implemented several primary school education initiatives throughout rural and urban India.¹ Today, net primary school enrollment rates are above ninety percent.

Yet, many would agree that the country is far from achieving universal primary education – a scenario where all children go to school regularly and learn sufficiently. The time has come to refocus our attention from primary

school access and enrollment rates to student learning achievements.²

This report stems from our research interest to examine learning outcomes among primary school children in government schools in rural India. In this report, we focus our attention on rural West Bengal, and conclude with a pilot study of rural Jharkhand. Our analysis aims to understand the inequalities in educational outcomes, and provides critical feedback on the functioning of schools and on the overall primary school system.

We develop achievement tests to assess minimum levels of learning in numeracy and language of Class IV students in primary schools in rural West Bengal (terminal year of primary

¹ These schemes include Non-formal Education program (1979-80), Operation Blackboard for small rural schools (1986), Total Literacy Campaigns (1988), District Institutes of Education and Training (1988), Minimum Levels of Learning (1989), DPEP (1998-2002), and more recently the SSA program (1998 onwards). Some of the state schemes include *Shiksha Karmi* and *Lok Jumbish* schemes in Rajasthan, Bihar Education Project, Education Guarantee Scheme in Madhya Pradesh, Uttar Pradesh Basic Education Project (UPBEP).

² Evidence from different parts of the country suggests that learning levels are indeed low (ASER (2005 onwards), NCERT (1994), Govinda and Verghese (1993) among others).

school) and in rural Jharkhand. Some questions included in the tests are taken from an international assessment study (Trends in International Math and Science Studies) for which performance data of students from over 40 countries are available. Test scores from our study can thus be ranked on an international scale using Item Response Theory Methods. This exercise has been left for the future.

We have taken great care in implementing the tests. Our visits to the schools were unannounced, and no school officials – head teacher, teachers or *para* teachers – were allowed in the classrooms while the students were taking the test. Invigilators were given strict instructions not to assist the children.

A genuine criticism of our tests is that subject based learning levels need not necessarily be the only indicators of quality of education. Parameters that measure other skills – e.g., attitudes and values that prepare young children for an engaging, constructive and meaningful adult life – are equally important. We recognize this, and have attempted to estimate the functional skills of the students through separate household and student questionnaires.³

We also look at student attendance rates, as estimated by the head count of the students who were present on the day that the achievement tests were administered. This gives a more accurate estimate of attendance rates than those recorded in school attendance registers (which have sometimes been found to be manipulated by school authorities). We also use secondary data to estimate dropout rates over the primary school cycle.

In West Bengal, our chosen schools are located

in the following six districts – Bankura, Birbhum, Coochbehar, Murshidabad, South 24 Parganas, and North 24 Parganas. The first five of these districts are all the Phase I District Primary Education Program (DPEP) districts in West Bengal. These districts, because of the DPEP and the subsequent *Sarva Shiksha Abhiyan* (SSA) programs, have received additional attention for more than a decade.

Using Census 2001 data, all blocks in a district were categorized into four wealth quartiles using a principal components weighted wealth index based on block amenities data. From each wealth quartile, one block was randomly chosen. While selecting blocks, urban areas were excluded.

From each of the sampled blocks, five *gram panchayats* were randomly chosen based on a population proportional scheme and from each *gram panchayat*, two schools were selected from a population list of all government schools.

We visited 240 sampled schools across the six districts of West Bengal, covering more than 4000 Class IV students during the period December 2008- April 2009.

We developed survey questionnaires to interview the following stakeholders of primary education: sub-inspector of the circle in which our sampled school belongs and any one resource teacher from that circle, Village Education Committee (VEC) president and any one member who is not the head teacher of the school, head teacher and another Class IV teacher of our sampled schools, and all Class IV students who had attended school on the day of the survey and their associated households.

Our aim has been to correlate the three indicators of quality of learning – test scores, attendance, and dropout rates – to a host of factors that include: household characteristics (social group, gender, wealth, education,

³ Functional skills have been assessed by asking students questions about water utilization, environmental interactions, and behavior towards elders, etc..

parental interest), students' age-appropriateness for the grade, school features (infrastructure, teacher-student ratio, pedagogy, teacher training), community engagement and parental awareness, school administration, and special interventions like midday meals and teacher training programs. The study explains the relationships between these factors and student learning outcomes through simple correlations.

We note that in the current report, some of the important multi-layered relationships between various stakeholders of primary education in explaining variation in learning outcomes remain unexplored. But we chose to keep the analysis simple in the report to appeal to a wider audience of readers. We hope to develop a more analytical framework using the data from our primary survey in the future. An outline of the different chapters of this report is given below.

In Chapter 2, we report the trends in student test scores, student attendance rates, and school dropout rates in the overall sample and in each of the six districts. The aim is to use the set of three outcome indicators to assess the quality of primary education in rural Bengal.

Next, we correlate student test scores with socio-economic and demographic characteristics of households, and private investments made by them in the education of their children in Chapter 3. Does religion or the social group of the households have any association with student test scores? Are investments like hiring a private tutor, or visiting the child's school or interacting with community institutions like the VEC and the Mother Teacher Association (MTA) helpful in improving test scores? We also examine patterns between student characteristics and test outcomes. Can children perform simple functional activities like reading the headlines of the newspaper, reading

panchayat notices, and reading and writing letters for household members? How do these kinds of knowledge correlate with the educational outcomes like student test scores in mathematics and in numeracy?

Provision of good quality of education would necessarily depend on the school environment. Factors like infrastructure available in schools, characteristics of teaching staff, their motivation and teaching pedagogy could play an important role in persuading children to come to school regularly and also in improving their learning levels. In Chapter 4, we examine the role of school specific characteristics in the provision of good quality primary education to children. School level analysis presented in this chapter is an important contribution of this study. In this chapter we also explore some school issues that are important but rarely included in existing studies on primary education. In particular, we examine the role of teachers in handling of certain disruptive situations and/or student underperformance in classrooms and their associations with learning outcomes.

In Chapter 5, we analyze the roles that informal community arrangements and formal community organizations like the VECs and the MTAs play in the delivery of primary school education in rural areas. Using information gathered from the surveys administered to the households, school teachers, VEC presidents, members and officials in the school circle, we discern patterns between student outcomes and effectiveness of community organizations.

In 2006-07, there were over fifty thousand primary schools in West Bengal that hired over one and a half lakh teachers and imparted education to over seventy lakh students. These numbers indicate the enormity of the primary school education system in the state. It also indicates the need for a strong school administration system to monitor and govern

the existing schools. We analyze the role of the administration at the school circle level in the delivery of primary education in rural areas in Chapter 6. We also provide anecdotes from our interviews with the DPSC chairmen in this chapter.

In Chapter 7, we examine two government interventions: one that directly affects the students - the mid-day meal program, and another that seeks to improve pedagogy - the teacher training program. We analyze the prevalence of these programs and their impacts on student outcomes used in this report.

In Chapter 8, we present a pilot study on Dumka district in Jharkhand. Achievement tests and survey instruments that are similar to those developed for West Bengal were administered in this district. Comparability of results with the West Bengal study may be limited because of the higher proportion of scheduled tribes population and a higher incidence of poverty in Dumka. However, the survey allows for some basic comparisons to be made and provides for possible further research on similar lines in Jharkhand in the future. The chapter also provides important information on formal schools and upgraded (EGS) schools that could possibly have some policy implications for other states with a similar primary education structure.

The final chapter of the report, Chapter 9, summarizes the conclusions from the different chapters. It makes some policy prescriptions based on the analysis presented in the different chapters.

An Appendix to the report provides details on the sample design of our primary survey. A set of statistical tables based on the primary survey data are also presented at the end of the report.

Throughout the report, we also report stories from the field. Names of places and people

mentioned in incidents from the field have been changed for reasons of anonymity but the stories are true incidents as observed by us or related to us by the different stakeholders of primary school education.

Our study differs from the Annual Status of Education Report (ASER) published by *Pratham* in the following important ways. The ASER conducts a learning achievement test for primary school students in five hundred and ninety odd districts in India (as opposed to the sum total of seven districts in our study). However, the tests are administered at the students' homes. As a result, test scores of different children cannot be correlated with the characteristics of schools (and administrative structure "supporting" the schools) that the children attend. This is in sharp contrast to our survey strategy of sampling schools, and administering the achievement test to all students that attended a sampled school on a particular day. This allows us not only to estimate the children's quality of learning, *but also* to explain variations in the quality of learning across different schools, administrative blocks, and districts.

Further, our constructed achievement tests are "richer", and our survey questionnaires addressed to primary education stakeholders at different levels allow us to gather detailed information on the primary education process. This, in turn, has enabled us to reach more substantive policy conclusions as compared to the ASER surveys.

2 | Mapping Outcomes: Learning, Attendance, and Dropouts

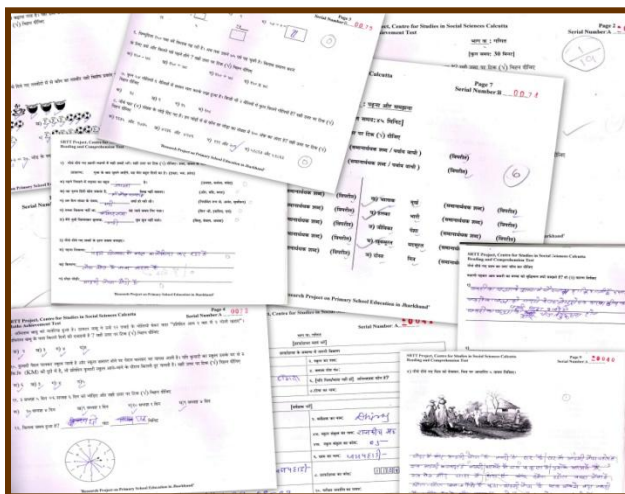


In this chapter, we report the trends in student test scores, student attendance rates, and school dropout rates. The scores are based on achievement tests in Mathematics and Bengali that have been implemented as part of the primary survey of the two hundred and forty schools sampled across six districts in rural Bengal. Achievement tests designed by us evaluate pupils' cognitive understanding and creativity, and not just their bookish knowledge.

Student attendance and school dropout rates have been estimated using information collected from the primary survey and data from secondary sources.

The objective of this chapter is to use the above three outcomes to assess the quality of primary education in rural Bengal.

2.1 Introduction



Since independence, the focus of government interventions in primary school education has been to *get children to go to school*¹. To the credit of these programs, primary school enrollment rates in India have increased significantly – from an abysmal 20- 30 percent at the time of independence to more than 95 percent in 2006 – a number that is comparable to those observed in industrialized countries. Such increases in gross enrollment rates are observed across gender, social, and minority categories (though the rates of increase differ).

But do raising enrollment rates alone constitute an effective means of improving primary school education in India? Several anecdotes suggest that a child who has completed primary school education cannot write his own name and/or recognize the letters of the alphabet, or single-digit numbers. Many studies that assess the learning levels of students claim that even though competency levels in mathematics and language (vernacular) are relatively high among children in Class I, learning gaps increase rapidly as children progress to higher

classes.² Further, despite government sponsored programs like cooked mid-day meals, attendance rates in schools continue to be low. Finally, dropout rates continue to be high in post primary age group.

In countries like the US, there was a shift in focus several decades ago from school enrollment rates to the quality of learning in schools (Heyneman & Loxley, 1983; Hanushek 2002). But in India, it is only in recent times that concerns have been raised about what a child actually learns in school. In a large national study by the National Council for Educational Research and Training (NCERT) in 1994, children secured an average score of 47 percent in the vernacular language, and 41 percent in mathematics (Shukla et. al., 1994). More recently, Pratham's estimates of children's learning levels (2005 onwards) have demonstrated low levels of learning with substantial variation across states: 52 percent of children between the ages of 7 and 10 could read a small paragraph with short sentences at Class I difficulty levels, 32 percent could read a story text, and only 46 percent were able to divide or subtract.³ Similar evidence is found in other developing countries. For example, a World Bank study conducted in Bangladesh finds that four out of five children who had completed five years of primary school education failed to attain the basic minimum levels of academic achievement.

Another measure of quality of education is students' school attendance rates. A poor quality of education discourages children from attending schools. There is some evidence that children themselves may prefer to work as child laborers if they find school studies uninspiring. Investments

¹ Intervention schemes include Non-formal Education Program (1979-80), Operation Blackboard for small rural schools (1986), Total Literacy Campaigns (1988), District Institutes of Education and Training (1988), Minimum Levels of Learning (1989), District Primary Education Program (1994), and Sarva Shiksha Abhiyan (2002).

² Hasan (1995), Aggarwal (2000), Jayalakshmi (2001), and Aggarwal and Chugh (2003) present some evidence on this aspect of primary school education.

³ Other similar studies include those conducted by Bashir (1994), Hasan (1995), Govinda and Varghese (1993), Aggarwal (2000), Vasavi (2009), Das et al. (2010).

in primary school education will yield higher returns if class repetitions and dropouts (indicators of inefficiency and poor quality) can be reduced.

In this study, indicators that are used to assess the quality of primary school learning are test scores in numeracy and language received by Class IV students (Sections 2.2, 2.3 and 2.4). At the school level, we also use attendance and dropout rates, and to a lesser extent repeater rates, as additional indicators of quality of learning (Section 2.5).

2.2 Our Achievement Tests

Sabita studies in a government school in the Bhangore block of South 24 Parganas. She is delighted to see us at her school and has many questions for us: 'Where have you come from? Are you going to give us an exam?...?' Sabita, along with her classmates Shyamsul, Bijoy, and others, help us re-arrange the classroom to conduct the achievement test. Sabita's parents are happy that we are testing the learning levels of the children; they encourage us to revisit the school in the future and redo the exercise. On the morning of the day after the achievement test, several mothers plead with us to conduct the test one more time because their children did not attend school the previous day and therefore could not take the test.

We have developed a test to evaluate the numeracy (Mathematics) skills of Class IV students. An achievement test with 15 test items was administered to all Class IV students present on the day of our school visit. Examinees were given 45 minutes to complete the test. This test has been designed to assess minimum level of mathematical skills at the Class IV level in developing countries. Our test is a “graded” test in that it contains

questions of different levels of difficulty – on materials that a student is expected to master by the end of Classes I, II, III and IV (first half) respectively.

Our questions test *conceptual understanding* (ability to recognize, label, and write numbers, and to compare the values of two or more numbers), *procedural knowledge* (ability to add, subtract, multiply, and divide), and *problem solving skills* (ability to solve simple problems of daily life relating to units of money, length, weight, capacity, area and time). Some of the questions included in the test are taken from an international assessment study (Trends in International Math and Science Studies - TIMSS) for which performance data of students from over 40 countries is available.⁴ Test scores from our sampled schools can be ranked on an international scale using Item Response Theory Methods. But this exercise has been left for the future.

We have also developed a language (Bengali) skills test. This test consists of six major items: identifying opposite words, filling in the blanks to complete a sentence from multiple word choices, making a minimum of three word sentences with commonly used words, writing five sentences pertaining to a given picture, and reading a story and answering questions based on it. Examinees were given forty-five minutes to complete the language skills test.

Both tests were developed prior to our final survey. Extensive field testing of the tests have been done in schools that are not included in our sample.⁵ The tests were implemented during the period December 2008 – March 2009 across six districts in West Bengal. During each test, there were a minimum of two invigilators for every twenty students. No school officials – head teacher,

⁴ We thank Jishnu Das for sharing his achievement tests for Pakistan with us.

⁵ The tests were piloted in the blocks of Sitai (Coochbehar), Bhagwangola (Murshidabad) and Sonarpur (South 24 Parganas).

teachers or *para* teachers – were allowed in the classroom while the students were taking the test. Invigilators were given strict instructions not to assist the children. They could, however, help the child write his/her father’s name if he/she was unable to do so.

In our pilot studies, we observed that children copied answers from each other. In some cases, students copied even the names of their guardians from each other. In our final survey, we set three versions of the test so that no adjacent pair of students answered the same set of questions. The ordering of the multiple choice questions and the numerical values of questions were different in the three versions. In all other respects, the three versions were identical.

We visited 240 schools across 24 blocks in six districts of West Bengal.⁶ We arrived at a school unannounced, and requested the head teacher/teacher present in the school to permit us to implement the achievement tests.⁷ We did not face any refusal on part of the school authorities to implement the tests. About 4200 students took our achievement tests. No student displayed any fear or anxiety in taking the test.

Somnath lives in a ‘semi-pucca’ dwelling in Murari II block of Birbhum. Susmita Sardar lives in a ‘katcha’ house in Baruipur block of South 24 Parganas. These two students are the only ones in our sample of over 4,000 students who received full marks in our numeracy test.

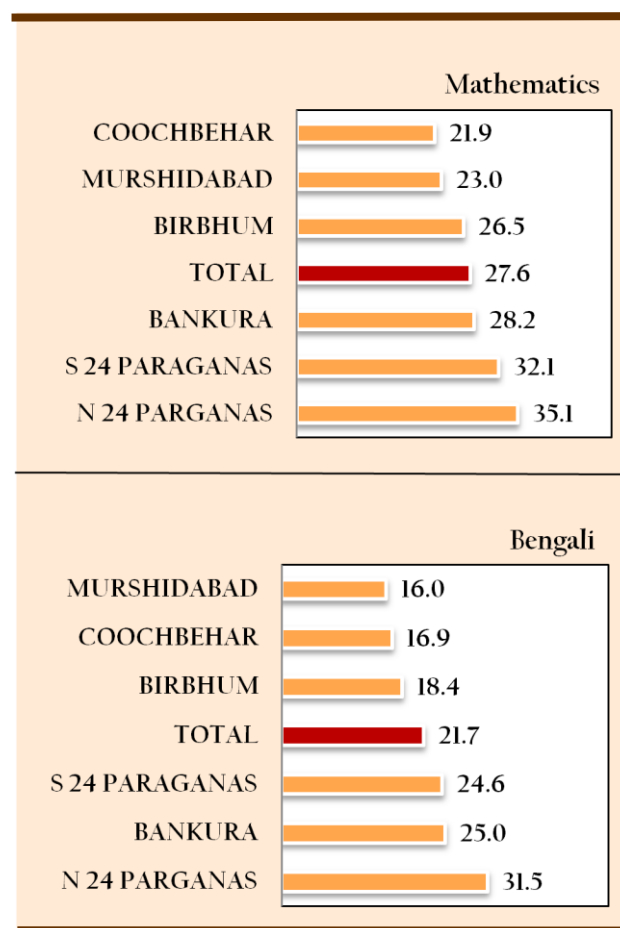
⁶ Details about our sampling method are given in the Appendix.

⁷ We had all the necessary permissions from the requisite authorities to implement the test. While authorities did not know when we would be visiting a school, they knew that their school was a sampled school as we had collected Class IV enrollment lists from them prior to our survey.

2.3 Are Students Learning?

The average score in mathematics across the six districts is 27.6 percent, and the average score in Bengali is 21.7 [Figure 2.1]. Both scores are below the state-mandated passing grade of 34 percent. Barring North 24 Parganas, in no district is the average mathematics score above the passing grade. In no district is the average Bengali score above the state-mandated pass grade of 34 percent.

FIGURE 2.1: Test Scores across Districts (Percent)



We recognize that our tests are different from the external evaluation test that is administered to Class IV students by the West Bengal Board of Primary School Education (WBBPE). However, our tests are easier than those administered by the state government because they contain some questions that can be answered by students after they have

completed Classes I, II, and III respectively. On the other hand, the primary board's examination is based only on the Class IV syllabus. This also means that in all likelihood, we are under-estimating the "true" scenario of the quality of primary education in rural Bengal.

North 24 Parganas is by far the best performing district, while Coochbehar and Murshidabad are the worst performers with very low average scores in both subjects.⁸ Average correlation between the language and the numeracy scores is above 80 percent, and in Murshidabad it is as high as 90 percent.

The West Bengal Board of Primary Education follows a five point scale as follows: 80-100 marks (Very Good), 65-79 marks (Good), 50-64 marks (Satisfactory), 35-49 (Average) and less than 35 marks (Unsatisfactory). We use this five-point scale to categorize students into different grades.

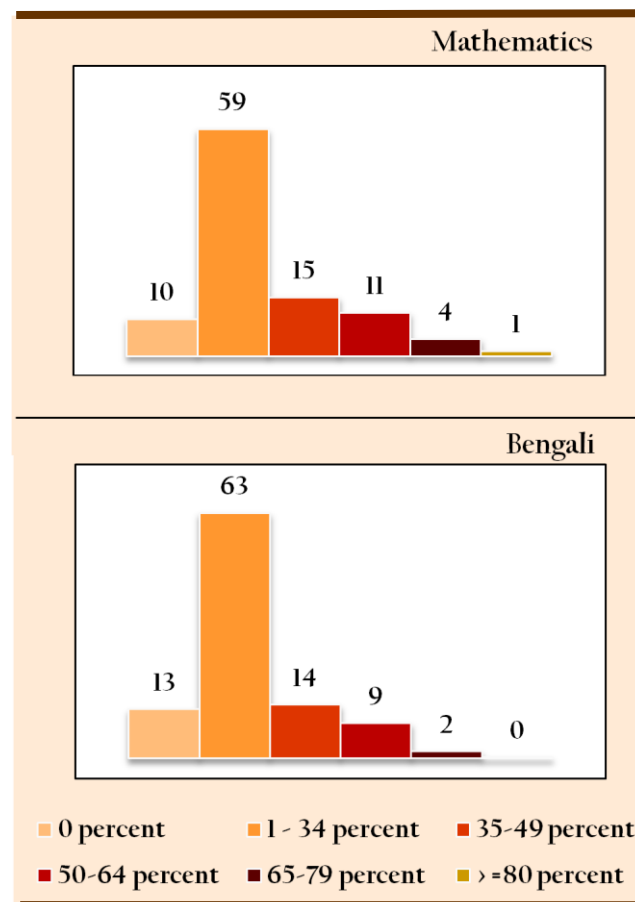
Only 30 percent of the students made the pass grade in Mathematics and 25 percent made the pass grade in Bengali.⁹ Nearly 10 percent of the students taking our tests were unable to score any points in either of the tests. Among those students who made the pass grade in our tests, less than 6 percent can be classified as good to excellent [Figure 2.2]. These outcomes are comparable to those observed by Roy, Mitra and Ray (1995).

There are differences in grade distribution across districts too. Coochbehar has the highest proportion of students not making the passing grade in Mathematics and Bengali. On the other hand, North 24 Parganas has the lowest proportion

⁸ We interviewed the District Primary School (DPSC) Chairman in each of our sampled districts. We showed the achievement tests designed by us and majority agreed that the tests were fair.

⁹ We recognize that mapping the primary education board's grade categories may not necessarily be correct because our examination patterns are different. This exercise should therefore be treated as an example.

FIGURE 2.2: Overall Grade Distribution



**In the above figures, we plot the percentage of students categorized in each grade bracket based on their scores in the achievement tests.*

of students not making the passing grade in Mathematics and in Bengali. However, even across districts, the variation is largely in the three low score categories: [0 percent], [1-34 percent] and [35-49 percent].

There is substantial variation in test scores, within districts, across different blocks and schools. By and large, the achievement test scores show a systematic improvement as one moves from a block belonging to the lowest wealth quartile to one belonging to the highest wealth quartile.¹⁰

¹⁰ This is consistent with the findings of Govinda and Varghese (1993). In their study on five districts of MP, they found that mean achievement test scores were better in the less remote areas of rural MP.

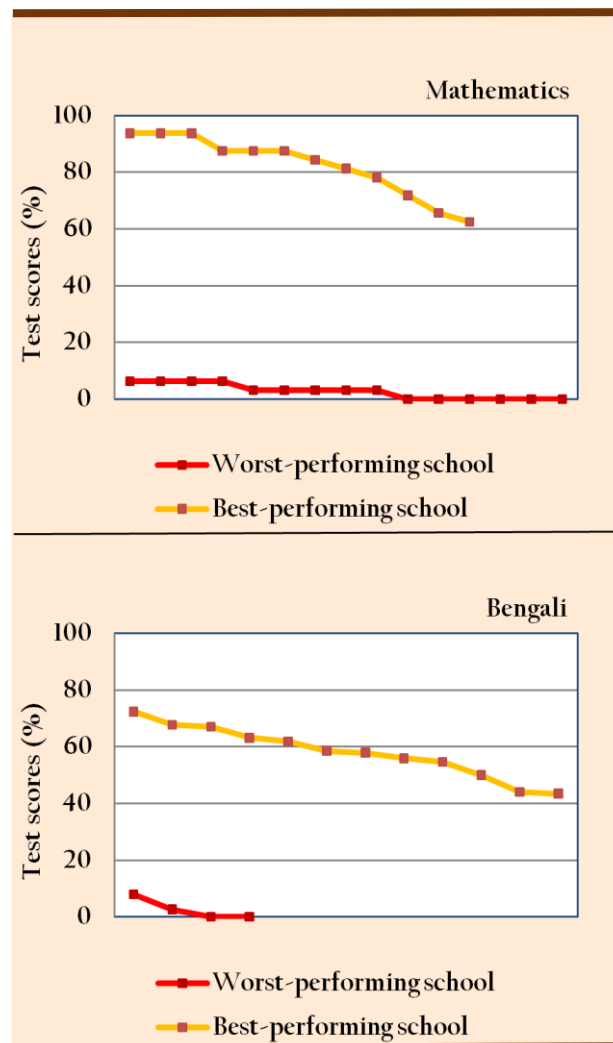
There are, however, some district-specific anomalies. In South 24 Parganas, average Mathematics scores for the poorest two blocks – Kultali and Mandirabazar – are above the state mandated 34 percent mark, and the Bengali scores are also above the district’s average. In Birbhum, the wealthiest block in terms of assets is the worst performer in Mathematics and in Bengali. Similarly in Murshidabad, Jalangi, the best performer, in terms of the test scores, does not belong to the richest wealth quartile.

Within a district block, there are significant differences in scores across schools. For example, while North 24 Parganas has the “best” district average score in mathematics, there are four schools in the “best” block of Barrackpur-I whose average achievement test score in mathematics is below the mandated state level passing grade.

We have also analyzed the variances in test scores within schools, controlling for “school size”. We have categorized all 240 schools in West Bengal into small and large schools; a school is declared a small school if it has less than the median number of students that sat for the achievement test administered by us. Within each category, we have chosen a school with the lowest (highest) positive score (after excluding all schools where all students had gotten a zero) in Mathematics and Bengali. We ranked all student scores within that school from highest to lowest scores and then plotted them in Figures 2.3 and 2.4.

We find little variance in Mathematics and Bengali scores among students in the worst performing smaller school. There is some variance in the test scores of the best performing larger school. For example, the inter-quartile range, a measure of statistical dispersion, for the best performing small school in Bengali is 8 while that of the best performing large school is nearly three times more.

FIGURE 2.3: Small schools



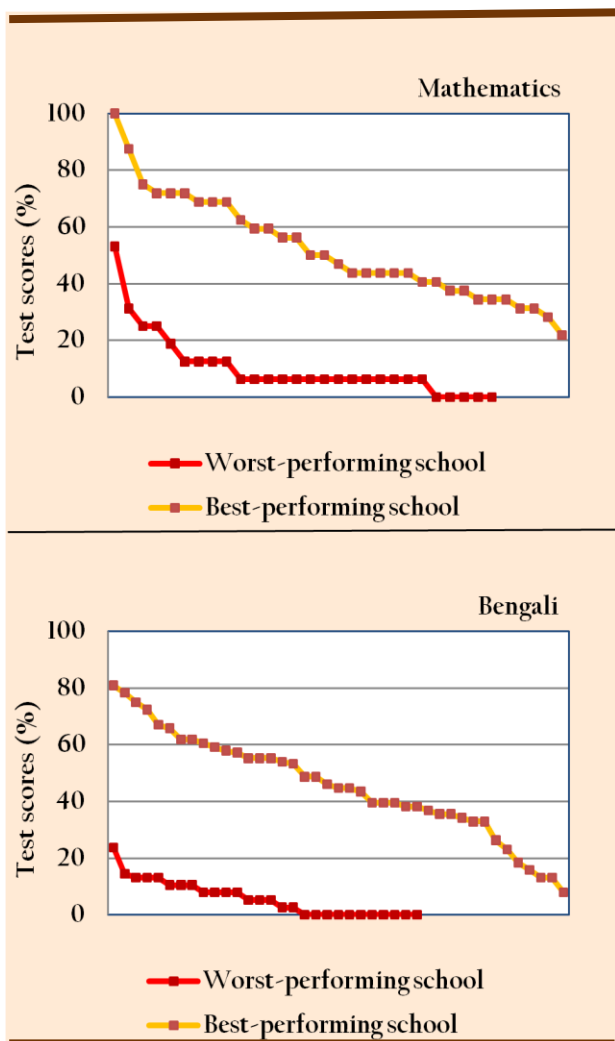
**Each point in the above figure represents a student test score arranged in descending order of their values.*

2.4 How much have our children learnt in primary school?

The pattern of our achievement test is such that the questions can be grouped into four components: questions that an average student can answer after completing Classes I, II, III, and IV. Categorization of the questions is given in Box 2.1.

Figure 2.5 shows the class-wise average competency levels in mathematics across districts.

FIGURE 2.4: Large schools

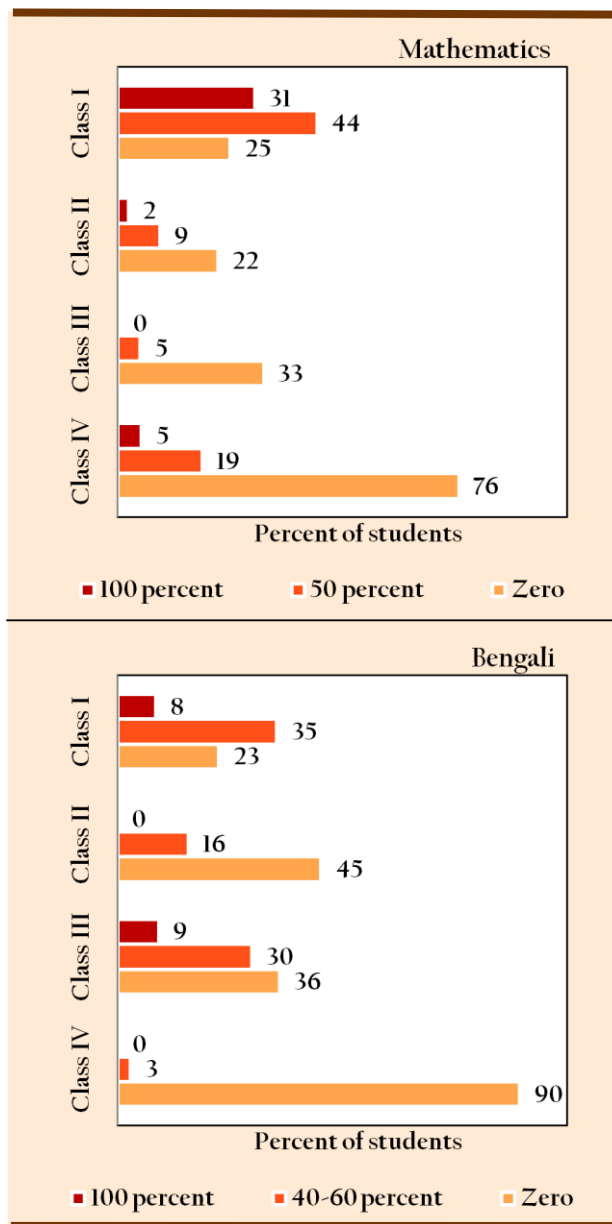


**Each point in the above figure represents a student test score arranged in descending order of their values.*

Of approximately 4,200 Class IV students that took the achievement tests, a little more than 50 percent of them have demonstrated Class I competency in Mathematics. The average Class I competency levels are the highest for North 24 Parganas (63 percent). In districts like Murshidabad and Coochbehar, less than 50 percent of Class IV students answer correctly the Class I questions. There is some evidence of similar patterns from other parts of the county.

For example, in a study of students from a privileged urban zone of Madhya Pradesh, 70

FIGURE 2.5: Learning Levels



percent of Class IV students had not mastered competencies in Mathematics and Hindi that would be expected for Class II students (Govinda and Varghese, 1993).

There is clear evidence to suggest that achievement levels tend to decline as the children move along the educational hierarchy. This is true of both the Mathematics and Bengali tests in the overall sample and in the individual districts.

BOX 2.1: Designing Language and Numeracy Achievement Tests

While designing the achievement tests in language and numeracy, several experts—those who had previously designed such tests, psychometricians, NGOs working in primary school education, primary school teachers in government and private schools—were consulted. Sample questions provided by TIMSS and PIRLS were reviewed. Our pilot tests revealed that students were not familiar with decimals in the mathematics test. In Bengali, two one page-long passages were given based on which questions were asked. Students were unable to read the passages and answer the questions. For the final survey, both these issues were addressed.

All questions in the test paper were categorized into questions that a student should be able to answer at the completion of Class I, II, III and IV respectively based on the existing textbooks and syllabus of government primary schools.

MATHEMATICS		
<i>Class Category</i>	<i>Item Number (Total Points in parentheses)</i>	<i>Description</i>
I	1(1), 3(1)	Counting, Recognizing chronological order of numbers
II	4(1), 5(2), 10(1), 15(1)	Translate numbers in words and vice-versa, simple one-digit addition, subtraction, multiplication and division, telling the time, simple word problems like distance travelled to school
III	2(1), 6(1), 7(1), 8(1), 9(1), 11(1), 14(1)	Closest number (in decimals), comparisons of six-digit numbers, word problems, adding days of the week, expressing multiplication in powers
IV	12(1), 13(1)	Pattern recognition, completing a sequence of patterns
BENGALI		
I	2(2.5)	Fill blanks from multiple choices to complete sentences
II	3(6), 4(5)	Write sentences for given words, write five connected sentences based on a given picture
III	1(2.5)	Match words with antonyms
IV	5(3)	Read a one-page story and answer questions based on the story

Grading the mathematics achievement test was uncomplicated; however, grading the language section required setting of some rules. A committee of three persons (a Bengali teacher of a private primary school, a Bengali teacher of a higher-secondary school and a senior editor of *Anand Bazar Patrika*, a Bengali daily paper) together with Jharna Panda and Jyotsna Jalan decided on the basics of the grading. A person holding a masters degree in Bengali evaluated all the achievement tests in Bengali which was then re-checked by Panda. Some examples of the guidelines used were: local dialect was allowed only in cases of nouns; half point was deducted for each spelling mistake in a sentence; each sentence had to have a minimum of three words; incorrect or omitted punctuation marks were ignored; if a letter was either added or omitted from a word to make the sentence comprehensible, a maximum of one point was given; if a word was omitted from the sentence to make it comprehensible, a maximum of one point was given.

Finally, even though we implemented the survey during the second half of the Class IV school year (two of the three annual examinations had already been completed), Class IV competency levels in both language and numeracy were very low.

2.5 Attendance and Dropout Rates

Pankaj Sarkar dropped out of school after Class II. After a year, Pankaj was re-enrolled in primary school under the SSA Enrollment program. However Pankaj was admitted to Class IV instead of Class III. Prior to his rejoining school, Pankaj was given no remedial classes to make up the studies that he missed when he was out of school. Pankaj is 12 years today and continues to be enrolled in the primary school. He attends school infrequently because he cannot understand what the teacher says and has already repeated Class IV twice.

School Attendance Rates

A basic necessity in a child's education is regular school attendance. Children go to school to learn from their teachers and from their peers, through formal lessons and through non-formal interactions. It is therefore important to ensure regular attendance (rather than to simply raise enrollments). Furthermore, to the extent that a high quality of education entices children to attend schools, a high attendance rate is also an indicator of a well-functioning school.

A direct way to estimate attendance rates would be to check the school attendance registers. But as is commonly known, school registers often do not exist. Even when registers exist, attendance numbers are manipulated for various reasons (e.g., to get higher mid-day-meal rations, to ensure that schools with low enrollments are not merged with other schools etc.), and are often updated after long

delays (PROBE, 1999). To overcome these deficiencies, we used an alternate method. We collected the list of students enrolled in Class IV prior to our field survey.¹¹ During the survey, our visits to the schools were unannounced to the school authorities and to the administration at the school circle level, average school attendance rate was calculated as the ratio of the number of Class IV students present on the day that our achievement test was administered (this was the first task that was undertaken during our school visit) to the number of enrolled Class IV students.

Average attendance rate in our sample is very low, about 54 percent. Only for 10 percent of the schools in our survey do we find an average attendance rate of 80 percent or more. In another 10 percent of the schools, attendance rate is less than 25 percent.

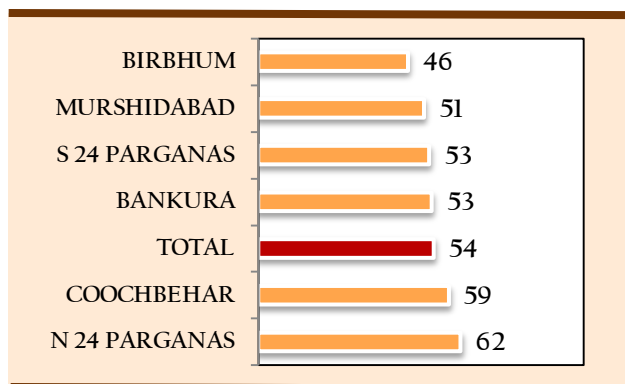
Across districts, the lowest attendance rate is observed in Birbhum (46 percent) and the highest attendance rate is observed in North 24 Parganas (62 percent). In the remaining districts, average attendance rates are 51 percent in Murshidabad, 53 percent in Bankura and South 24 Parganas, and 59 percent in Coochbehar [Figure 2.6].¹²

In 2004-05, the average school attendance rate in India was around 70 percent (MHRD (2007)). In States like UP and Bihar, the average attendance was 57 percent and 42 percent respectively. These numbers are comparable to the attendance rates found in our sample.

¹¹ These were also cross-checked with the DISE data for 2008-09. The numbers were consistent with each other.

¹² In our head teacher questionnaire, we collected information on his opinion about the attendance rates of the students in his/her school. On average, the estimates from the different sources are similar. On average, similar to our estimate, 52 percent of the head teachers are of the opinion that students in their school are regular in their attendance. Head teachers of North 24 Parganas report the highest attendance rate and that of Birbhum report the lowest.

FIGURE 2.6: Attendance Rates (Percent)



The attendance rates found in our study may still be fraught with discrepancies because we use the total enrollment data provided by the school in the ratio calculation. But compared to existing estimates of attendance rates, where administrative data on daily attendance is used along with the total enrollment numbers, our estimate is an improvement and is closer to the true picture. Even attendance rates based on household surveys like the National Family Health Survey (NFHS) data tend to be over estimated. For example, attendance rates reported for West Bengal in the NFHS I and NFHS II reports show attendance rates among 6-10 year olds to be over 60 percent in 1993 and over 80 percent in 1999. Compared to our estimates, these numbers are gross over-estimates.

Attendance rates across the different blocks within the six sampled districts show some variance. Nabagram in Murshidabad district reports the highest attendance rate of 71 percent in the sample. But in Murshidabad, there is also a block like Samsanganj where less than a third of the enrolled students are present in school on any given day. In North 24 Parganas and Coochbehar, average block attendance rate is higher than the attendance rate of the sample and this rate is more or less uniform across the different blocks. In Birbhum, with the exception of Nanoor, the attendance rates in all blocks are very low. In Mohammad Bazar block of Birbhum, on average, less than one fourth of the total enrolled students came to school on any one

particular day. Of the ten sampled schools from this block, seven had an attendance rate that was less than 25 percent and only two schools had an attendance rate between 35 and 38 percent.

Only one school, in the sample of 240 schools, situated in the Sitalkuchi block of Coochbehar had a cent per cent attendance rate. This is also a school where a majority of the students belong to the Muslim community. On the other hand, a school in the Baruipur block of South 24 Parganas had an attendance rate of less than 10 percent. This is also a school where a majority of the students belong to scheduled castes.

School dropout rates

Once a child enrolls in a primary school, it is expected that he or she will continue to attend the school till he/she completes primary school education in order to realize the full returns of the education. However, high dropout rates seem to be a generic problem all over the world. In Latin American countries, even though enrollment rates are high, dropout and repetition rates are also large leading to poor primary school completion rates. Similarly in African countries, only 51 percent of children enrolled complete their primary school education. In India too, there is a concern regarding high dropout rates (Mehta, 2007, Ramachandran et al. 2004).

In the literature, dropout rates are calculated as the difference between enrollment rates in Class I in year t and enrollment rates in Class IV less the number of repeaters in Class IV in year $t+4$ expressed as a proportion of the Class I enrollment rate in year t (Mehta, 2007). However, it is possible to over-estimate the dropout rates using this method on account of various efforts to increase enrollments in Class I and the high number of repeaters in Class I.

We calculate average dropout rates for the primary cycle during the period 2005-06 and 2008-09 using information for our sampled schools on total

enrollment, and on repeaters from DISE 2005-06 (for Class I), 2006-07 (for Class II), 2007-08 (for Class III) and 2008-09 (for Class IV). The student cohort of the Class IV students in our sampled schools should have attended primary school between 2005-06 and 2008-09. We also estimated the intra-class average dropout rates, i.e., from Class I to Class II, from Class II to class III, and from Class III to Class IV (See Box 2.2 for details).¹³

Box 2.2: Calculating Dropout Rates

District Information System for Education (DISE) provides information on grade-wise enrollments and repeaters at the school level. This information is available from 2005-06 onwards. Cohort of Class IV children in 2008-09 would have been in Class I in 2005-06 if they did not repeat a grade in-between. Using data for the years 2005-06, 2006-07, 2007-08, and 2008-09 we calculate grade-wise dropout rates for our sample cohort. The formula used in our calculations is as follows:

Dropout Rate from Class *i* to Class *j* at year *t* = $\frac{\text{Enrollment in Class } i \text{ at year } t - (j-i) - \text{Enrollment in Class } j \text{ at year } t - \text{Repeater in Class } j \text{ at year } t - \text{Repeater in Class } i \text{ in year } t}{\text{Enrollment in Class } i \text{ in year } t - (j-i)}$. Using this formula we estimate dropout rates from Class I from Class II, from Class II to Class III and from Class III to Class IV. We then calculate an average dropout rate for the cohort of students in Class IV in 2008-09.

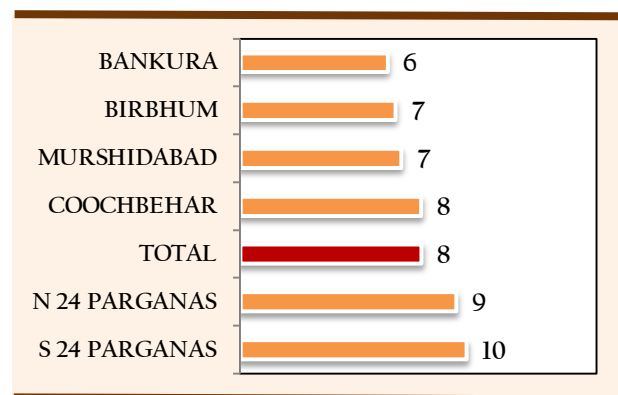
Dropout rates are in line with the estimates for Bihar, MP, Rajasthan, UP and MP as reported in the PROBE report (1999) with a sample average of 8

¹³ Even though we collect information in our survey that would enable us to calculate the dropout rates, we did not collect information on total enrollment, new admissions and repeaters when our students were in Class III due to an oversight.

percent [Figure 2.7]. If we use Mehta’s definition of dropout rates, average dropout rates in the sample increases to 20 percent across the six districts. Approximately, 8 percent of schools report an average dropout rate of 20 percent or more over the primary school cycle. But there are also 39 schools (approximately 16 percent) in the sample that do not report any dropout.

Surprisingly, the two Parganas show the highest dropout rates. A possible reason could be that our estimates of dropout rates are capturing dropouts from the government primary school system. We are **not** estimating dropouts from the overall primary school system. So, it is possible that some of the dropouts from the government primary schools are actually migrating to private schools or to Shishu Shiksha Kendras (SSKs).

FIGURE 2.7: Dropout Rates (Percent)



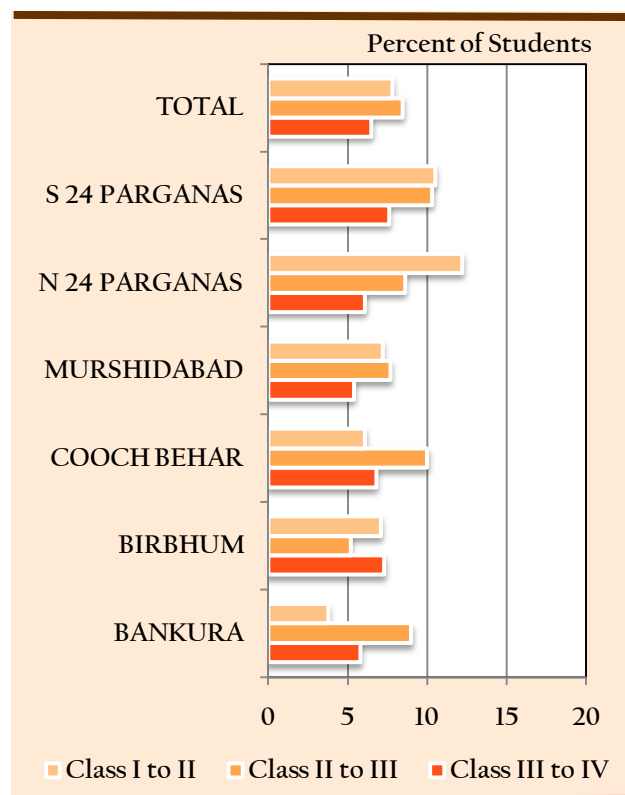
Informal conversations with district primary school administration officials suggest that in blocks that are proximate to the metropolitan city of Kolkata, and thus have greater access to private schools, it is likely that these dropouts are merely dropouts from government schools to private schools. A block like Kultali that is relatively in the interior part of the district, it is likely that students are switching from government schools to SSKs because the latter have more teachers per student and because the teachers are from the local areas.

While in North and in South 24 Parganas, dropouts are the highest when graduating from Class I to

Class II, in Bankura, Coochbehar and Murshidabad, dropout rates are the highest when graduating from Class II to Class III [Figure 2.8].

In informal conversations with district officials in the primary school department and school teachers, a possible explanation for the high dropouts in North and South 24 Parganas between Class I and Class II could be large under-age enrollment in Class I. These enrollments happen because there are no pre-primary schools in these areas. A primary school in such cases also acts as a substitute for pre-school programs. This also gets reflected in the high number of repeaters in Class I which is discussed later on in the chapter.

FIGURE 2.8: Class-wise Dropout Rates



There is significant within district variation in dropout rates. Barjora block in Bankura district exhibits the lowest dropout rate at 2.8 percent. Barrackpur-I and Sandeskhali-I blocks in the district of North 24 Parganas report the highest dropout rates of 13.5 percent each, in the sample. In

districts like Coochbehar and Birbhum, there is less variance in dropout rates across the different blocks.

Finally DISE does not collect information on new student enrollments in each grade. However, the number of such enrollments in our sampled districts is not substantial. We have some limited information on new admissions into Class II from our primary survey.

In Birbhum, Bankura, Coochbehar, Murshidabad and South 24 Parganas, on average, less than 3 students (median estimate is zero) are newly admitted into Class II. It is in North 24 Parganas that the number is marginally higher at six students (median estimate 2). Using these numbers as a benchmark, at worst, we are marginally underestimating the dropout rates. Moreover, it is in one or two schools within the districts where the new enrollment numbers are high.

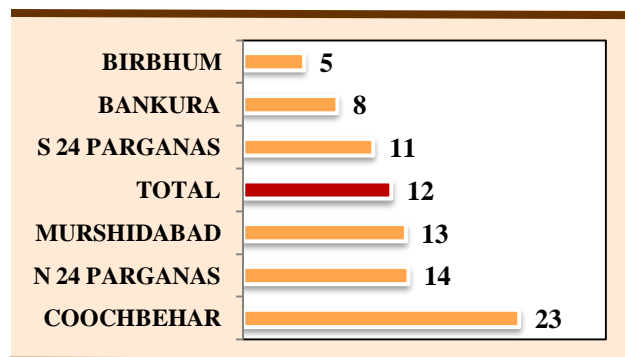
School repeater rates

Even though on paper, there is a policy of automatic promotion in primary school, DISE reports a significant number of repeaters. This is also corroborated from the information collected in our survey. In many cases, it is the guardians of the students who insist that their child be kept in school for another year so that he can learn “better”. Some of the students also mentioned the term “fail” during our school visit suggesting that teachers do keep back students in the same class if they do not perform satisfactorily in the school’s internal assessments. In general, repeaters are more likely to dropout from the school system than the non-repeaters. In our data too, we see this pattern between dropout and repeater rates.

In our sampled schools, on average, every academic year, 12 percent of the students are repeaters [Figure 2.9]. The number of repeaters is the maximum in the district of Coochbehar and the least in Birbhum. While in districts like Birbhum and Bankura, repeater rates are low, in districts like

Coochbehar, repeater rates are uniformly high across all blocks. The highest repeater rate of 28.2 percent is observed for Sandeskhali-I. Such high rates of repetition result in a wastage of human and material resources.

FIGURE 2.9: Repeater Rates (Percent)



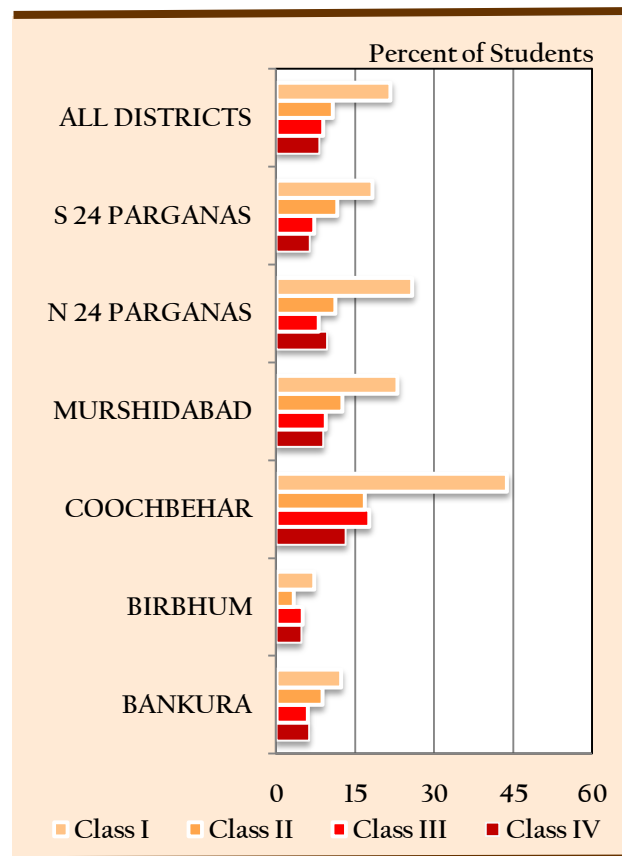
Average estimates however hide the fact that the maximum number of repeaters are in Class I. Average repeater rate in Class I in our sample is 22 percent and in a district like Coochbehar, the Class I repeater rate is as high as 44 percent. A possible reason for a high repeater rate in Class I could be due to under-age enrollment in Class I. This is an issue that is also alluded to in the PROBE report and in the corroborations of district and block officials in informal conversations. On average, repeater rates fall in higher grades and by Class IV, average repeater rate in all districts falls to less than 10 percent [Figure 2.10].

Another possible reason indicated by a DPSC chairman is that the incoming Class I students are a mix of well-prepared and under-prepared students. Teachers often focus and teach the well-prepared students ignoring the weaker students in class. As a result, the Class I competency levels of these weaker students at the end of Class I are low. Often this leads to higher dropout and repeater rates at the end of Class I. Parents are also insistent that their children be retained in Class I so that they can catch up with their peers.

Low learning achievements, poor school attendance rates, high dropout and repeater rates are rarely

explained by a single factor. Rather it is the interplay of many factors and many stakeholders that ensure that a child gets good quality education. A supportive home environment, coupled with an active community, a school environment that is healthy, safe with adequate resources and facilities, trained teachers who are enthusiastic about teaching and a monitoring system that is alert to anomalies that may arise and is responsive with solutions are all important determinants.

FIGURE 2.10: Class-wise Repeater Rates



We recognize the distinctiveness of the inputs into the primary education process at various levels of aggregation. In the next few chapters, we examine the importance of household and student effects (Chapter 3), school and community effects (Chapters 4 and 5), and school administration (circle and block) effects (Chapter 6) in explaining the variations in student learning, student attendance, dropout and repeater rates.

Chapter Summary

- We observe considerable variation in numeracy and language test scores at all levels: across districts, within districts across blocks, within blocks across schools, and within schools across students.
- In the aggregate, North 24 Parganas is the “best” performing district followed by South 24 Parganas. However, the learning levels of students from Coochbehar and Murshidabad are low in both subjects.
- Within most districts, the worst performer also happens to be the block that is the poorest according to our estimates of a wealth index. But there are some exceptions. In Birbhum, Mohammad Bazar is in the richest wealth quartile (in terms of possession of assets) but has the lowest score in numeracy and language.
- When schools are grouped into “good” and “bad” performers based on the average scores received in the tests, we observe that within school performance of the group of bad performing schools is uniform i.e. on average all the students are performing badly. However, in the set of good performing schools, there is some within school variations.
- Average student attendance rates are very low at 53 percent i.e. approximately one-half of total enrolled students come to school on any given day. Only one school in a sample of 240 had a cent percent attendance rate. Compared to other districts, attendance rates in North 24 Parganas and in Coochbehar are reasonable.
- Dropout rates estimated are lower than that reported elsewhere in the literature. Dropout rates are the highest from Class I to Class II.
- Even though on paper, there is a “no detention policy”, on average in every school year, one out of ten students is a repeater. Repetition rates are the highest in Class I.

3

Explaining Outcomes: Household and Student Characteristics



We correlate student test scores with socio-economic and demographic characteristics of households, and with private investments made by them in the education of their children. Does religion or social group of households have any association with student test scores? Do students from wealthier households perform better in the achievement tests? Is there a correlation between the educational achievements of adult members of the households and student performance? Are investments like hiring a private tutor, visiting the child's school, interacting with community institutions like VEC and MTA helpful in improving test scores?

We also examine correlation between student characteristics and test outcomes. Do boys perform better than girls in numeracy and language tests? Can children perform simple functional activities like reading newspaper headlines and *panchayat* notices, and reading and writing letters for household members? How do these abilities correlate with learning outcomes like test scores in mathematics and language?

3.1 Introduction

We go to Sabina's house to interview her mother Rashida Bibi. We are met at the entrance by her grandfather. He is reluctant to let strangers enter the household and interview his daughter-in-law. He turns us away from the door. We return dejected to the school where we are given accommodation for the night. Next day, on a cold, wintry January morning, we see Abdul Hannan, Sabina's father coming to the school with his wife Rashida Bibi. She has Sabina's infant brother, six-month old Alamgir in her arms. Abdul Hannan apologizes to us for his father's rude behavior. Abdul Hannan, Rashida Bibi with little Alamgir in her arms sit on the floor and our household interview begins.

Students belonging to households with different characteristics display differences in learning levels. Some of these characteristics are more easily observed (viz. social status of the household, income group of the household etc.) compared to other features that may be more nuanced (viz. time invested in child's education at home, involvement of the parent(s) in the child's school etc.). We examine households across both sets of characteristics, and analyze the extent to which the different characteristics influence student test scores.

Unfortunately we cannot assess the innate abilities of students from our data. But we can and do relate a child's test scores to his/her

interactions in school and to his/her reactions to the school environment.

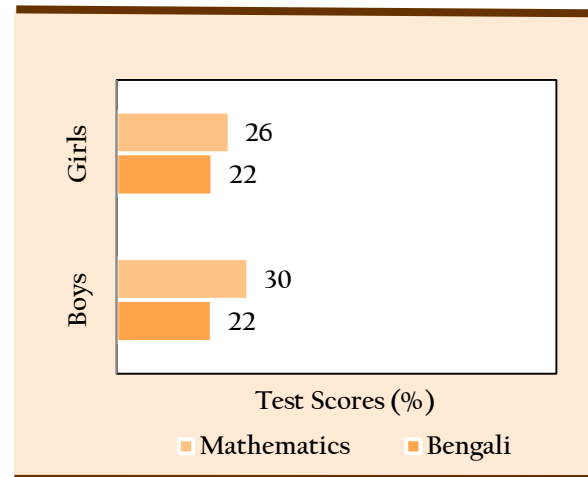
We show that student and household characteristics are important determinants of learning achievements. Our findings are comparable to those in Govinda and Varghese (1993) and Kingdon (1999b).

3.2 Socio-religious, Demographic & Economic Characteristics

Gender differences

A common finding in the literature is that female children are more likely to miss attendance and to dropout from school, and that their parents are less likely to make substantial investments in their education (Deolalikar (1993), Aggarwal (2000), Dreze and Kingdon (2001), Kingdon (2005)).

FIGURE 3.1: Test Scores across Gender



In contrast, gender differences matter little in our sample. We observe a difference of 4 percentage points in mathematics scores but no differences in language scores [Figure 3.1]. The patterns are similar across the six districts. Our results are consistent with the NCERT (2003) study that also concluded that gender differences in average scores were small for both mathematics and language.

Socio-religious group differences

Although students from marginalized communities get special privileges like free uniforms, monthly stipends etc. they still lag behind students from the majority community in terms of access to primary school education and learning achievements (Aggarwal and Sibou (1992), Govinda (2002) among others).

Scheduled caste and scheduled tribe households make up 36 percent of the sample while the general category households make up 60 percent of the total sampled households. Hindu and Muslim households (taken together) constitute 99 percent of our sample.¹

If we compare the achievement test scores of students from scheduled caste/tribe (SC/ST) households with those from general category households, then surprisingly, we find that there are no differences in numeracy and language scores between students belonging to the two groups. However, a third of the households in the general category are Muslims. If we further disaggregate the general category into those belonging to Hindu and Muslim communities respectively, then we do see significant differences in test scores across the different groups [Figure 3.2]. These patterns are broadly consistent across the districts.²

Students from Hindu households have the highest test scores. However, among Muslim households, it is only in Birbhum that they perform relatively better than the students from the scheduled caste/tribe households.

¹ We therefore do not report statistics for households that belong to OBC group (less than 5 percent in the sample), nor for religious groups other than for Hindus and Muslims.

² In Bankura, less than a percent of the sampled households are Muslims. In Birbhum (49 percent) and in Murshidabad (71 percent), Muslims are in the majority.

FIGURE 3.2: Test Scores across Socio-Religious Groups

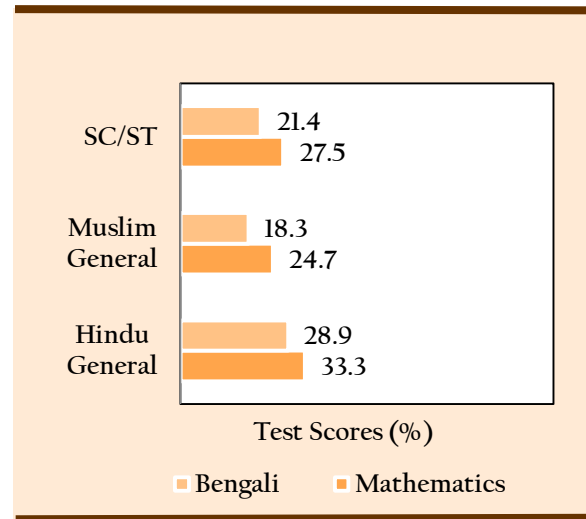
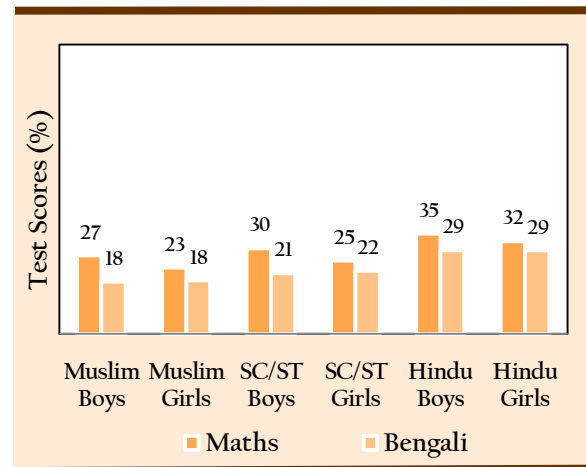


FIGURE 3.3: Test Scores across Socio-Religious Groups & Gender

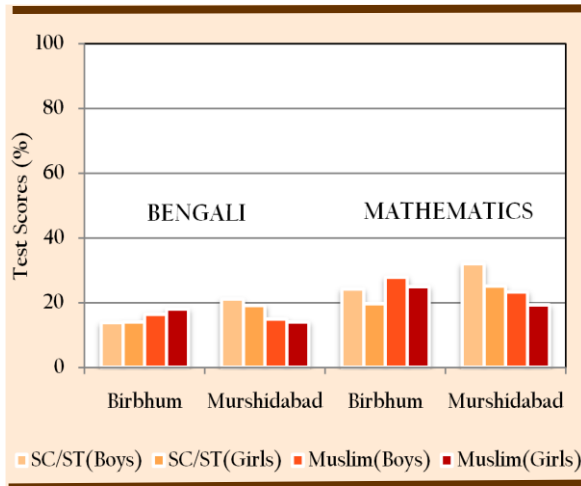


We also subdivide the socio-religious categories by gender in Figure 3.3.³ Comparing the performance of boys and girls within each category (viz. Hindus, Muslims and SC/ST), we find that in all districts, girls perform worse than boys in Mathematics, but the difference in scores is smaller for Bengali. Hindu boys perform the best and Muslim girls are the worst. On average, SC/ST girls perform as well as Muslim boys in both Mathematics and Bengali.

³ In Murshidabad, the individual sample size for Hindu boys and girls is less than 5 percent.

These patterns differ in the two districts that have the largest concentration of Muslims. In Murshidabad, where three fourths of the population is Muslims, average score in Mathematics for SC/ST boys (girls) is 32 (25) percent but for Muslim boys it is only 23 (19) percent.⁴ A similar but a narrower gap is also noted in Bengali scores. But in Birbhum, where Muslims constitute half the population, children from this community outperform children from SC/ST households by 3-4 percent in both subjects (Nearly 30 percent of the population belong to the SC/ST social group). Boys however, do better compared to girls irrespective of whether they belong to SC/ST households or Muslim households [Figure 3.4].

FIGURE 3.4: Test Scores across Socio-Religious Groups & Gender in Birbhum and in Murshidabad



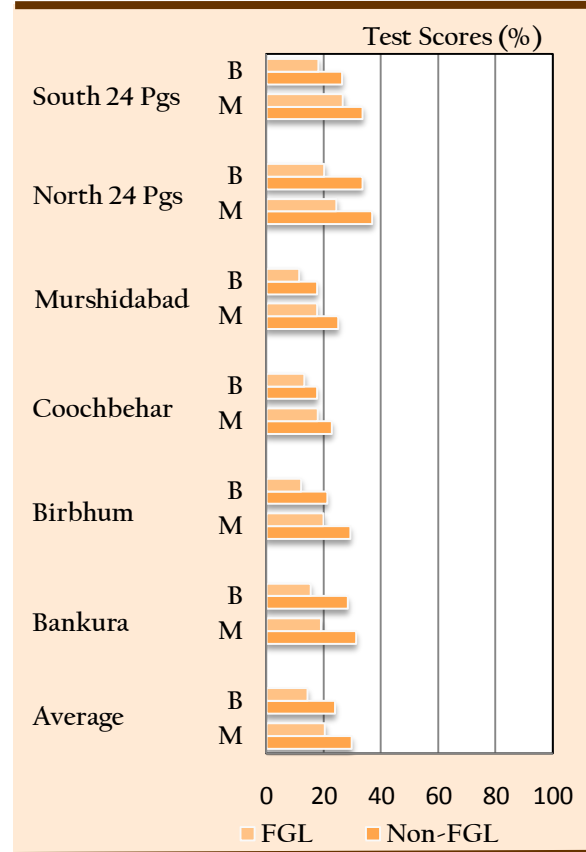
Differences in education levels of adult household members & older siblings

Approximately 23 percent of the sampled students in our survey are “first generation learners” (FGL) i.e. no adult member in the household has basic literacy (literate but not completed primary education). In North 24 Parganas, about 15 percent of the sampled

⁴ SC/STs are 12 percent of the sampled population.

households belong to this category of FGL households. In Coochbehar and in Murshidabad, number of such households is doubled. Are the test scores of students from FGL households significantly different from non-FGL households?

FIGURE 3.5: Test Scores across First Generation Learners



First-generation learners might be disadvantaged in many ways: home environment, poverty, implicit discrimination etc.. In Figure 3.5, the test scores of FGL and non-FGL students are shown. There is a difference of nearly 9 percent in both language and numeracy scores between the two categories. In the poorer districts of Murshidabad and Coochbehar, the differences in scores are narrower compared to say, North 24 Parganas where the difference is more than 10 percent.

There is substantial evidence in the

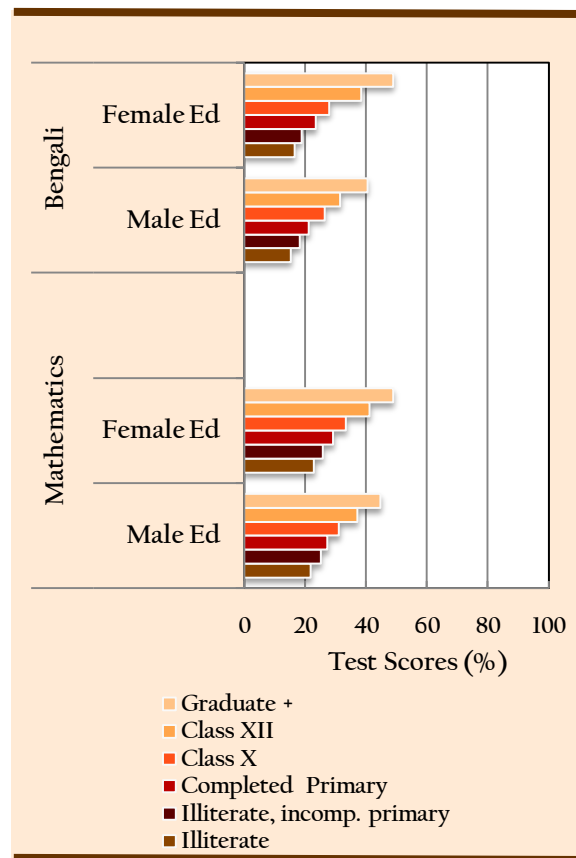
development literature to suggest that level of mother's education is an important determinant of various child outcomes and in many cases the impact is greater than that of father's education.⁵ This is borne out in our study too. In households where adults have completed primary school education, differences in test scores emerge depending on whether it is the female or the male adult household member with completed education levels. There is a difference of 4 percent in both numeracy and language scores if the female adult has at least a higher secondary degree rather than a male adult in the household [Figure 3.6].

Similarly, is there a positive impact on the learning levels of younger siblings if older siblings are also learning? We look at a subset of households where in addition to the child who took our achievement test, there is at least one other older (between 14-18 years old) sibling. We categorize these households into two groups: (a) households where the older sibling has at a minimum completed upper primary and (b) households where the older sibling has not completed upper primary. We analyze test scores across these two groups to see whether there are any differences in test scores. Our analysis suggests that there is a difference of 5-6 percent in scores. Difference is gender neutral because it does not matter whether the older sibling is male or female.

Possibly, in households where older siblings are educated, there is an inherent atmosphere of learning that itself generates interest among all children in the household. These siblings can assist their younger brothers and sisters in their school work even if their parents are unable to do so or they cannot engage a private tutor [Figure 3.7].

⁵ Some of these studies include Behrman and Rosenzweig (2002), Dreze and Kingdon (2001), Jalan and Murgai (2008) among others.

FIGURE 3.6: Test Scores of Students & Educational Achievements of Adult Household Members

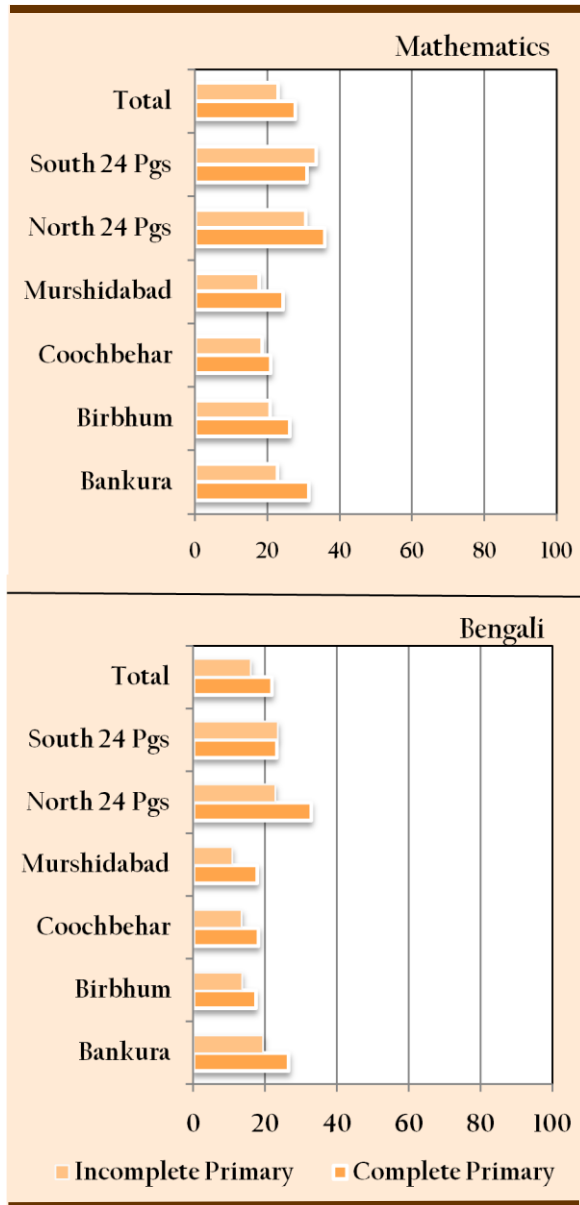


Differences due to household incomes

Poverty could be another factor that leads to differences in the learning capabilities of children. We use information on the possession of assets by households to construct a wealth index using the principal components weighting method.⁶ District specific indices are constructed to reflect the importance of the different assets in the different districts. Households are categorized into different wealth quartiles using this index.

⁶ The assets included in the wealth index are: cot, radio, television, plough, tractor, watch, mobile, landline, motorbike, sewing machine, water pump.

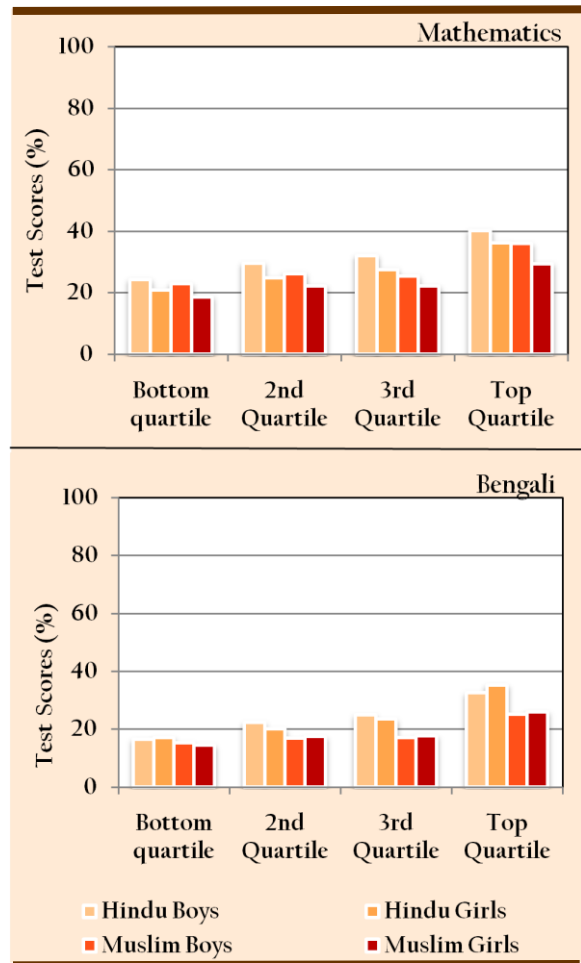
FIGURE 3.7: Test Scores across Households with Siblings (14-18 years) having Completed Primary Schooling (Percent)



Performances of students in our achievement tests are better if they belong to wealthier families. This is true across all districts though the size of the gaps differ. Overall there is a difference of 16-17 percent in test scores between the lowest and the highest wealth quartile. In districts where the aggregate test scores are lower, this difference is smaller.

We also disaggregate the data by religion and gender across the wealth quartiles and analyze the patterns in the test scores [Figure 3.8]. In general, Hindu children perform better than Muslim children across all wealth quartiles. In the top wealth quartile, differences in scores between the two groups range between 6-8 percentage points. Furthermore, Hindu boys outperform all other groups (viz. Hindu girls, Muslim girls and Muslim boys) across the wealth quartiles in numeracy and (to a large extent) in language scores. Across all groups, the performance of Muslim girls is the weakest.

FIGURE 3.8: Test Scores across Wealth Quartiles, Gender and Religion



Other alternative measures of poverty – number of rooms in the household, type of housing

(permanent, semi-permanent or temporary), whether the household has a separate kitchen, whether the household has electricity connection, and whether the water source of the household is inside the house - corroborate with the above conclusion that the more deprived the household, more likely it is that the child's performance will be worse.

The question therefore is: In what ways do the poverty of a household constraint a child from learning to his/her full capacity? We try and answer this question in the next sub-section by analyzing the correlation between the test scores and the private investments – monetary and non-monetary – that parents make for their children.

3.3 Private Investments by Parents to facilitate Children's Learning

Kishor Ghosh, Puja Mallick, and Piyali Saha reside in North 24 Parganas district in Deganga and Habra-I blocks. All three received more than 85 percent marks in their language test. Each takes private tuition to supplement their school studies.

There are two main ways in which parents can make private investments to improve their child's learning: by making monetary investments and/or by being involved and aware about the school and its education related activities. We examine the effects of both types of investments on test scores.

Private Tutorials

Engaging a private tutor for their child is a common investment that parents often make to compensate for inadequate quality of teaching in schools. Even though there is overwhelming evidence about the use of private tutoring to supplement school-teaching, there is little

evidence on the impact that such private investments have on a child's learning levels.⁷

In our survey, we asked the household respondent whether the student taking the achievement tests also had a private tutor outside the school. Approximately, a third of our sampled students take private tuitions. In Murshidabad, only 16 percent of the students went to a private tutor but in districts like North 24 Parganas and Coochbehar (an otherwise backward district) this percentage increased to 50 percent.

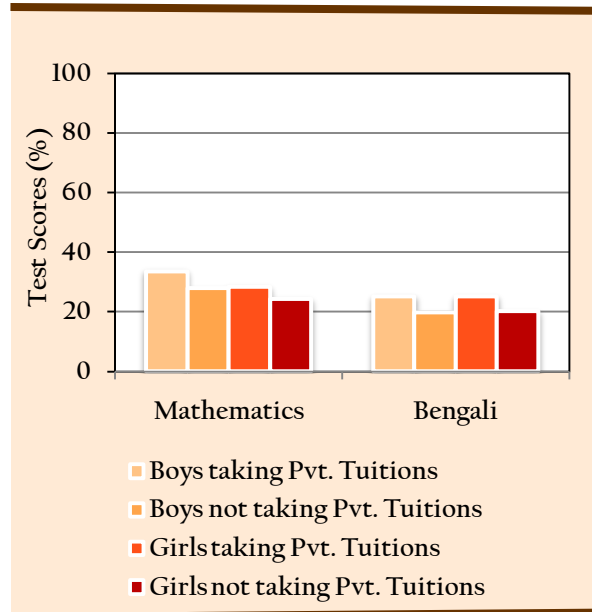
Our analysis suggests that private tuitions matter for test scores. In Bankura and Murshidabad for example, having a private tutor improves a student's mathematics score by nearly 15 and 10 percentage points respectively. In Birbhum and Coochbehar, the effects are more muted showing a difference of only 2-3 percentage points. The impact of private tuitions on Bengali test scores is smaller, though the patterns across the districts are similar to those observed for numeracy scores.

There is near gender equality in terms of guardians hiring private tutors for their male and female wards. On average, there is a difference of less than 2 percentage points of whether a private tutor was hired for a male child or for a female child. It is only in Coochbehar that there is a difference of more than 3 percentage points.

There are differences in the mathematics test scores depending on the gender of the child who takes private tuition [Figure 3.9]. Male students who take private tuitions score 5 percentage points higher than their female counterparts. This fact could be proxying for the amount of money that households spend on hiring private

⁷ Dang (2009) and Amin and Chandrashekar (2009) report some evidence from Vietnam and Bangladesh respectively.

FIGURE 3.9: Test Scores & Role of Private Tutors across Gender



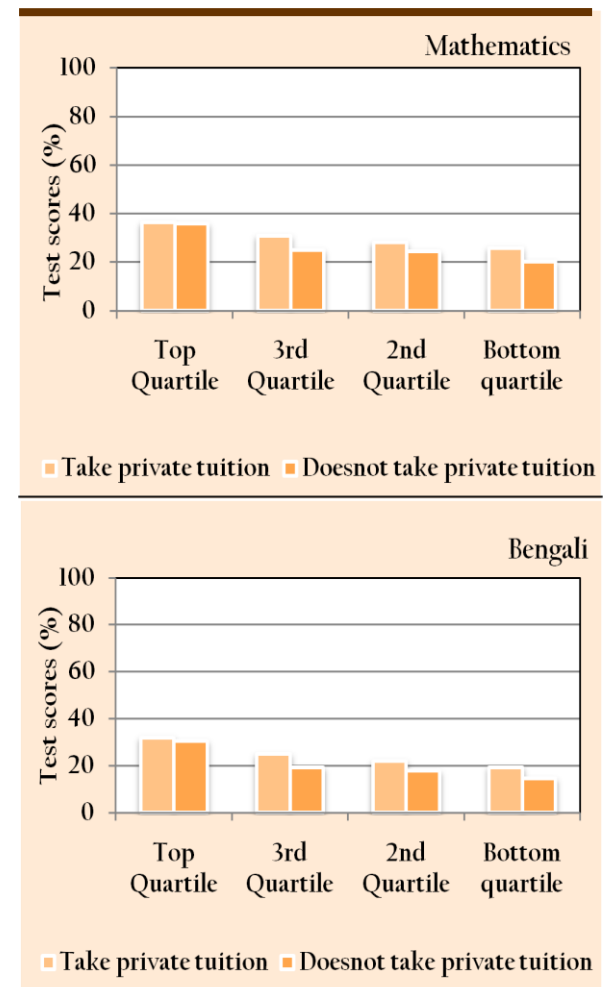
tutors for boys versus girls.

We did not separately enquire about the amount of money spent by the households on the Class IV student who took our achievement tests. However we collected information on the monthly expenditure borne by the households for female and male children separately. These numbers suggest that parents invest slightly more on the male child than on the female child per month on a private tutor and the differential is larger in poorer districts like Murshidabad and Coochbehar.

Since engaging a private tutor involves monetary costs to the household, private tuitions to an extent, might proxy for household wealth effects. To disentangle such effects (if any) we plot the impact of private tuitions on test scores across wealth quartiles. We report this analysis for the aggregate sample rather than for individual districts. Approximately 29 percent of the students in the bottom wealth quartile took private tuitions. In the top quartile, this percentage was nearly 45 percent.

Students from households belonging to the top wealth quartile do equally well whether they take private tuitions or not. However for the poorer wealth quartiles, there is a difference in the test scores depending on whether the child takes private tuitions or not. In the bottom wealth quartile, there is a difference of 5-6 percent in the total numeracy and language scores between students who take private tuitions and those who do not [Figure 3.10].

FIGURE 3.10: Test Scores & Role of Private Tutors across Wealth Quartiles



Possible explanations could be that in the top quartile, there are household members who can help the child with their school-work at home.

Contacts with teachers, school and community based institutions

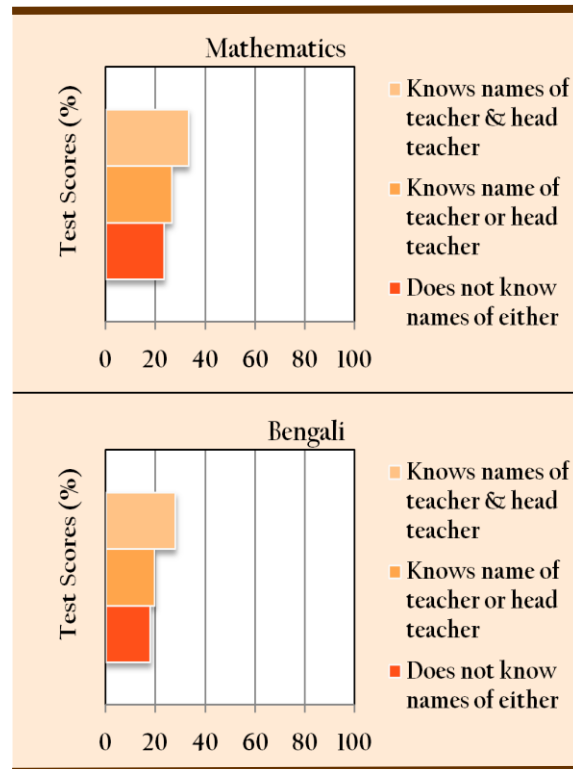
Families can also invest in their child's education by getting involved in their school activities like visiting the school, becoming members of Mother Teacher Association (MTA) committee, being aware of the activities of the Village Education Committee (VEC), knowing the name of the head master of the school and/or the teacher etc.. Even though there are no direct monetary costs involved in such activities, it does mean taking time out from their other activities that they may be engaged in. There is therefore an opportunity cost of being an "involved" parent.

So does it matter to the performance of the students whether his/her parents are aware or involved in the schooling process of their children? There is some evidence in the literature that suggests that family's allocation of time at home for study and their support of children's educational aspirations has positive effect on student achievement [World Bank (1997)].

In our survey, we asked the respondents whether they knew the names of the head teacher and the Class IV teacher of the school in which their child was enrolled. More than a third of the total respondents in our sample knew neither the names of the head teacher or the Class IV teacher. In Birbhum, nearly 50 percent were knowledgeable about the names of the teachers, while in North 24 Parganas, a majority of the household respondents knew the names of the head teachers and the school teachers.

Correlating the responses with the test scores we find that the wards of aware parents are more likely to perform better [Figure 3.11]. There is a difference of 10 percent in the scores of children of an "aware" parent (knows both the names) and of an "unaware" (knows neither

FIGURE 3.11: Test Scores & Parent's Knowledge about Teachers

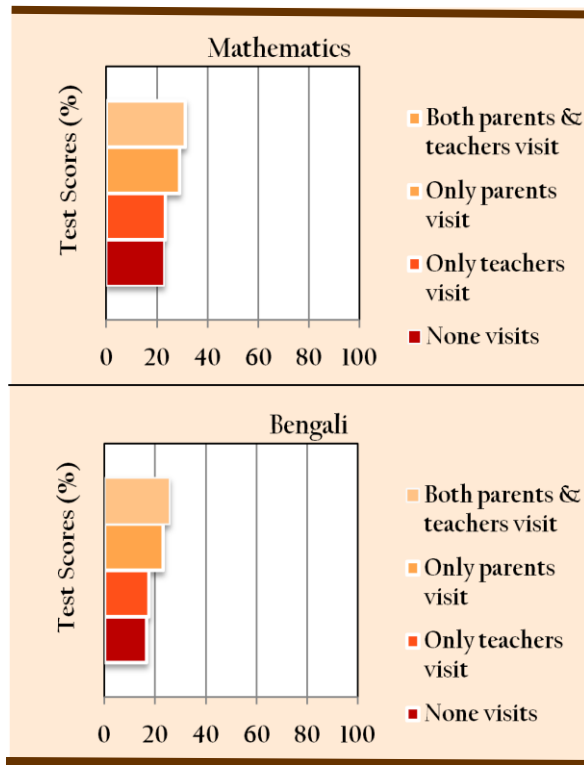


names) parent.

Another indicator that we use from our survey is the whether the parents had ever visited the child's schools and/or whether any of the school teachers had visited the child's home to discuss matters regarding the child's education. A quarter of the household respondents claimed that there had been no house visits by the school teachers nor had they ever visited the child's school. But a quarter of the households also said that they had visited their ward's school and that a representative from the school had visited their homes.

There is a positive impact of parents and teachers meeting each other. The impact is larger if parents visit the schools as compared to a school teacher visiting their homes [Figure 3.12]. There is a difference of nearly 7 percent in the test scores of both subjects between students whose parents have visited his/her

FIGURE 3.12: Test Scores & Contacts with School Teachers



school (for informal interactions with teachers) and those whose parents paid no such visit.

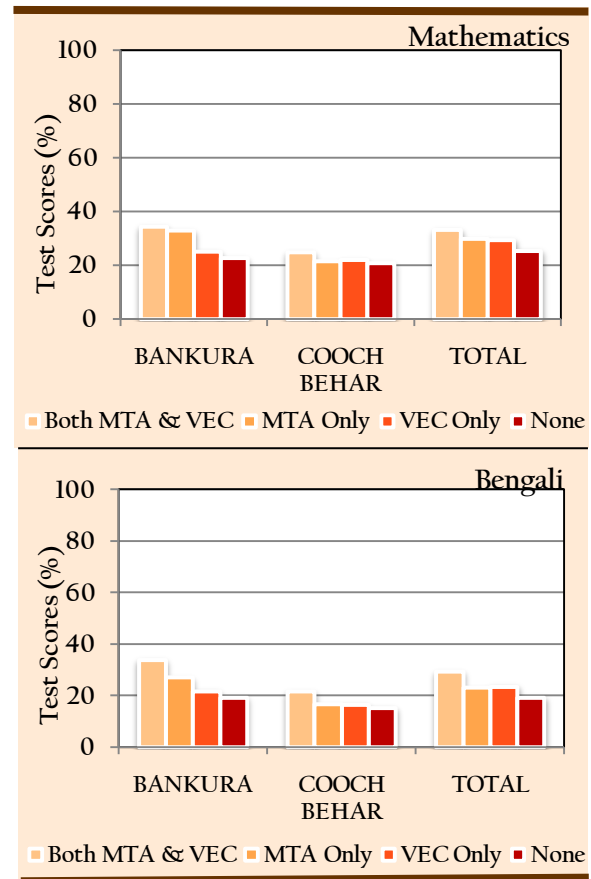
Guardians may also get involved through community based institutions like the Mother-Teacher Associations (MTAs) and the Village Education Committees (VECs). These are formal institutions set up with governmental assistance and regulations. There is a view that a cooperative relationship between the school, parents and the community at large will go a long way in enhancing the learning levels of students [Govinda (2002)].

Unfortunately, even a decade after the establishment of VECs and MTAs, guardians are by and large not aware about their existence.⁸ Even in North 24 Parganas, which has “better”

⁸ The PROBE report (1999) had estimated that less than a fifth of the schools that they had surveyed have MTAs and only half had a “functional” VEC.

primary school education indicators, more than 50 percent of the respondents claimed that they had not heard about either the MTA or the VEC. The surprise district in this respect is Bankura, where 28 percent respondents were aware of both the VEC and the MTA (the sample average is 15 percent).

FIGURE 3.13: Test Scores & Parent’s Knowledge about Formal Community Institutions



In Figure 3.13, we present the results for Coochbehar (a poor district), Bankura (a medium level district), and for all districts pooled together.⁹ Awareness about formal community institutions like the VECs and the MTAs do have a positive impact on test scores.

⁹ Results for the other districts are available from the authors on request.

Guardians' assessments of their children's learning levels

Can parents really judge how their wards are performing in their schools? In our survey we asked household respondents to give their opinions about the quality of learning that the child has acquired in school. 15 percent of the respondents were of the opinion that their children were not learning much in school. In some districts like Murshidabad, this percent increased to 25.

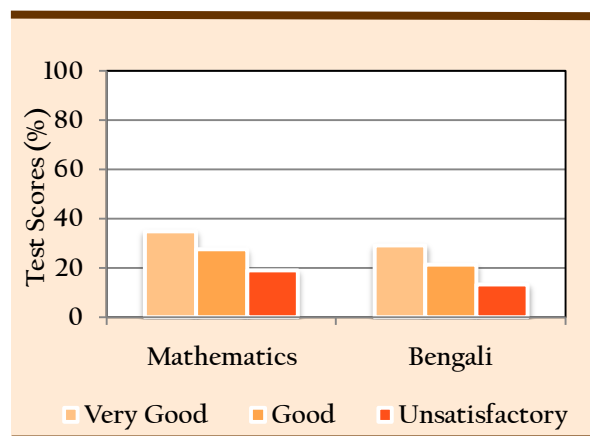
However, parents were “spot on” in their educational assessments of their children. Children of parents who were of the opinion that their child was performing well in school also performed reasonably well in our achievement tests. Even in an otherwise laggard district like Murshidabad, children of parents who said that their child was performing well in school scored 33 percent in Mathematics (Murshidabad's average score in Mathematics is 23 percent). Alternatively, parents who were of the opinion that their child was performing poorly in school were also those who performed poorly in the language and numeracy tests administered by us [Figure 3.14].

This congruence between parent's opinion about their child's ability and their numeracy and language scores is further supported by the correlation between parent's opinions about the practical ability of the students and their test scores.¹⁰ Once again, the parent's perceptions

¹⁰ We asked parents whether their wards could do the following: read the headlines of a newspaper, read the contents of a letter, listen news on the radio or TV and convey it to their parents, dial a phone number, write a letter, read notices on the panchayat office and primary health centre boards and give the necessary information to their parents, do accounts, and gather information about farm-related matters. Based on their responses, we constructed an index to rank students according to their capability in doing practical things. Students were categorized into three categories: those that exhibited high practical

about their children's functional abilities are very highly correlated with the scores received by the children in the achievement tests. For example, children of parents who claimed that their wards had high practical ability also performed very well in Mathematics and Bengali (38 and 33 percent respectively); and wards of parents who opined that they have low practical ability did not score well in our achievement tests (19 and 13 percent respectively).

FIGURE 3.14: Test Scores & Parent's Perceptions about their Child's Performance in School



3.4 Student Characteristics

Household atmosphere may be conducive to learning, and household members may provide the necessary encouragement to their children to go to school. But learning will depend on whether students enjoy going to school and whether they feel comfortable in their school environment, in their interactions with their peers and their teachers.

Almost all students interviewed during the survey claimed that they liked going to school. The reasons that they gave for wanting to go to school varied from the desire to learn about new things (53 percent), to play and interact with their friends (38 percent), and for the mid-day

ability, moderate ability and no ability. Test scores were then correlated with each of these categories.

meals provided in the school (6 percent). Test scores are the lowest who said that they attended school to receive the mid-day meal. This fact could possibly be proxying for the wealth effects discussed earlier.

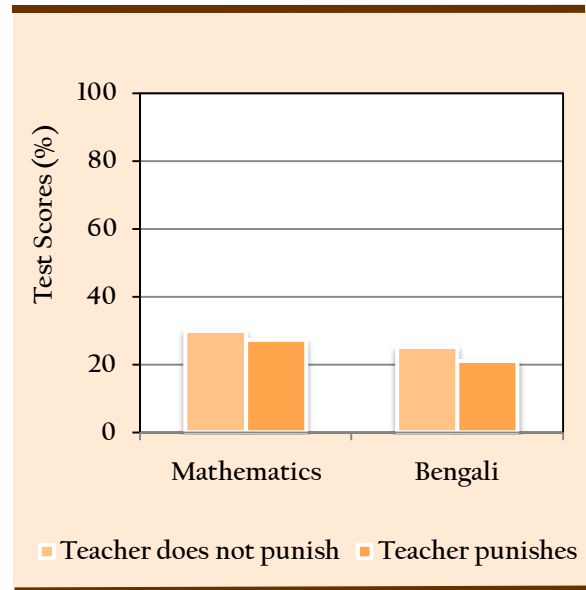
At the same time, less than 20 percent of the students said that they attended school regularly. The main reasons cited by the students for missing school were illnesses and participating in various household activities like working in the fields, looking after younger siblings etc.. Nearly 20 percent of the children interviewed also claimed that another reason for missing school was due to visiting their relatives.

According to the students, teachers either read from the textbooks or made the children read from the textbooks. Seldom did teachers adopt innovative ways to make teaching more enjoyable (less than 3 percent of the student respondents claimed that teachers used “joyful learning” as the main teaching pedagogy).

Over 80 percent of the students reported that they had received some form of punishment in school. Surprisingly though, this does not influence their test scores significantly [Figure 3.15]. The primary reason for getting punished was because the students did not do their home-work. About a quarter of the students reported that they were punished because they were fighting in class. Corporal punishment was the main type of punishment meted out to the students. But the test scores are 3-4 percent higher if students are scolded as compared to being physically beaten.

About 18 percent of the students reported that they hesitate to talk to their teachers. There is a difference of 5 percent in test scores between students who hesitate to talk to their teachers compared to those who are not afraid to approach the teachers.

FIGURE 3.15: Test Scores & Whether Child Receives Punishment in School

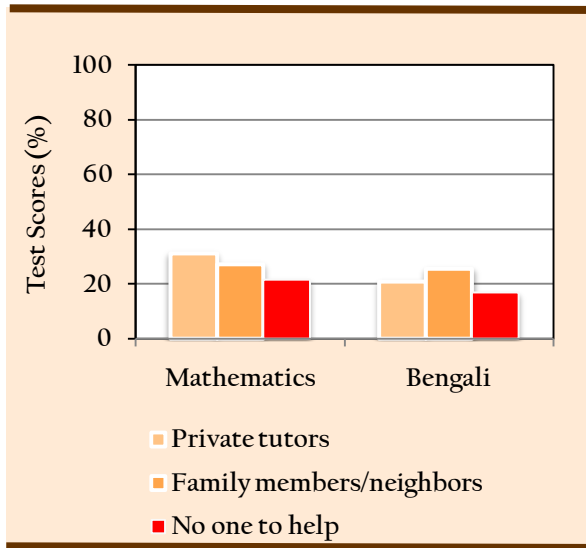


While almost all schools in the sample had toilets, 37 percent of students said that male students and 21 percent said that female students cleaned the toilets. Classrooms were more often cleaned by a paid person hired by the school than the students.

We also asked the students about who helped them with their school studies at home. Three-fifths of the students said that household family members helped them with their studies. Another 30 percent said that private tutors helped them with their home-work. About 8 percent of students responded that they had nobody to help them at home with their school studies.

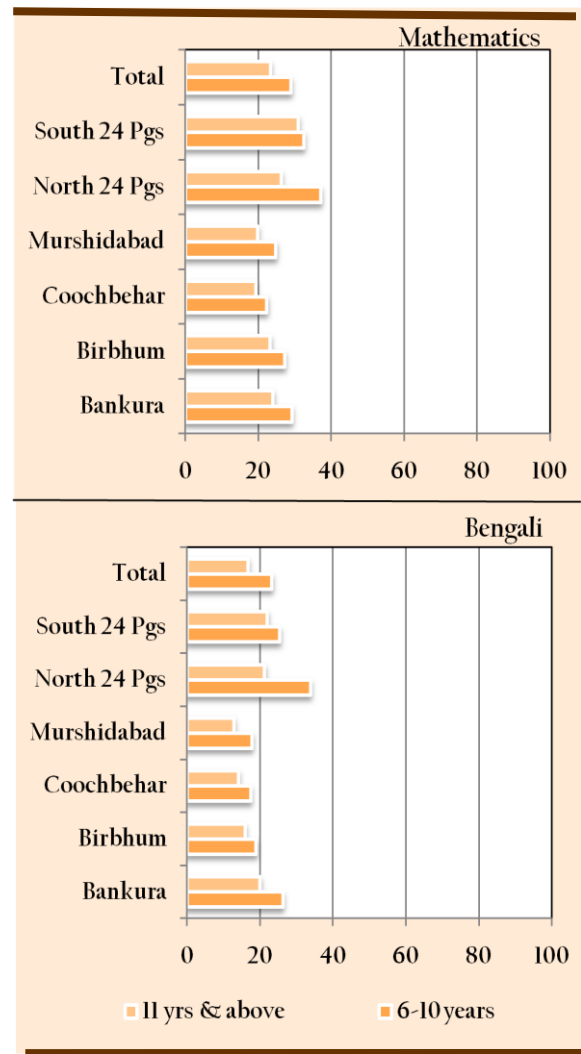
Correlating the student test scores with who helps them with their school work at home, we find that students who said that a private tutor helped them with their school work at home performed better in Mathematics. But students who were helped by family members and/or neighbors with their school work performed better in Bengali [Figure 3.16].

FIGURE 3.16: Test Scores & Guidance in Studies at Home



Overage children often reflect the negative influences of repetition and low motivation [Kingdon (1999)]. In our sample, 22 percent of the Class IV students are overage. In Murshidabad, a third of the sampled students are overage. If we correlate test scores of students to whether they are overage (more than 10 years) or not then we find that overage students perform worse off in both Bengali and in Mathematics across all districts [Figure 3.17]. The gap is the largest in Murshidabad (approximately 7-8 percent).

FIGURE 3.17: Test Scores & Age of Student (Percent)



Madhabi Debansi is the grandmother of Gopal Saha one of the Class IV students who sat for our achievement tests. Gopal's father is disabled and his mother is no more. Gopal's grandmother, Madhabi dida as he calls her is sixty years old and the sole breadwinner of the three member family. Madhabi dida's profession is to beg for alms to feed her family and to ensure that her grandchild continues to go to school. She is determined that despite all adversities, Gopal does not dropout from school. Gopal repays his grandmother's tenacity by being a good student, and regularly attending school, and even helping others in his class who are lagging behind in studies. Gopal's scores in our achievements tests are above average.

Chapter Summary

- Our findings reaffirm some existing patterns discussed in the literature. We find that children's learning performance is directly related to
 - (i) **mothers' educational levels:** if the mother is educated then it is more likely that the student will also learn more; furthermore, our study reaffirms lower learning achievement levels among students who are first generation learners in their families;
 - (ii) **elder sibling's education participation:** there is a positive impact on learning levels of younger siblings if older siblings have completed primary school;
 - (iii) **active interest by parents in school related activities:** parents who are involved in their child's education (e.g., visiting the child's school, knowing the names of the teachers) are also likely to ensure that their children are learning in schools; parents' participation in local community institutions like the VECs and MTAs improve student test scores;
 - (iv) **household wealth:** students from wealthier families perform better in language and in numeracy tests (this is true across all districts though the extent in gaps differ).
- Learning levels differ across socio-religious groups. Test scores are the highest for upper caste Hindu boys and lowest for Muslim girls. Children from scheduled castes perform reasonably well in learning achievement tests compared to children belonging to the minority community.
- We do not observe significant differences in test scores across gender. There is some subtle gender discrimination in investments made by households on the amount spent on private tuition, but these differences are not large.
- Private tuitions do improve test scores. However, for students in the top wealth quartile, test scores are the same irrespective of whether they take tuitions or not.
- Parents, irrespective of their own education levels, are able to accurately judge the achievement levels of their wards. Parent's perceptions about the functional activities that their child can engage in are highly correlated with test scores.
- Even though most children in our sample have been punished in school, there is no significant correlation between received punishments and test scores.

4

Explaining Outcomes: School and Teacher Characteristics



Common sense suggests that provision of good quality of education would depend on the school environment. Factors like facilities and infrastructure available in schools, characteristics of the teaching staff, their motivation and their teaching pedagogy, and a system of continuous and comprehensive evaluation could play important roles in persuading children to attend school regularly and also in improving their learning levels.

In this chapter, we examine the role of school-specific characteristics in the provision of quality primary education to children. To what extent does the physical infrastructure of the school – nature of buildings, classrooms, availability of toilets, access to playgrounds, etc. affect student test scores and/or attendance and dropout rates? Further, how do differences in teacher characteristics relate to differences in student test scores and whether students are motivated to go to school regularly?

The survey team arrives at a school where the majority of students are from the scheduled caste. The team is a bit nervous because they anticipate non-cooperation from the acting head teacher (he had reluctantly shared the Class IV student enrollment list during our prior visit). His immediate response to the supervisor's request to administer the achievement test is negative but the supervisor manages to persuade him to allow the team to administer the test. However, he refuses to complete the head teacher and teacher interviews. The field supervisor informs Ms. Jharna Panda, Chief Field Supervisor of the project (currently in Coochbehar) about the problems. She takes the next available train and meets the teacher in charge. She explains to him the objectives and the necessity of undertaking the research. After several hours of persuasion, he finally agrees and then the dam breaks...his life-long frustrations with the administration system is shared with us...even though he has been verbally informed that he is the acting head teacher, to-date he has received no formal intimation from the authorities; local village strongman use the school facilities for their private reasons and he has no power or support to stop them; local community is disinterested in the efforts that he and his teachers are putting to educate their children and the list goes on and on...Ms. Jharna observes that despite these problems, teachers of the school diligently take their classes and student attendance rate is also high...this is reflected in the achievement scores.. among the highest in the district.

4.1 Introduction

In Chapter I, we observed that even though the aggregate and district average test scores are low, there are schools in the sample where test scores are high. Some of these schools are located in the poorer areas of a district, others have both regular and *para teachers* among their teaching staff, yet others have a pro-active head teacher. The question therefore is: In what ways do school and teacher attributes explain the observed variance in test scores across schools?

In the existing literature there is a lack of consensus about the extent to which school and teacher characteristics matter in children's learning achievements. In a well-known study by Coleman (1966) on educational equality in the US, it was established that school resources have small effects on student achievements. Other studies using data from India (e.g., Heynemen and Loxley (1983)) suggest that student achievements in science can be wholly explained by school and teacher characteristics. A recent study by Kingdon (1999b) showed that school and household characteristics are equally important in explaining learning variance.

In this chapter, we study how school and teacher inputs affect achievement test scores, and school attendance and dropout rates. The chapter is divided into two broad sections: Role of Physical Infrastructure (Section 4.2), and Role of Teachers (Section 4.3). In Section 4.2, we examine the existing infrastructure in our sampled schools and then correlate its observed features with outcomes – test scores, attendance and dropout rates. In Section 4.3, we analyze factors like pupil-teacher ratio, teacher pedagogy, teacher characteristics, leave taken by the head and assistant teacher, and their associations with student tests scores, attendance and dropout rates. We focus on the effects of teacher training in a later chapter on government interventions.

4.2 Role of Physical Infrastructure

A proper functioning school is one that has reasonable physical infrastructure. Overtime, different government interventions like the District Primary Education Program (DPEP) and Sarva Shiksha Abhiyan (SSA) have ensured that infrastructure is less of a constraining factor today than it was two or three decades ago. Throughout the country, many primary

schools have been provided with permanent buildings, though school repairs need to be considered as necessary routine work to sustain a positive school environment.

In our sample of 240 schools in rural West Bengal, three-fourths of the schools have permanent (“*pucca*”) structures, while one-fourth of the schools have semi-permanent (“*semi-pucca*”) structures. A third of the schools

School Infrastructure	Numeracy scores (percent)	Language Scores (percent)	Attendance Rate (percent)	Dropout Rate (percent)
1. School building				
<i>a. Semi-permanent</i>	26	21	58	7
<i>b. Permanent</i>	28	22	52	8
2. Staff Room				
<i>a. Yes</i>	28	22	52	7
<i>b. No</i>	29	23	57	9
2. Student seating arrangements				
<i>a. Adequate number</i>	29	23	56	7
<i>b. Inadequate number</i>	28	22	51	7
<i>c. No seating arrangement</i>	27	21	53	8
3. Separate toilet for females				
<i>a. Yes</i>	29	24	57	7
<i>b. No</i>	27	21	53	8
4. Attached playground to school				
<i>a. Yes</i>	29	23	57	8
<i>b. No</i>	28	22	51	7
5. First Aid Box				
<i>a. Yes</i>	28	22	53	7
<i>b. No</i>	27	22	56	9

in our sample do not have a separate staff room for teachers. About 30 percent of the schools do not have any seating facilities for the children (and another 37 percent do not have such arrangement in adequate numbers). More than half the schools do not have separate toilets for female students. More than half the schools do not have an attached playground to the school. A fifth of the schools do not have a first-aid box in school.

On average, there is a marginal difference of one to two percent in numeracy and language test scores between students studying in a school with “better than average” infrastructure as compared to one with “worse than average” infrastructure [Table 4.1].

Infrastructure that directly affects the students – e.g., adequate seating facilities, presence of an attached playground, and existence of a separate toilet for girl students – have a positive impact on student attendance rates. Infrastructure indicators also have a strong correlation with school dropout rates. Children are less likely to dropout from school if there is a permanent school building, if there is adequate seating arrangement in the classrooms, and if there is a separate toilet for girls.

A more important and an oft cited infrastructural problem in government schools is the inadequate number of useable classrooms in schools. Classrooms are often found to be overcrowded. We collected information about the number of classrooms in every school in our survey. However, on reflection, number of *useable* classrooms is a better indicator. We collate this information from the District Information Report Cards (DISE) database for 2008-09.¹ We use the number of students per

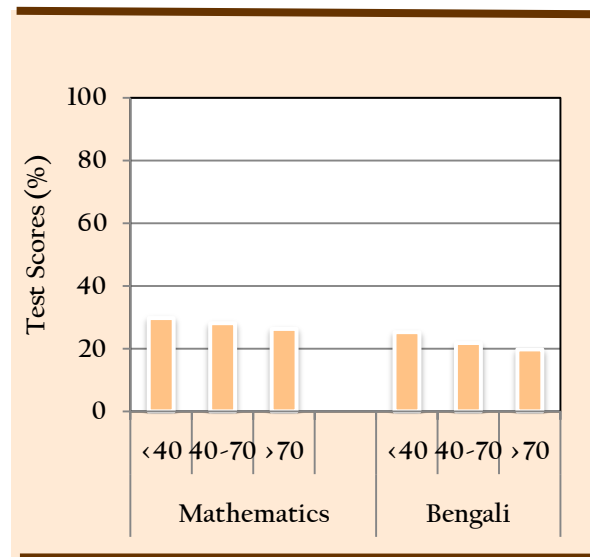
¹ There are 20 schools in our sample that do not have a single useable classroom. South 24 Parganas has the maximum number of six such schools and one such school in North 24 Parganas. The numbers in

useable classroom as an indicator. The data on total school enrollment is also collated from DISE.

We categorize schools into three categories of “students per useable classroom”: less than 40 students, 40-70 students, and more than 70 students per classroom. We find that while 35 percent of our sampled schools have less than 40 students per class, a significant 29 percent of the schools have more than 70 students per class. Average student-classroom ratio is 64 in the sample. The all India average is 40 students per classroom in 2006-07.

In Figure 4.1 we plot test scores of schools across the three categories of student classroom ratio. There is a fall in numeracy and language test scores as student classroom ratio increases. Numeracy scores decrease by 3 percent and language scores decrease by 5 percent when we compare schools with low student classroom ratio (less than 40 students per classroom) to schools with high student classroom ratio (more than 70 students per classroom).

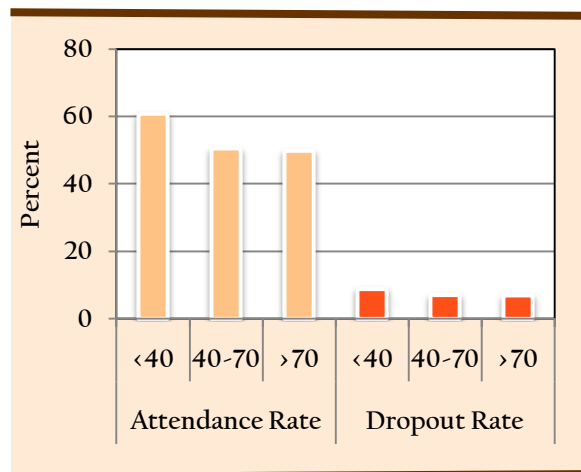
Figure 4.1: Student Classroom Ratio & Test Scores



Bankura, Birbhum, Coochbehar and Murshidabad are 2, 5, 4 and 2 respectively.

Attendance rates also differ with respect to student classroom ratio. In schools with less than 40 students per class, attendance rates are as high as 61 percent. This number decreases by 10 percentage points when class sizes are more than 70 students per classroom [Figure 4.2]. However, dropout rates are less affected by the student classroom ratio.

Figure 4.2: Student Classroom Ratio & Student Attendance and Dropout Rates



4.3 Role of Teachers

Pupil-teacher ratio

The other important aspect of a school is the number of teachers in the school. In the existing literature, there is no consensus regarding the importance of Pupil Teacher Ratio (PTR) in determining school outcomes. While studies like Case and Deaton (1999) using data from South Africa indicate that smaller class sizes per teacher help improve learning levels, there are studies by Hanushek (1996) using data from developed and developing countries who argues that school facilities including class-sizes have tenuous effects on school outcomes particularly test scores.

We collate total school enrollment data from DISE 2008-09 and use information collected on the number of teachers currently on the schools'

payroll from our survey to estimate the pupil teacher ratio.

Approximately five percent of the total sampled schools are single-teacher schools. The average PTR in the sample is 55 students to a teacher. In Murshidabad, PTR is alarmingly high at 88 students per teacher followed by South 24 Parganas with a PTR of 76. The lowest PTR is estimated for Bankura at 34.

Mr. MG is a Class IV teacher and acting head teacher in a primary school in Murshidabad.

Average test scores in numeracy and language of this school are 8 and 1 percent respectively. Guardians are very critical of Mr. MG. They have a litany of complaints against him: he comes late and leaves early; he only indulges in play with local residents and does not teach; he eats the MDM food on days when items like eggs, fruits and chicken are served. The list goes on and on.

The VEC President of the school too confirms that Mr. MG comes to school at most thrice a week. Repeated requests to come to school regularly are ignored.

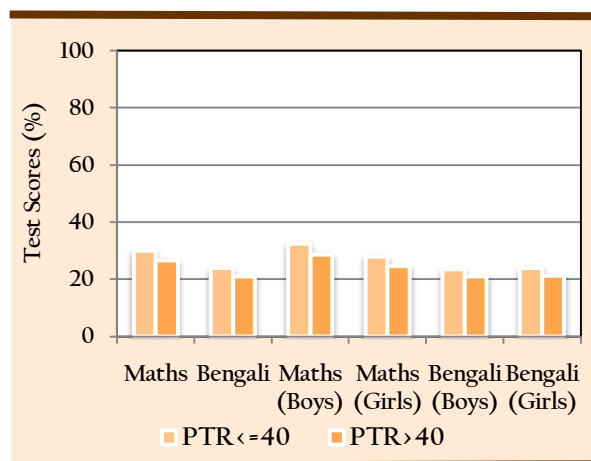
SI of the school circle to which the school belongs to informs us that Mr. MG has been monetarily penalized and suspended twice for his irresponsible behavior. But there is no effect on him.

Such episodes are not isolated incidents and occur in district after district.

We estimate that there are 3-5 percent differences in Bengali and Mathematics scores between schools with 40 (or less) students to one teacher and schools with PTR greater than 40 (Figure 4.3).² This pattern in the scores is consistent across gender. Test scores of both boys and girls are lower if PTR is greater than 40 students to a teacher.

Attendance rates too are lower in schools where the number of pupils per teacher is large. There is a difference of five percent in attendance rates between schools with a maximum of forty students to a teacher and schools where for each teacher there are more than forty students.

Figure 4.3: Pupil Teacher Ratio & Test Scores



In addition to regular government teachers, “para” teachers are also used as teaching staff.³ “Para” teachers were introduced into the

² If we calculate the PTR by including “para” teachers among the total teaching staff then we get results that are similar to Figure 4.3.

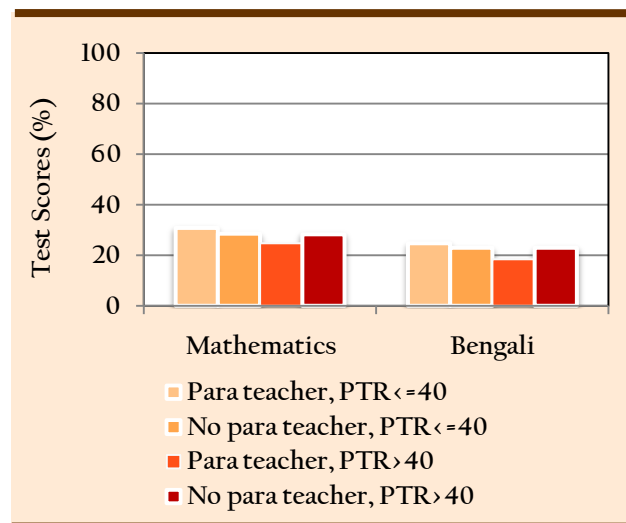
³ “Para” teachers are equivalent to regular teachers in all functional aspects (workload, tasks and responsibilities etc.) except that they are on a contractual employment, do not need to have any prior teacher’s training (even though this is a requirement for regular teachers, in our teacher interviews we found that many did the training only after they were hired as a teacher) and are paid significantly less than the regular teachers.

education system under the *Shiksha Karmi* project to provide temporary, low-cost complement to regular teaching staff. Advantages of hiring *para* teachers are that additional teachers in single teacher schools can easily be hired. Since such teachers are recruited from local communities they are made accountable and they also help establish strong links with the local community. But often such teachers are also used as substitutes in remote areas where regular teachers are reluctant to go.

In districts like Murshidabad, a third of the total teachers are “para” teachers, and in the entire sample, approximately 20 percent of the current teaching staff is constituted of “para” teachers.

Schools where the PTR is less than 40, and have at least one “para” teacher, score 2-4 percentage points higher in both subjects as compared to schools that do not have a “para” teacher (Figure 4.4). However, in schools where the PTRs are greater than 40, the pattern is reversed: schools with “para” teachers perform worse in both numeracy and language scores as compared to schools with no “para” teachers.

Figure 4.4: Pupil Teacher Ratio (with and without para teachers) & Test Scores



A possible explanation of this reversal in patterns could be that in schools with low PTRs, “para” teachers possibly perform the complementary role of support staff to regular teachers. However in schools with high PTRs, “para” teachers possibly act as substitutes for regular teachers. The following facts seem to support this argument. 30 percent of the schools with PTRs greater than 40 have either the same or greater number of “para” teachers as compared to regular teachers; in all these schools the test scores are low. In the sub-sample of schools with PTRs less than 40, there are only two schools where there are either equal or greater numbers of “para” teachers as compared to regular teachers.

Unlike numeracy and language test scores, impacts of PTR on attendance and dropout rates are insignificant.

Teaching pedagogy and internal assessments

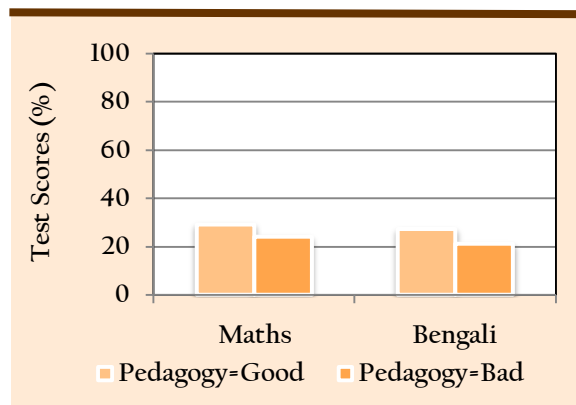
Several authors (Rockoff, 2004; Rivkin et al., 2005; Hanushek and Rivkin, 2006) find teacher quality to be an extremely important determinant of student test scores. The near unanimity on the effects of teacher quality stands in sharp contrast to the endless debates over the importance of other school inputs (e.g., Hanushek, 1981, 1999, 2003; Card and Krueger, 1992; Burtless, ed, 1996; Krueger, 1999).

We proxy teacher quality by using information on teaching pedagogy used in classrooms to teach basic concepts like synonyms, antonyms and fractions. We classify explanations given by teachers for each of the concepts into four categories: excellent, moderate, poor, and incorrect. Having categorized all teachers into one of the four categories for each of the concepts, we aggregate it into a pedagogy index using principal components analysis. Using the pedagogy index, we group the sample into two

categories: good if the pedagogy index is greater than the median value of the index and poor if otherwise. We term these as “good pedagogy” and “bad pedagogy” respectively.

Correlating with test scores in numeracy and language, we see that there is a difference of 2 percent in both subjects across students taught by an “above average” teacher and a “below average” teacher [Figure 4.5]. Kingdon (1999b) too finds that quality of education of teachers has a strong, statistically significant impact on pupils’ overall achievement scores.⁴

Figure 4.5: Teaching Pedagogy & Test Scores

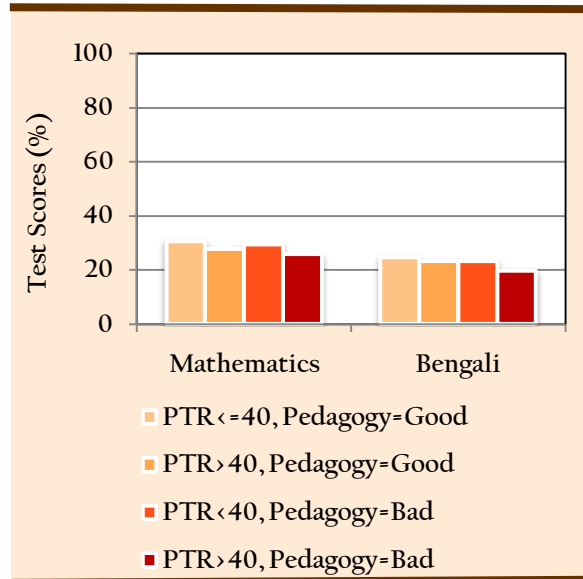


Is there a trade-off between class size and teacher quality? We control for PTR and pedagogy to test whether smaller class-sizes are more desirable compared to better teaching pedagogy or vice-versa. We divide the data into four groups: where PTR is low (≤ 40) and pedagogy is good, where PTR is high (>40) and pedagogy is good, where PTR is low and pedagogy is poor and where both PTR and pedagogy is poor [Figure 4.6].

As expected, there is a difference of 5 percentage points between low PTR and good pedagogy and high PTR and bad pedagogy. However, for

⁴ Kingdon (1999b) uses an average of the grades received by the teacher himself/herself at different levels of education to proxy for teacher quality.

Figure 4.6: Teaching Pedagogy, PTR & Test Scores

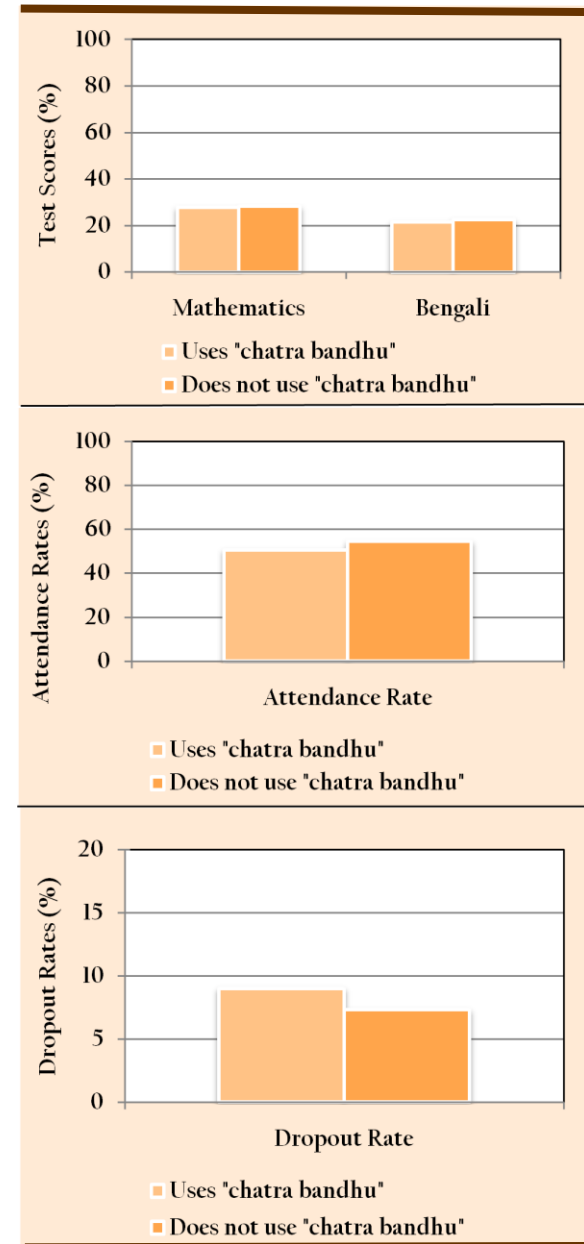


numeracy scores, it seems that smaller class sizes are preferable to better pedagogy. But in case of language scores, better pedagogy yields higher scores. Of course the difference between the categories is of the order of 1-2 percentage points.

We also asked teachers whether they used ‘rapid readers’ (*chatra-bandhu*) or recommended that their students use it at home. These books are written with the objective of memorizing certain concepts without making an attempt to make the students understand them. In our sample, about 15 percent of the Class IV teachers responded affirmatively to the above question. Test scores are a percent higher in schools where the teachers do not recommend use of these rapid reader books compared to schools where such books are recommended.

Even though teaching pedagogy (i.e. explanation of synonyms, antonyms, and fractions) do not show significant correlation with attendance and dropout rates, there is a difference in both these rates depending on whether or not the teacher recommends the use of “*chatra bandhu*” [Figure 4.7].

Figure 4.7: Use of *Chattra Bandhu*, Test Scores, Attendance & Dropout Rates



Governments at the Centre and in different States have taken a conscious decision to reduce the burden of examinations on children by instituting a policy of “no detention” in primary school. Students are automatically promoted to the next grade and do not have to take examinations regularly. Previously this was at the end of Class IV but has recently been

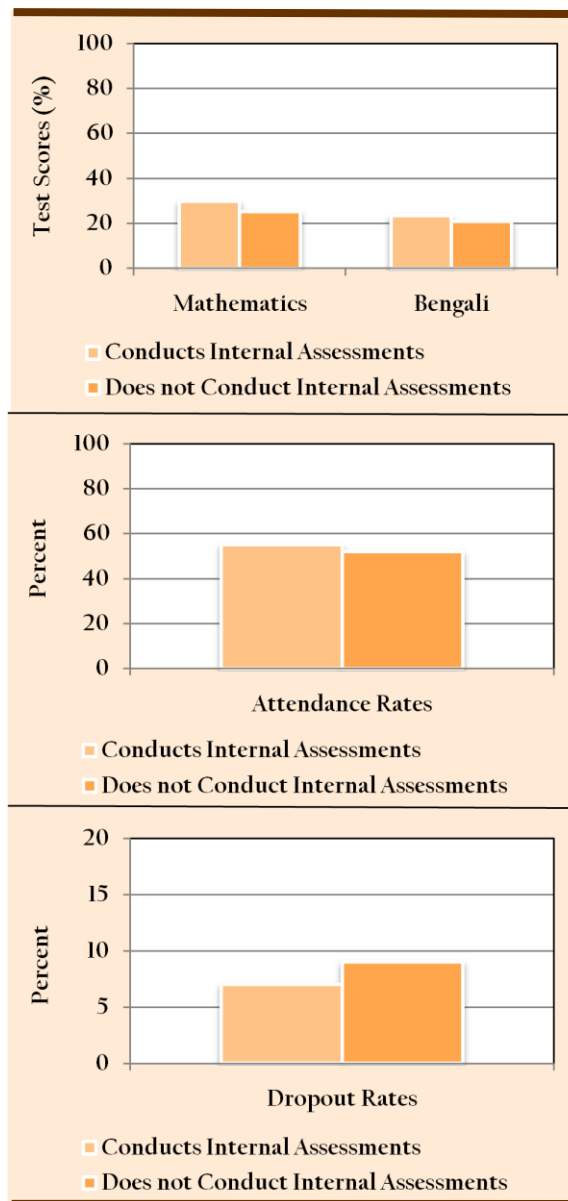
changed to end of Class III. However, it is unclear whether this is a good policy or not.

During our survey, several parents told us that they were unhappy that their wards were being promoted to the next class even though they knew that their children had not mastered much of the learning materials taught in the previous class. Even head teachers were of the opinion that with the “no detention” system in place, teachers were less motivated to put in their best effort to teach the students. Finally, the extent of “non-learning” by the students accumulates significantly by the time they reach the last year of primary school and is ready to graduate to upper primary school.

Under these circumstances, some schools do conduct their own internal assessments to evaluate the extent of learning of their students. In our sample, nearly two-thirds of the 240 schools conduct internal assessment of their students. In Birbhum less than half, and in Murshidabad about 80 percent of the sampled schools conducted some kind of internal assessments. Almost all these schools conduct a written exam to evaluate their students. The frequency of such assessments vary from weekly tests (40 percent) to monthly tests (33 percent) among those reporting that they conducted internal assessments. Does implementing these internal assessments have an impact on test scores, attendance and dropout rates?

In Figure 4.8, we correlate the test scores and the dropout and attendance rates with whether schools administer an internal assessment test or not. Schools where internal tests are conducted perform better in terms of all the outcome indicators i.e. test scores are higher in both subjects, attendance rates are higher, and dropout rates are lower. Difference in mathematics scores are as high as 5 percentage points and differences in attendance and dropout rates range between 2-3 percent.

Figure 4.8: Internal Assessments, Test Scores, Attendance & Dropout Rates



Head teacher & Teacher Characteristics: Educational Qualification, Official Leave, Handling of Classroom Situations

Primary school teachers constitute one of the largest set of professionals in West Bengal (as also in India). According to *The Pratichi Education Report II* (2009) in 2006-07, there were three teachers per primary school in West

Bengal with an average pupil-teacher ratio 45 students to a teacher. Of these, three-fourths were males.

In our sample, we similarly have three teachers per school with three-fourths of the teaching body being males. Of these these teachers, one-third belong to the SC/ST community and another 10 percent to the OBC community. The average age of the head teacher is 50 years and that of Class IV teacher is 40 years.

About a third of the head teachers interviewed had at least a college degree. In comparison, only ten percent of the Class IV teachers had a college degree. There is some correlation between the educational qualifications of the head teachers and student outcomes.

A common complaint of both the head teacher

and the Class IV teacher is that a significant portion of their teaching time is lost because they are engaged in non-school related official work like house-listing activities for the census, voter registration drives etc.. Through our questionnaires we tried to elicit the number of days that the teachers were absent from school due to various reasons.

Average number of days spent on non-school related official work is 3 days for both the head teacher and the Class IV teacher [Table 4.2]. On average, head teachers are away from the school for at least thirty days and the Class IV teacher for twenty-one days in an academic year for official reasons. Majority of leave taken by the Class IV teacher is for personal reasons and for attending teacher training activities.

TABLE 4.2: Average Number of Leave Taken by the Head Teacher and Class IV Teacher

Type of leave	Personal	Training	School-related meetings	Make complaints and/or requests on behalf of school	Salary	Non-school related official work	Total number of days
Head Teacher	7	7	7	2	5	3	31
Teacher	7	6	2	1	3.5	3	22.5

TABLE 4.3: Impact of Different Types of Leave Taken by Class IV Teacher on Attendance & Dropouts

Type of leave	Total		Personal		Training		School-related meetings		To make school specific complaints and/or requests		Non-school related official work	
	D	A	D	A	D	A	D	A	D	A	D	A
No	5.98	56.50	7.80	54.15	6.73	57.75	7.07	53.77	7.33	54.46	7.45	52.29
Yes	7.73	53.74	7.57	53.81	7.92	52.67	8.77	54.15	9.43	50.62	7.90	56.48

D: Dropout rates

A: Attendance Rates

Tables 4.2 and 4.3 suggest that if a teacher is frequently absent from schools even though he/she is on official leave, it does not augur well for the students. They are less inclined to come to school and more inclined to dropout from the primary school cycle altogether.

We also plot the Mathematics and Bengali test scores (average school score) against the specific type of leave taken by the head teacher and the Class IV teacher of that school [Figure 4.10]. Student test scores are also better if the teachers are in school.

We collected qualitative information on what a Class IV teacher's response would be if certain specific situations arose in her class. The purpose of collecting such information was to assess how teachers handle different commonplace situations that arise within the classroom, and to study the impact of their responses on test scores, attendance and dropout rates. Using the qualitative information, we categorized them into different response groups by the teacher. In this report, we report the results for three different problems: students under-performing in relation to their abilities, students continuously disrupting classes, and male students behaving in a derogatory manner towards female students. The results of our analysis are reported in Table 4.4.

The worst case scenario in terms of all outcome indicators is if the teacher is aware of the problem but does not take any concrete step towards a resolution. In such schools, typically the test scores are significantly lower and dropout rates much higher compared to schools where some action is taken. Attendance rates are however affected only marginally. On the other hand, if the teacher tries to understand the underlying cause of the problem, children are likely to respond better. For example if a student is under-performing in his studies, and

if the teacher tries to find out the underlying problem then there is a 7 percent chance that he/she will dropout from the program as compared to a 13 percent chance that he/she will dropout from school if the teacher does nothing. There is also a difference of nearly 9 percentage points in numeracy and language scores when the two situations are compared.

In general, there is no obvious pattern in attendance rates across the different responses of the teacher.

However in case of male students misbehaving with female students in class, if the teacher does nothing and ignores the situation then it is likely that average attendance rate will fall to 39 percent as compared to an average attendance rate of 53 percent in the sample.

Table 4.4 reflects on another dimension of teacher quality. While teaching pedagogy is probably the most important characteristic of a teacher, handling of difficult situations in the classroom is also an important teacher characteristic to ensure smooth functioning in the classroom.

Mr. A is a teacher in a government school in a remote area. He owns a diagnostic pathological laboratory in the nearby town. He has not entered the school premises for the last three years. The local community and the guardians of the children in that school are told that he is on leave from the school. Teachers in the school know that he has some political leverage on account of which he can afford not to attend school for such a long time.

Figure 4.9: Test Scores & Official Leave Taken by Head Teacher & Class IV Teacher



TABLE 4.4: *Impact of Manner in which Class IV Teacher Handles Different Situations Arising in Class on Test Scores, Attendance and Dropout Rates*

	Numeracy scores (percent)	Language Scores (percent)	Attendance Rate (percent)	Dropout Rate (percent)
Students not performing with respect to their abilities				
<i>a. Inform parents</i>	29	22	52	8
<i>b. Give special attention</i>	27	22	54	7
<i>c. Find out underlying problem</i>	32	26	56	7
<i>d. Do nothing</i>	23	17	57	13
Students are disruptive in class				
<i>a. Inform parents</i>	30	23	51	8
<i>b. Give special attention</i>	29	23	48	6
<i>c. Explore underlying problem</i>	29	24	55	8
<i>d. Discourage through explanation</i>	25	21	58	8
<i>e. Do nothing</i>	25	21	64	9
Male students misbehave with their female counterparts				
<i>a. Inform parents</i>	26	18	51	8
<i>b. Explain</i>	29	23	55	7
<i>c. Punish/reprimand</i>	25	22	52	9
<i>d. Problem non-existent</i>	34	26	55	9
<i>e. Do nothing</i>	20	16	39	7

A DPSC chairman advised the primary school teachers in his district to write annual reports describing the strengths and weaknesses of each student in their school. He informed them that by starting this process they will be able to track the learning developments of the students and specifically help students in areas that they are found to be lagging behind. Of the several hundreds of schools under his responsibility, the DPSC chairman informed us that only a few schools compiled such a report. Many ignored his advice. Explaining this inertia on part of the teachers, the DPSC chairman goes on to say that the teachers are not conscientious, they are not accountable to anyone, there is no effective monitoring system in place. Finally, the teachers themselves are of the opinion that the rot in the system is so deep that it is virtually impossible to make it better!

Chapter Summary

- School infrastructure is less of a constraining factor today than it was a few decades ago. However some shortcomings still exist. In schools where facilities like school playgrounds and separate girl's toilets are available, it is likely that attendance rates are going to be high and dropout rates are going to be low.
- Average student-classroom ratio is 64 students to a classroom. This is higher than the all India average of 60 students to a classroom. As the number of students per classroom increases, test scores decrease and student attendance rates also drop.
- Pupil-teacher ratio in our sample is 55 students to a teacher. PTRs are alarmingly high in districts like Murshidabad and South 24 Parganas. We do find some association between PTRs and low test scores, low attendance rates, and high dropout rates.
- While percentage of *para* teachers is not very high in our sample, *para* teachers in smaller schools are more likely to play a positive role as opposed to *para* teachers in larger schools where they act as substitutes for regular teachers.
- Teaching pedagogy does affect student outcomes. A DPSC chairman was of the opinion that attendance will improve if teachers teach in an interesting manner. To a certain extent, this is borne out by our data. Teachers using "*chatra bandhus*" are likely to have lower attendance in their classrooms and higher dropouts from their schools.
- While parents, students and teachers are opposed to academic pressure on children from a very young age, it is unclear whether eliminating all evaluation systems is a good practice insofar as learning achievements are concerned. Our study provides some evidence that continuous internal assessments do help in improving learning achievements of children.
- Absence of teachers from schools (for official duties) hampers student learning outcomes.
- Students are attracted to schools if they get respect, attention and care from their teachers. We collected some information about the manner in which teachers handle difficult situations. Teachers who handle classroom situations diligently are more likely to encourage students to attend schools regularly and to improve their learning achievements.

5

Explaining Outcomes: Community Participation



Community participation by parent groups and by local community residents can enhance teacher effort levels and can thereby increase students' academic performance. Since 1986, there has been an increased emphasis on greater community involvement in the delivery of primary school education.

In this chapter, we analyze the roles that formal community organizations like the Village Education Committees (VECs) and the Mother Teacher Associations (MTAs) play in the delivery of primary school education in rural Bengal. Using information gathered from the surveys administered to the households, school teachers, VEC members, and officials in the school circle, we discern patterns between student learning outcomes and effectiveness of community organizations.

A school in a remote corner of Sitalkuchi has two assistant teachers and a head teacher. The head teacher lives close to the school but the two teachers stay far and commute to school on their personal motor-bicycles. Every day, they come late to school, often after 12:30 pm. The VEC reprimands them on several occasions and also makes fervent appeals to them to leave their homes early so that they can come to school on time. But these reprimands and appeals have no effect. A helpless VEC then passes a resolution that if the two teachers come to school on time every weekday, then they would be allowed not to come to school on a Saturday. On this day, the head teacher will manage the activities in the school. To-date this arrangement is working efficiently and at least the quality of education is not suffering most of the time.

5.1 Introduction

Participation of local community members has become an important component in the provision of public services. Local level participation ensures consistency between policy and local demand. There is some evidence to suggest that community participation does, to an extent, lead to effective public service delivery in different social sectors.¹

¹ Using data from 121 diverse rural water projects, Isham, Narayan, and Pritchett (1995) have shown that increasing beneficiary participation in project administration directly leads to better project outcomes.

In case of education, the local community is better informed about the priority areas of expenditures, and is also in the best position to monitor daily activities within (e.g., teacher and student attendance) and outside (e.g., out of school children, dropouts) the school. It can provide inputs to block and district officials who are often over-burdened and are far removed from the school area. Community participation through parental group's and/or local community residents' classroom visits can also enhance teacher effort levels and thereby increase students' academic performance.

Community participation utilizes relevant information that government agencies are not likely to have, and also imposes commitment on teachers, thereby ensuring that they exert greater effort. Teachers become accountable to the community association which in turn monitors, supervises, and evaluates their performance.

Sawada (2000) investigated the role of community participation in the area of primary education reform in El Salvador's Community-Managed Schools Program (more popularly known by the acronym EDUCO or *Educacion con Participacion de la Comunidad*). The EDUCO program is an innovative program for both pre-primary and primary education which decentralizes education by strengthening direct involvement and participation of parents and community groups. Sawada found "consistently positive and statistically significant community participation effects on standardized test scores."

While there is increasing evidence of the positive externalities of community participation in public service delivery, education administration in many developing countries including India continues to be over-centralized, where the local community and/or the parents of the students are excluded

from most decision-making processes. This is despite establishment of formal institutions like the Village Education Committees (VECs) and the Mother-Teacher Associations (MTAs).

From our survey, and through the various questionnaires administered to the different stakeholders of primary school education in rural Bengal, we examine the role of community involvement in the delivery of quality primary education. Those surveyed include household respondents, teachers and head teachers of the sampled schools, sub-inspectors of the school circles, and the DPSC chairmen.

5.2 Awareness about MTAs and VECs among households

In 1999, the PROBE Report stated that less than a fifth of their sampled schools had a Parents Teacher Association (PTA). Even in areas where PTAs existed, most met only on occasions like Independence Day and Republic Day. In our sample, there is no MTA in 8-10 percent of the sampled schools. There is a VEC in the local community of all the sampled schools. However, the situation at the ground level has not changed very much.

Less than 25 percent of the survey respondents are aware about the existence of the VEC, and 33 percent are aware of the MTAs [Table 5.1]. The level of awareness regarding the VEC and

Box 5.1: *Establishment of MTAs*

The MTA committee consists of two mothers from each class between Grades I-IV. If there are disabled students then a total of two of their mothers from Grades I-IV will also be appointed to the MTA. Often, the VEC president (if eligible) is also the MTA president and the SSK's head teacher is the convener. In general, the convener is required to elect the representatives of the MTA in consultation with the head teacher of the school. However, in reality, all VEC members who are also eligible to be members of the MTA are also in the MTA committee. No specific responsibilities are given to the MTA members but they are required to meet at least once a month.

Box 5.2: *Establishment of VECs*

The National Policy on Education (1986) supported the involvement of local communities. It was decided that appropriate bodies would be assigned a major role in school management activities to establish a link between the school and the local community. This would in the long-run improve the quality of education imparted in schools, reduce absenteeism among both students and teachers. With the 72nd and 73rd constitutional amendments in 1992, provision for a village level education committee was also made. Under the provision, apart from the *panchayat* head who acts as the chairperson of the committee and the head teacher of the school, other members of the committee will include a representative of the schedule caste/tribe community, one parent whose ward is studying in the primary school, SSK, high school, ICDS respectively, a parent of a disabled student and an ICDS worker of the village. If institutions like the child labor schools, EGS, continuing education programs, adult literacy programs exist then a representative from each will be chosen to be part of the VEC. The responsibilities of the committee would include checking of the teacher and student attendance registers, monitoring the functioning of the school, and monitoring school construction and repair activities. There would be some devolution of financial powers too.

the MTA is the highest in Bankura where majority of the respondents express familiarity with at least one or both the organizations. On the other hand, in Birbhum, less than a quarter of the household respondents have heard about the existence of either organization.

In all districts except North 24 Parganas, guardians are more likely to have heard about MTAs as compared to the VECs. However awareness about the existence of such institutions in no way implies active participation by the household respondents. Less than half of those who said that they have heard about the MTA attended the last MTA meeting that was convened prior to the survey, and even fewer had voted in the election process of the current MTA president.

Responses of households about the role of the VECs in the delivery of primary education include infrastructure development, provision of Mid Day Meals (MDMs) and general monitoring of school activities. Role of VECs in dealing with teacher issues like regular attendance are rarely mentioned.

Correlating awareness of households about VECs and MTAs with the student test scores,

we find that test scores are higher if households had heard about both community institutions. Scores are marginally higher if households had heard only about MTAs as compared to households who had heard only about VECs. There is a difference of 8-10 percent in test scores of students belonging to households who had heard about both the VECs and MTAs compared with students of households who had heard of neither of the institutions [Figure 5.1].

FIGURE 5.1: Test Scores & Awareness about MTAs/VECs among Households

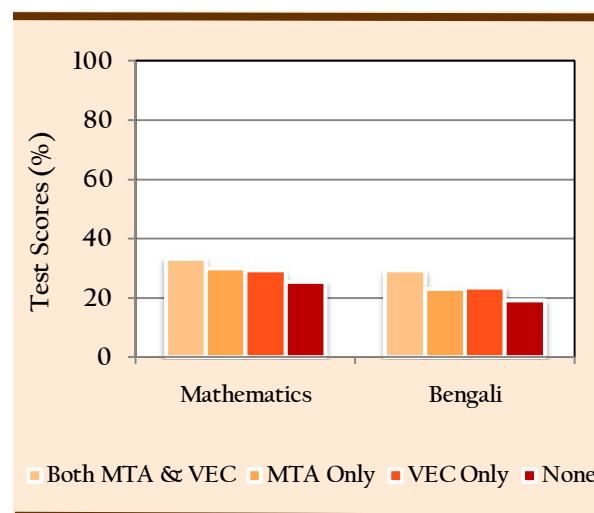


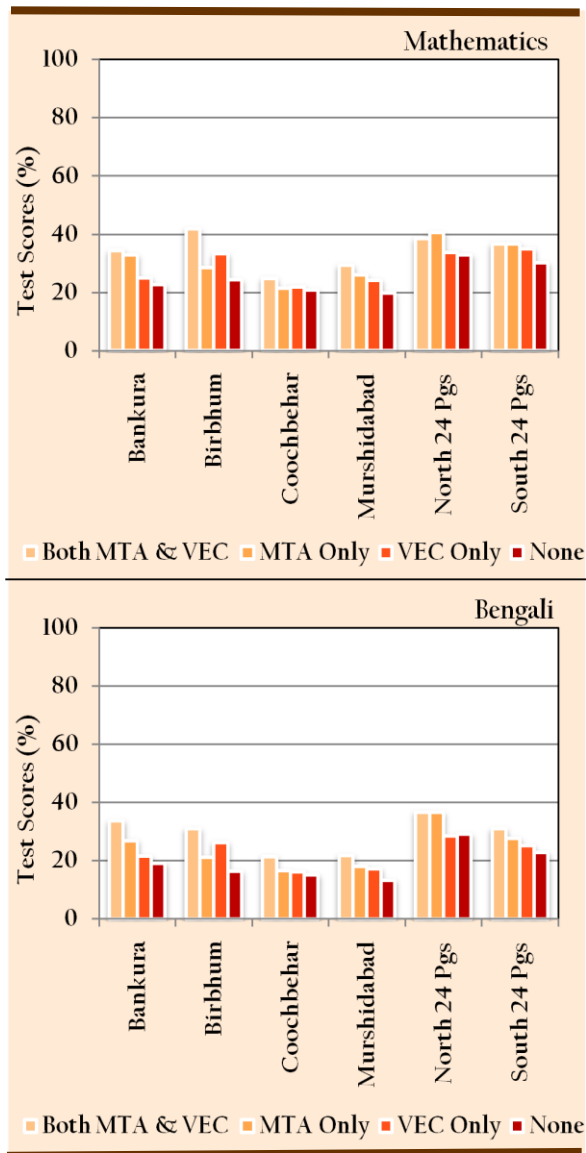
Table 5.1: Knowledge about Existence of MTAs & VECs by Households

	Total	Bankura	Birbhum	Coochbehar	Murshidabad	North 24 Pgs	South 24 Pgs
MTA only	17.3	17.5	8.5	15.0	30.3	13.0	14.3
VEC only	8.2	12.3	4.4	8.0	4.8	15.4	5.8
MTA & VEC	15.2	28.2	7.5	20.2	11.3	18.3	10.8
Neither	59.4	42.1	79.6	56.8	53.7	53.4	69.1

Source: CSSSC-SRTT survey (2008-09)

In Birbhum, where the respondents were the least aware of MTAs and VECs, differences in scores between households who knew about both institutions and households who knew of neither were as high as 13-14 percent. Household awareness about VECs and MTAs had the least impact in Coochbehar [Figure 5.2].

FIGURE 5.2: Test Scores & Awareness about MTAs & VECs across Districts

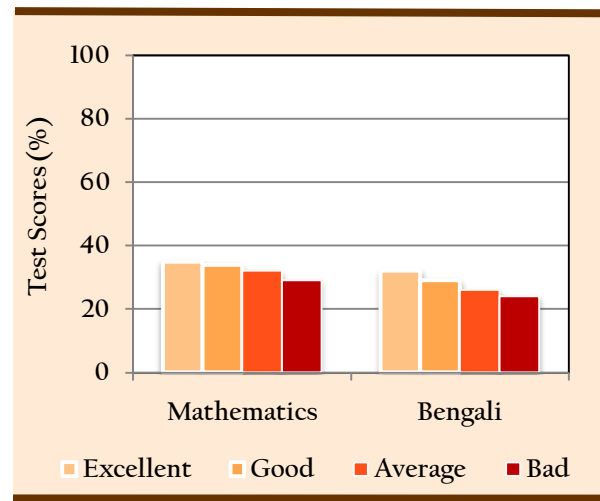


Household respondents were also asked to what extent the MTAs have helped in improving the

quality of primary education in their locality. Test scores were the lowest in both subjects where the parents had a low opinion about the MTAs.

Contrarily, scores were the highest when parents opined that the MTAs were doing an excellent job in providing good quality primary school education [Figure 5.3].

FIGURE 5.3: Test Scores & Household's Opinions about Performance of MTAs



5.3 Interactions between Schools & MTAs & informal community arrangements

MTAs in Schools

Even though 35 percent of household respondents report that they have not heard about the MTA, 85 percent of our sampled schools do have an MTA according to the responses of the head teachers. Of the sampled schools which do not have MTAs, majority are located in the districts of North 24 Parganas and Coochbehar. Only one out of forty sampled schools in Birbhum report that an MTA has not been formed. In all other districts, the teachers report that there is a MTA functioning in that school.

A MTA meeting is about to begin. Minaral Mahato, the head teacher takes the microphone and says “Welcome to World Beauty Contest of Chandanpur”. The attending mothers feel self-conscious and embarrassed because they have made an effort to attend the meeting in their best finery. Many resolve to skip the next meeting.

About 12 percent of the schools held twelve or more MTA meetings in the previous year and about 13 percent of the schools did not hold any MTA meeting during the previous year. In Birbhum more than 50 percent of the schools report that 12 or more MTA meetings were held during the previous year. But as seen earlier, knowledge among guardians about the MTA is the lowest in Birbhum.²

MTA meetings are held in most schools. Only 11 percent of the head teachers report that no meetings were held in the last year. In a quarter of the schools, between 6-12 meetings were held and in another twenty-five percent of the schools more than twelve meetings were held.

How effective are the MTAs? To answer this question, we correlate the number of MTA meetings (as reported by the head teacher) held during the year with the learning outcome indicators. The number of times that the MTA meets has no effect on test scores in both subjects. There is some impact on attendance rate but here too, if the number of meetings held is more than 12 per year it has a deleterious effect on attendance rate. The only outcome

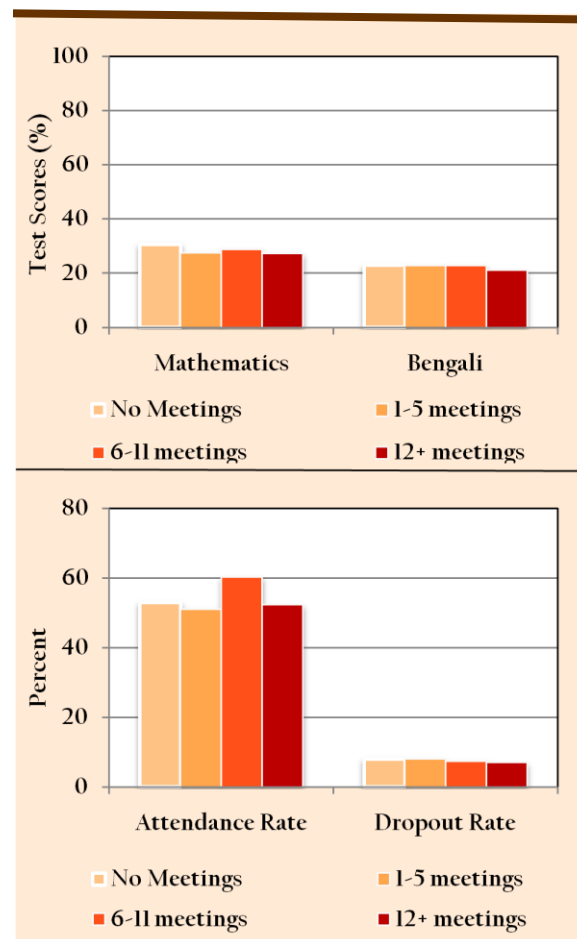
² This observation is consistent with the Pratichi Trust’s report (2009) where they state “...while a large number of parents being unaware about the existence of any committee, 85 percent of primary school teachers asserted that the committee was already functioning” (page 91).

indicator on which some impact is observed is average dropout rates [Figure 5.4].

Informal Community Associations in Schools

VECs and MTAs are formal institutions that facilitate community participation in the provision of primary education in rural areas. But local residents can also informally participate in activities that are related to the delivery of primary education. Are informal interactions more effective in providing better quality of primary education as compared to formal institutions like MTAs and VECs?

FIGURE 5.4: Test Scores, Attendance & Dropout Rates & Number of MTA Meetings Held in a Month



We asked the Class IV teachers whether the local community (other than the MTA and

VEC) were involved in school activities like monitoring of student attendance and dropouts, persuading parents/guardians of out-of-school children to send their wards to school, and making monetary contributions towards the purchase of teaching aids, sports equipments and other school infrastructure. Correlating each of these activities with the different outcome indicators we observe that informal arrangements appear to be working better than formal institutions like the MTA and VEC in the provision of primary education in rural areas [Figures 5.5 & 5.6].

We make a few observations regarding the informal community arrangements. Only about 11 percent of communities give donations for purchase of teaching aids and about 18 percent for school infrastructure development. Virtually no contributions are made towards the purchase of sports equipments. But more than 40 percent of the communities are actively alert about student dropouts and attendance, and out-of-school children.

Correlation between active monitoring of student attendance rates by the locals, and student scores in numeracy and in language is about 3 percent, as compared to communities where locals are inactive; student attendance

Banolata Sarkar is a MTA member. In a MTA meeting, she complains that teachers use their mobile phones in classrooms for private conversations. Prabir Sarkar is Banolata's son who studies in the primary school where his mother is a MTA member. Following the complaint, Prabir is singled out in class and humiliated frequently by the teachers. Prabir pleads with his mother not to be an active participant in MTA meetings.

rates (dropout rates) increased (reduced) by 6 percent (2.5 percent). If locals are alert about student dropout rates, that leads to an increase of nearly 6-7 percentage points in student attendance rates and a reduction of 1.5-2 percentage points in dropout rates. [Figure 5.6].

5.4 A Detailed Analysis of the VECs

We administered a detailed questionnaire to the

Rambabu is educated, independently wealthy and the president of the VEC in his area. He has a dream to make his village a model village in rural West Bengal. Rambabu works relentlessly day after day trying to persuade parents to send their children to school regularly, helping students who are lagging behind in their studies, arranging for part-time work for parents from economically weaker families. Everyone in the village respects and admires Rambabu. Very few VECs that we interview during our survey are as enterprising, active and motivated as Rambabu. However, one constituency - the teachers in the school - are opposed to Rambabu's education activism in the village.

VEC president and one other VEC member (other than the head teacher of the school).³ We collected detailed information about their socio-economic status and demographics, and asked them about their opinions on various aspects of primary school education in their area. We try to discern patterns between characteristics of the VEC president/members, their opinions about primary schooling in their local area, and the different learning outcome indicators.

³ Ten percent of the VEC members were guardians of the students who took our achievement tests.

FIGURE 5.5: Test Scores & Informal Interactions with Local Community

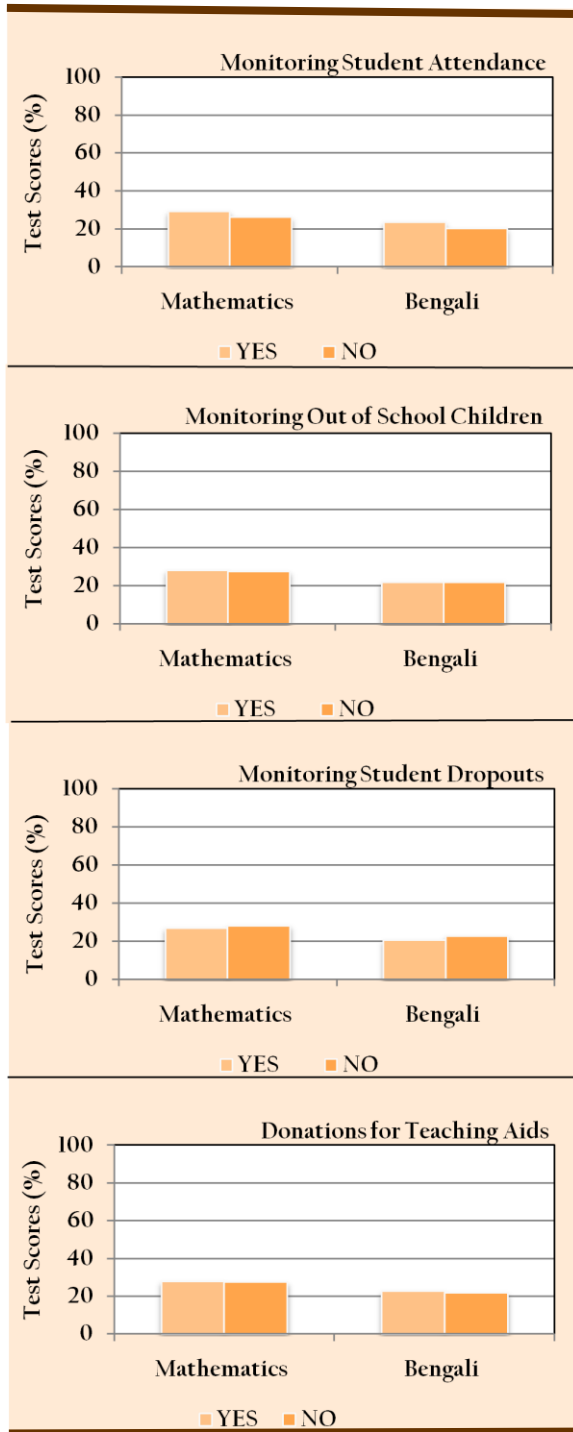
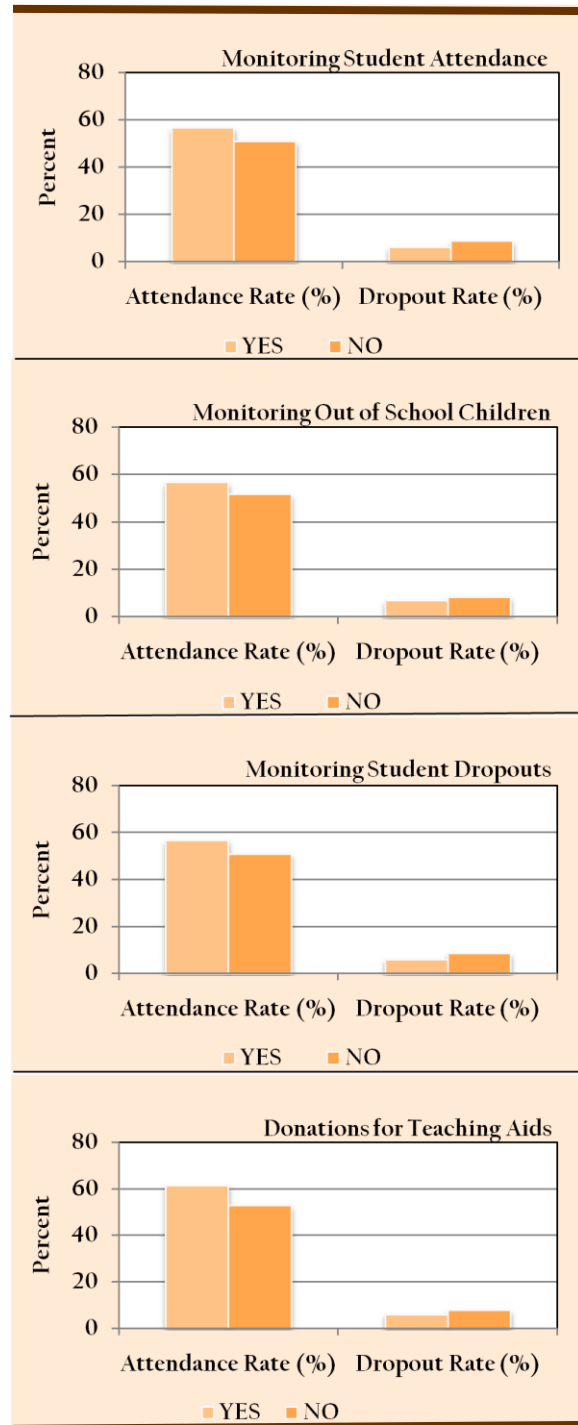


FIGURE 5.6: Student Attendance & Dropout Rates & Informal Interactions with Local Community



Political Affiliation

The VEC president is a, elected representative affiliated to a political party. Are there any correlations between student outcomes and the political party to which the VEC president belongs to?⁴

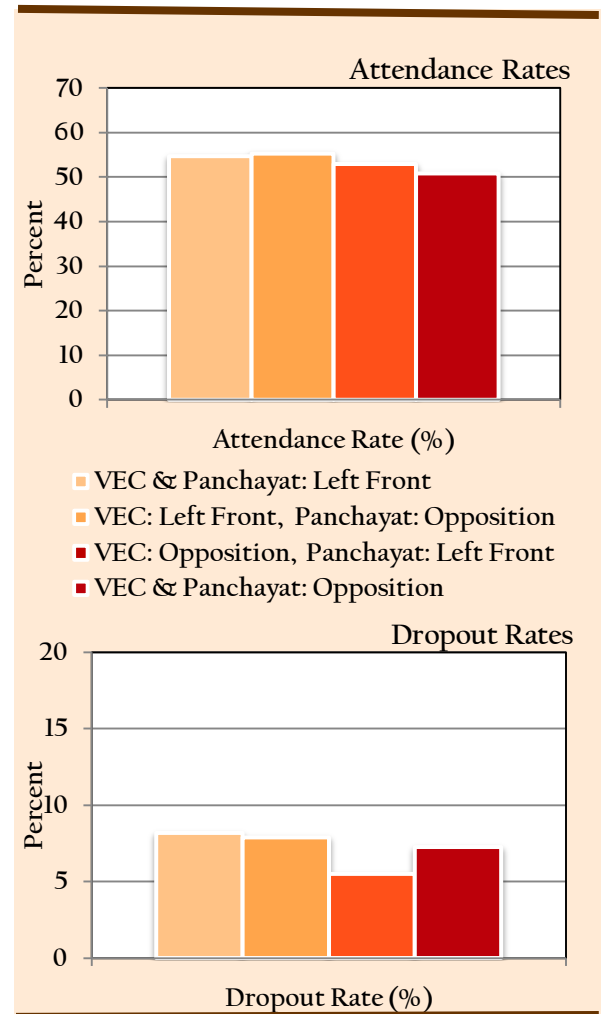
We categorized all partners of the ruling party as Left Front and all other political parties as Opposition.⁵ Correlating student test scores with the political affiliation of the *panchayat* and that of the VEC president, we find virtually no difference in the scores across party lines. Language scores are marginally higher by one percentage point if both the *panchayat* and the VEC president belong to the Left Front.

However, in outcomes like student attendance rates and dropout rates that are more direct responsibilities of the VEC, there are some differences depending on which party is in power at which level. For example, attendance rates are relatively higher when the Left Front is in power in both the VEC and the *panchayat* as compared to the case where the opposition parties are in power [Figure 5.7].

Socio-religious, demographic & educational characteristics

Some of the characteristics of the VEC president that we examine are the social status, religion, and gender of the VEC president. We report the results for the VEC member separately only if they differ from the results reported for the VEC president.

FIGURE 5.7: Student Attendance & Dropout Rates & Political Affiliation of VEC President & Panchayat



Approximately 30 percent of the VEC presidents were females.⁶ All outcomes are lower if the VEC president is a female. The largest difference is observed for attendance rates which are 6 percent lower if the president is a female.

⁴ We had also asked the VEC member about his/her political affiliation. As it transpired, the political affiliation of the VEC president and the VEC members were the same.

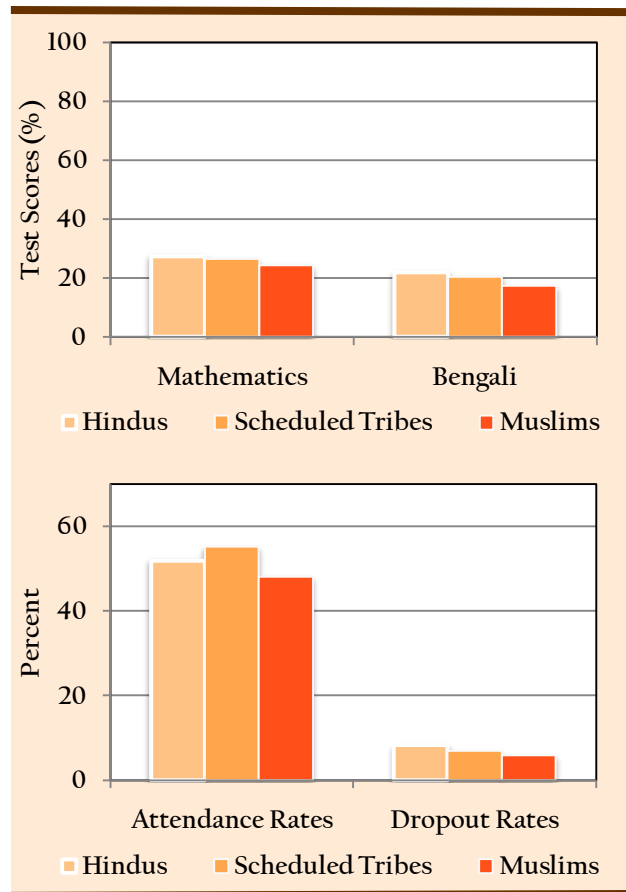
⁵ Even though the ideologies of the opposition are vastly different, we had to club together all non-left parties into an opposition group due to smallness of the samples of the individual opposition parties.

⁶ In case of VEC members, our target was to randomly choose a female VEC member. In instances where no female VEC member was available, a male VEC member was interviewed. In our sample nearly 80 percent of the VEC members interviewed were females.

Over 70 percent of the VEC presidents belonged to the majority community. About 46 percent belonged to scheduled castes and 38 percent to the general category. We categorize all VEC presidents into three groups: (i) scheduled castes (ii) Hindus (general category) and (iii) Muslims (general category). There is no obvious pattern across the student outcomes in the different categories. Test scores are better in schools where the VEC president belongs to the Hindu community. But student attendance and dropout rates are better if he/she is a scheduled caste member [Figure 5.8].

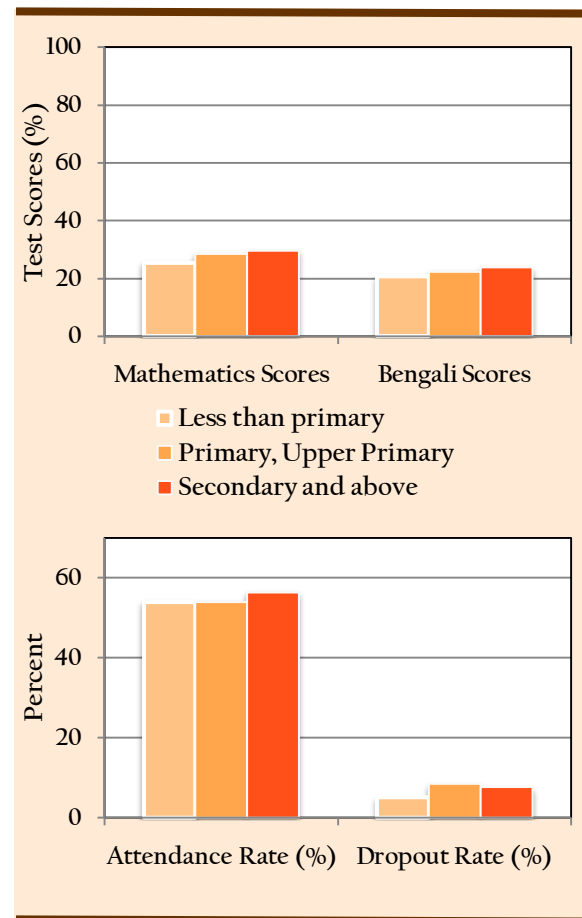
In our sample, approximately 55 percent of the VEC members interviewed had completed primary and/or upper primary level. Another 32

FIGURE 5.8: Student Outcomes & Socio-Religious Group of VEC President



percent had completed secondary school education. Only 13 percent of the sample had less than primary education. The trends are similar to that observed for the VEC president. Comparing the outcomes across the education levels of the VEC members, we find that students associated with VECs whose members are more educated perform better. [Figure 5.9].

FIGURE 5.9: Student Outcomes & Educational Levels of VEC Member



Experience of VEC president and his/her opinion about the VEC president's post

Even though less than 10 percent of the VEC presidents in our sample have been in this position for more than five years, correlating their tenure with learning outcome indicators show that on-the-job experience matters. But

Table 5.2: Reasons for Visits by VEC Representatives

Reasons for visits	Percent
General Visit	30.83
MDM activities	23.75
Attend VEC meetings	18.33
Formation of VEC committee	6.25
Monitor studies	7.08
Infrastructure activities	14.17

Source: CSSSC-SRTT primary survey (2008-09)

as the sample is small, caution should be exercised in interpreting these numbers.

About 10 percent of the VEC presidents think that their post is a burden. If we compare the outcomes of students in schools where the VEC thinks the post is burdensome to students in schools where the VEC thinks otherwise, we find that students in the former group perform worse than students in the latter group.

School visits by VECs

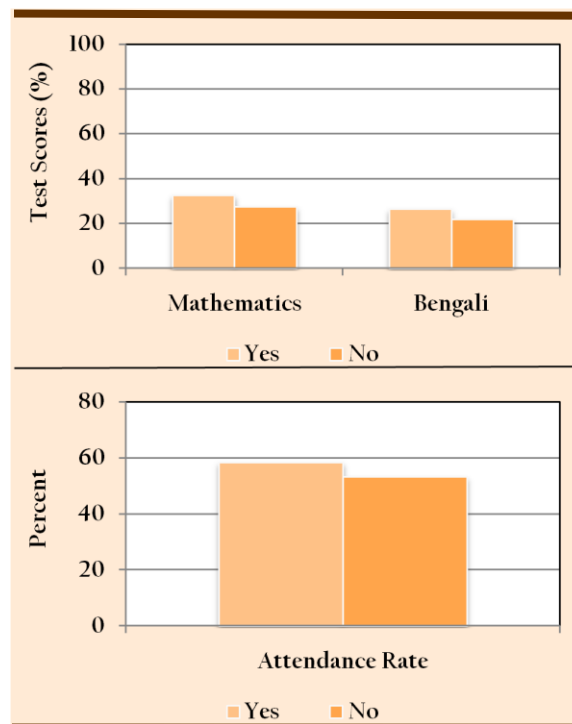
VEC members and/or presidents frequently visit the schools that they are associated with. Only 11 percent of head teachers reported that no VEC representative visited their school in the last academic year. Nearly half of the head teachers reported that VEC representatives visited their schools more than 12 times in the last academic year. In most cases, the VEC president had visited the school. It is only in 10 percent of the schools that a VEC representative (viz. VEC member, VEC secretary, *panchayat* member) visited rather than the VEC president.

VEC representatives visited the schools primarily to monitor the mid-day meal (MDM) activities (approximately 25 percent of the

visits) or for a general visit to oversee the functioning of the schools (30 percent) [Table 5.2]. Almost none of the VEC representatives visited the school to donate money or other materials. But the head teachers also said that the visit by the VECs did not in any way create problems for the schools.

However, these visits by VEC representatives were ineffective when measured against student outcomes. Only when VEC representatives visited for infrastructure related issues did we observe some impacts on student outcomes.

FIGURE 5.10: Student Outcomes & VEC Visits to Monitor School Infrastructure

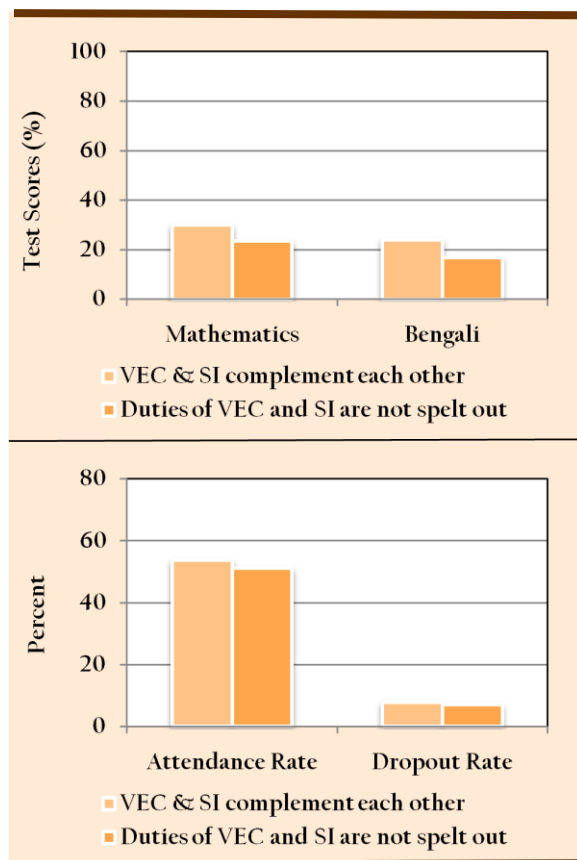


Sub-Inspector's views about the role of VECs in primary education

We also asked the Sub-Inspectors (SIs) about their perception regarding the role of the VEC and the sub-inspector's office.⁷ We asked the

⁷ Sub-inspectors head the school circle offices. They are responsible for facilitating requests made by

FIGURE 5.11: Student Outcomes & Roles of VECs and SIs



SIs whether the roles were complementary or whether the responsibilities were unclear?

Approximately two-thirds of the SIs interviewed were of the opinion that the SI and the VEC were both required for providing access to primary school education to all in an efficient and equitable manner. Remaining SIs were unsure about the differences in the responsibilities of the SIs and the VECs.

Correlating the student outcomes with these two groups of SIs we find that students in schools that belong to circles where the SI held the opinion that the VEC and the SI offices were complementary have better test scores, higher attendance rates and lower dropout rates [Figure 5.11]. The differences are not small –

schools, teacher training programs etc.. Details about circle offices will be discussed in the next chapter.

there is a difference of nearly 6 percentage points in test scores across the two sets of schools. This could be a reflection of better monitoring of schools by the local community and circle offices.

Momena bibi is a member of the VEC in her village and a member of the MTA in the school where her son is enrolled in Class IV. Momena bibi has been an active member of the VEC and MTA for several years. But during our interview with her we find that being a conscientious and honest VEC member is an onerous task. She relates an incident about the MDM which she says is common across most VECs. According to her, the rice supplied by the government for MDM is of good quality. But she says that households and students complain frequently about the quality of rice. The reason is that the VEC president along with the school teachers are selling off the good quality of rice sanctioned under the MDM in the open market and buying inferior rice that is being served to the children. Momena bibi protests about this in several VEC meetings but no one heeds to her complaints. Finally, she again raises the issue in a MTA meeting. On this occasion she is abused and humiliated. She is also implicitly told that if she raises this issue again in a community forum, her son will have to face the consequences. Momena bibi tells us that she is disgusted with the rampant corruption in the implementation of the MDM scheme and she will resign from both the VEC and the MTA committees soon. We try and persuade her not to take the extreme step urging her that the system requires more active people like her to stop the irregularities.

Chapter Summary

- Less than 25 percent of the survey respondents were aware of the existence of VECs, and about 33 percent were aware of MTAs.
- Awareness about VECs and MTAs did not necessarily imply active participation by the households. Less than half of those who had heard about MTAs attended the last MTA meeting and even fewer had voted in the election of the MTA president.
- In correlating awareness of households with student outcomes we find that students who belonged to households that had heard about both types of community institutions performed better.
- Households who had heard about MTAs had opinions about whether or not the MTAs functioned effectively. These opinions matched well with learning outcomes. For example, if households stated that the MTA of a particular school was working well, then that school's average achievement test score was "above average".
- Households were often unclear about the nature of activities that the VECs were supposed to monitor. Among the different VEC activities, households rarely mentioned monitoring of teacher performance and effort.
- According to the school teachers, non-institutional local community participation was significantly greater than participation in VECs and MTAs. Moreover these were more effective in improving student learning outcomes.
- Schools were regularly visited by VEC representatives, and MTA meetings were held on a frequent basis. However neither of these events showed significant correlation with learning outcomes.
- More educated were the VEC members, the more likely it was that a school's average test scores would be higher.
- Active VEC presidents who did not think that the post of the president was a burden were able to provide a more effective primary school education in their locality.
- Student learning outcomes were better in school circles where sub-inspectors held the opinion that their roles and the VEC's roles were complementary to each other.

6

Explaining Outcomes: Administrative Supervision



In 2006-07, there were over fifty thousand primary schools in West Bengal that hired over one and a half lakh teachers, and imparted education to over seventy lakh students. These numbers indicate the enormity of the primary school education system in West Bengal. It also indicates the need for a strong school administration system to monitor and govern the existing schools.

In this chapter, we analyze the role of the administration in the delivery of primary education in rural Bengal. Specifically, we examine the extent to which the officials are aware about issues at the school-level, what they perceive their roles to be in the provision of primary education, and their opinions about the changes in school education in the past four years.

We interviewed all Sub-Inspectors of the school circles that cover our two hundred and forty sampled schools. We also randomly chose one resource teacher in the Sub-Inspector's office and interviewed him/her.

We also interviewed the DPSC chairman of all the six districts during the course of the primary survey.

We interview all DPSC chairmen in our sampled districts during the course of our survey. Each chairman's interview is a pleasant revelation about their concerns regarding the functioning of the system, their knowledge about the ground level realities of government primary schools in their districts, and their frustrations of being an integral part of the system and yet unable to correct all anomalies. Each pleads with us to disseminate our report in their districts pledging all possible logistical support. At no time is there a suggestion or implicit pressure that the conclusions of the report should be made more palatable. Rather they encourage us to highlight the problem areas and stress on the weaknesses of the system.

6.1 Introduction

Effective monitoring of individual schools by the education administration is important in the provision of high quality primary school education in an equitable and efficient manner. An unbiased inspection system will ensure accountability on the part of all stakeholders – parents, teachers and the local community. It will also provide a natural conduit to each of the constituents to express the constraints that they face in their daily performance.¹

School inspection, however, continues to be weak around the world leaving many schools “unsupervised and unsupported” (UNESCO,

¹ For earlier studies on school evaluation systems, see Kogan (1986), Gann (1998), Holly and Hopkins (1988), and Wilcox and Gray (1996).

2002). While several studies on primary school education in India (Kingdon, 1999; Mehrotra, 2006; among others) analyze the importance of household, student, teacher and school effects on student learning achievements, there is limited evidence available on the importance of school monitoring systems in the delivery of primary school education.²

School administration differs across states. In West Bengal, while the nodal office is the District Primary School Council, the sub-inspector (SI) and the resource teachers (RTs) (now called *Shiksha Bandhus*) are the primary officers who monitor schools and impart training to teachers, VECs and MTAs. [See Box 6.1 for more details.]

In our survey, we interviewed all Sub-Inspectors (SI) at the school-circle level that regulated our sampled schools. We also interviewed one randomly chosen resource teacher (RT) of the circle. Besides collecting information on their demographics and socio-economic characteristics, we also collated their opinions on various aspects of primary school education that fall within the purview of their responsibility (e.g., teacher training, monitoring teacher attendance, etc.).

Is an active school administration associated with better student outcomes? In this chapter we try to relate the characteristics of the Sub-Inspectors and their offices to the student learning outcomes to see whether observed variation in outcomes have some association with circle administrative characteristics.

The main outcome indicators that we use are the test scores in numeracy and language, and school attendance and dropout rates. These variables have been aggregated up from the student/school level to the circle level.

² Khandelwal et. al. (1997) is an exception.

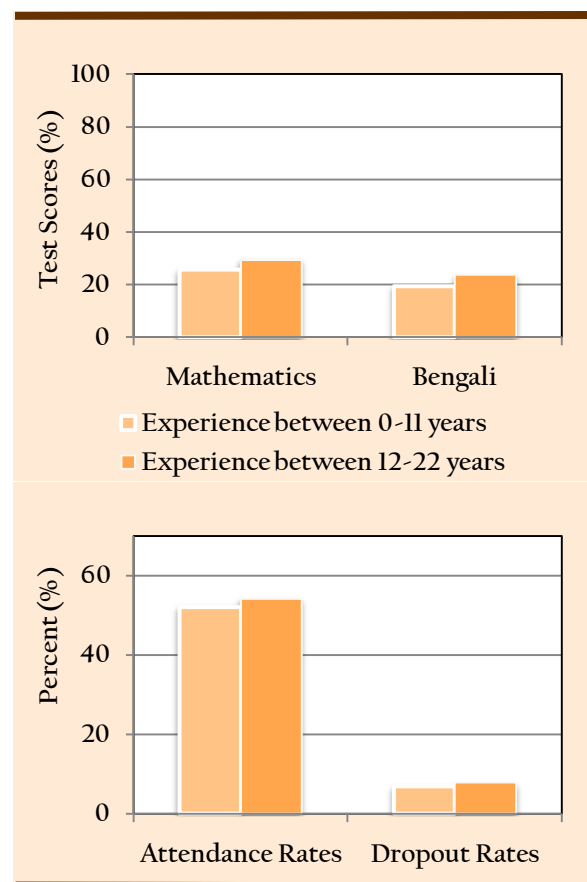
6.2 Experience of SIs & RTs

There is a school circle with most schools in its jurisdiction located along the border area with Bangladesh, annually devastated by floods and where smuggling is the primary income-earning activity. School officials are anxious... students in their schools are not making even the pass-grade year after year. There is pressure from different quarters to improve school performance. A panicked school administration instructs teachers to assist students in their external evaluation examinations so that overall results of the area improve.

Approximately half of the SIs and RTs have been in their current job for more than twelve years. Sampled schools where the SI was experienced (more than 12 years in the current post), test scores were 3-4 percent higher in both subjects.

Student attendance rates were also higher by 3 percent [Figure 6.1]. This pattern is also true for the RTs. In both cases, dropout rates were

FIGURE 6.1: Student Outcomes & Job Experience of SIs



largely unaffected by the job experience of the SI or RT.

Previous job profiles of SIs and RTs differ. A little more than thirty percent of the current SIs

Box 6.1: Primary Education Administration in West Bengal

The Directorate of School Education with its office at the State level has the responsibility of controlling the Inspectorate at the district level for both the branches of primary and secondary education. Each district has a District Primary School Council (DPSC), an autonomous organization responsible for the overall administration of primary school education in the district. Its responsibilities include qualitative improvement in methodology of teaching, strengthening of the administration, recruitment of teachers, and service benefits to the teachers. The DPSC office is headed by the DPSC chairman who is an appointed official of the government. The DPSC office executes its responsibilities with the help of district and block level Inspectorate staff. Below the block level, there are school circles headed by the sub-inspector with the resource teachers (renamed *shiksha bandhu*) acting as support staff. At the most decentralized level, the village, the Village Education Committee is the consultative body that is responsible for the school education.

were high school or college teachers, a fourth were primary school teachers, another fourth were engaged in non-educational professions and eighteen percent were unemployed. Compared to this, the experience profile of the RTs was primarily that of retired assistant or head teachers of primary or secondary schools. Approximately 39 percent of the RTs interviewed in our survey are retired primary school teachers and 38 percent are retired head teachers.

We observe differences in student outcomes depending on previous job profiles of SIs. Current SIs who were previously unemployed are more likely to succeed in improving the quality of primary education. A plausible explanation could be that school inspectors (SI) are more often than not acting as administrators responding to administrative issues like formation of various school committees, facilitating MDM rations and funds etc., but are not providing much pedagogical support. Student outcomes are better in the case of RTs who were previously head teachers.

6.3 Are the SIs & RTs overburdened?

About a third of the SI's that we interviewed had the responsibility of two circles. On average, each SI had the responsibility of 105 schools and about 15 percent of them had the responsibility of more than 150 schools. Assuming 25 working days in a month and allowing for 2 days per school visit, these SIs can at best make one visit per school in a year.

Average number of schools under the responsibility of the RT is about 48 schools. Forty percent of the RTs reported that they had the responsibility of more than 60 schools. RTs are expected to visit on average twenty schools in a month. Even if we assume that they visit all schools that they are expected to, on average, a school will be visited by an RT every third month at the earliest.

If we correlate the number of schools under the SIs' responsibility with the test scores and the attendance and dropout rates, we observe that there is no impact on test scores irrespective of whether the student studies in a school that is located where the SI has more or less than the average number of schools under his responsibility. But other indicators like attendance and dropout rates are better where the SI is less burdened.

Our findings suggest that lessening the burden of the SIs and/or increasing the number of circle staff can improve the quality of primary school education. We also ask the SIs the reasons for their inability to make more school visits. The common reasons given are "too much work" and (to a lesser extent) transportation problems.³

6.4 Responsibilities of School Circles⁴

Responsibilities of SI's office include teacher training activities, undertaking school visits to interact with teachers about their academic and administrative problems, monitoring student and teacher activities, and tracking school infrastructure and mid-day meal (MDM) requirements. The resource teachers (RTs) are the ones who primarily implement these functions.

Student responsibilities

From our data, main student responsibilities of the RTs are (a) assessing the quality of teaching imparted (22 percent) (b) assessing reasons for dropouts from the school system (26 percent) and (c) monitoring student attendance (53 percent).

None of these activities show any association with test scores. However RTs who assess the

³ Results are similar for the RTs.

⁴ The SI's office also has responsibilities regarding the MDM and teacher training activities. However these issues will be discussed in the chapters specifically dealing with these topics.

Monitoring of schools is always difficult even if there is a desire to do the job conscientiously. A DPSC chairman relates an incident that occurs frequently during his school visits. School officials are always on the alert about the vehicular movements of the DPSC chairman. This is especially the case when external evaluations are being held. A simple noise of the car horn makes them run helter-skelter to hide their dubious activities like writing answers of the questions asked in the exams on the board, schools being closed without earlier notification, teachers playing with their friends instead of teaching in the school premises etc.

reasons for dropouts show some correlation with both higher student attendance and lower dropout rates. Monitoring of student attendance by RTs also has a positive impact on student attendance rates, increasing attendance rates by three percent.

Teacher responsibilities

Teacher responsibilities of the RTs are: (a) training teachers (25 percent) (b) making school visits (38 percent) (c) reducing teacher absenteeism (33 percent) (d) monitoring the time when teachers arrive in and leave school (66 percent) (e) assessing the quality of teaching (20 percent) and (f) taking some classes to demonstrate teaching pedagogy (47 percent).

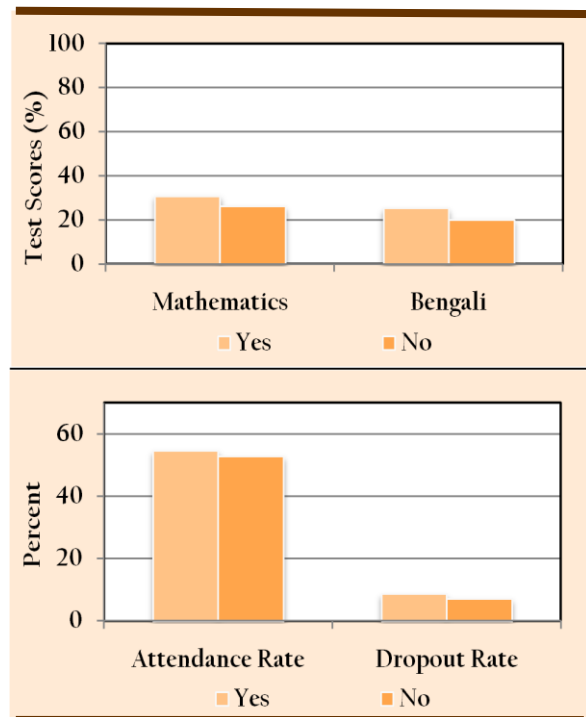
A third of the RTs claimed to have taken steps against teacher absenteeism. Correlating this to student outcomes we find that test scores increase by 5 percent in schools where RTs had

been active in improving teacher attendance. Student attendance rates are also higher in such schools [Figure 6.2]. All the other teacher related activities do not have any significant associations with student outcomes.

School visits

School visits by RTs are an important component of the activities of the SI's office. During these visits RTs focus on a few activities depending on their assessments about the needs of the school. Typical activities are monitoring of: the use of 'teaching and learning materials' (TLMs) by teachers, teaching pedagogy used in classrooms, and interactions between students and teachers. RTs also demonstrated teaching methods by teaching classes themselves.

FIGURE 6.2: Student Outcomes & RT's Efforts to Reduce Teacher Absenteeism



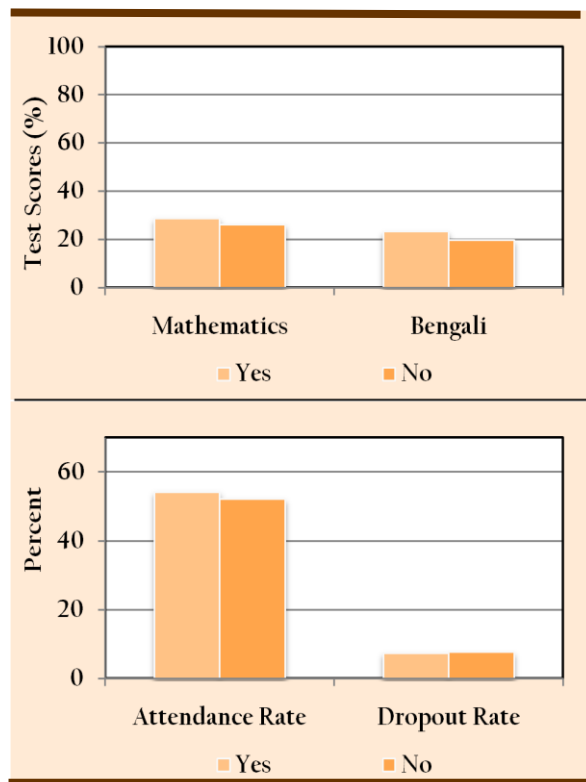
Of all the above activities, the most effective was RTs monitoring of teacher- student interactions. This was done by RTs in schools that covered two-thirds of the students in our sample. All

outcome indicators improve by 2-3 percentage [Figure 6.3]. This suggests that if the teachers know that they are being monitored then they make a greater effort to be more conscientious.

6.5 School Circle’s Opinions about changes in primary school education

In our survey questionnaire, we asked both SIs and RTs about their opinions regarding changes in student attendance, completion and dropout rates, and teacher absenteeism that they have observed in the last four years. We also asked them to give reasons for their opinions.

FIGURE 6.3: Student Outcomes & RT’s Monitoring of Classroom Interactions



In schools where the RTs opined that adequate to significant improvements in transition rates from primary to upper primary sections were made, we observe higher scores in numeracy and language, and also higher attendance rates. According to the RTs, girl children may not transit to upper primary mainly due to

economic reasons. Of all the RTs that we interviewed in our survey, none mentioned failure in Class V admission examination as a reason for not continuing into upper primary level. Only one RT mentions marriage as a possible reason for girls not continuing to upper primary classes.

In case of boy children too, economic causes are the predominant reasons for discontinuing after completion of primary education.

According to the RTs, the problem of teacher absenteeism has lessened significantly in the last four years. But the syndrome of teachers “coming late and going early” continues to be significant in two-fifths of the schools. Schools where RTs are of the opinion that significant improvements have occurred in teacher absenteeism rates also show higher test scores, and lower dropout and repeater rates.

According to the RTs, lack of conscientiousness by teachers is the primary reason for teacher absenteeism. In case of the “coming late and going early” syndrome, RTs mention ineffective monitoring by administration as an important reason, along with protection from teachers’ union. Few RTs also mentioned transport problems faced by teachers as a reason for lack of punctuality by teachers.

6.6 Nature of complaints & requests received by the SIs office

Except in one circle, all other school circles received complaints about irregular rations and funds for implementing the MDM scheme. While there were no complaints about late receipt of TLMs, a fourth of the circle offices covered in our survey received complaints about inadequate number of textbooks received and delay in receipt of textbooks by the schools. On average, students of schools that complained about inadequate/late arrival of text books also scored lower in the achievement tests, and had worse attendance and higher dropout rates as

compared to circles where no such complaints were received.

The main response of the SI's office about complaints regarding receipt of inadequate number and/or late receipt of books was to forward the complaints to the District Inspector's (DI) office and a request to teachers to use old textbooks as a stopgap measure.

Among the requests made by the schools to the SI's office, hiring of additional teachers, construction of additional classrooms, and provision of drinking water were the most common. Some schools also requested for the construction of a boundary wall and for provision of toilets in the school, especially for female students.

The primary response of the SIs on receiving these requests was to forward it to either the *Panchayat Samity* or *Sarva Shiksha Management (SSM)* or DI's office. Students of schools in circles that received requests for drinking water facilities were also those whose test scores and attendance and dropout rates were worse than schools in other circles.

6.7 SI's opinion about the role of teacher unions & panchayat politics in primary school education

The SIs were also asked about their opinions regarding *panchayat* and teacher union politics and whether they posed a constraint on the functionings of the SI's office. A third of the SIs opined that these institutions did impose constraints on their functionings. We observe a negative association of such politics with student attendance rates that are 3-4 percent lower. There is no observed significant association between test scores and politics.

In West Bengal, teachers are the single largest group within the civil service, so their unions possess considerable political power within the and/or not conscientious, and frequently in teacher transfers. Teachers are also often state.

Unions often interfere in the appointment of teachers even when they are incompetent protected by the unions even when they are absent from school during school hours.

Mridul Arya is an assistant teacher in a primary school in Murshidabad. Mridul babu is irregular in his attendance, comes to school late and even if he comes to school spends time reading his newspaper rather than teaching his students. On repeated pleas by the local community to transfer Mridul babu to another school, the administration finally relents. However Mridul babu is not worried. He is a powerful member of the Teacher's Union in his area. He is confident that the Union will not allow his transfer to be implemented.

On the other hand, the primary reason for the SIs to opine that *panchayat* politics are a constraint is because of the delay that it leads to in the formation of new VECs. As a consequence often incompetent persons are chosen in the VEC.

6.8 How informed is the administration about school quality?

We also examine the extent to which the SIs and the RTs across the different school circles are informed about the performance of the schools in their jurisdiction. We asked the SIs and the RTs to name the best and the worst schools in their school circle.⁵ This information was then used as a proxy for their extent of awareness. Since majority of the schools identified are not in our sample, we cannot use

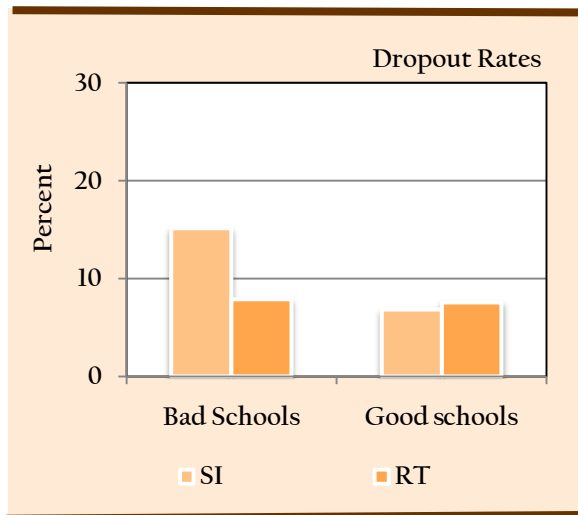
⁵ Less than 5 percent of the SIs and RTs were reluctant to name a specific school that in their opinion was either a good or a bad school.

outcomes like test scores and attendance rates that were collected as part of our survey for this part of the exercise. We use dropout rates computed from DISE data as a yardstick to evaluate accuracy of the opinions expressed by the circle officials.

SI's choice of "good" and "bad" schools has lower and higher dropout rates respectively. This suggests that on average, the SI is well informed about the school-level situation within his jurisdiction [Figure 6.4]. As with other indicators, there are within district differences.

SI's and RTs are also asked to elaborate on the reasons for their choices. Teacher conscientiousness and school infrastructure are the main reasons given by both the RTs and the SIs for naming "good" schools. Parents teacher associations, and to an extent, VECs are less frequently cited as reasons for declaring a school to be "good". Surprisingly, teacher and student attendance are not among the more important reasons for identifying "good" schools.

FIGURE 6.4: Good & Bad Schools as Identified by SIs & RTs & Student Dropout Rates



Reasons for declaring schools "bad" included non-functioning of institutional structures like VECs, and MTAs. Outcomes like teacher and student attendance rates were also observed to be low.

Bijon Mondal is a SI in a school circle in North 24 Parganas. He has been in this post for several years. He has the responsibility of two circles and more than a hundred primary schools and a dozen upper primary schools. He reveals his frustrations regarding the responsibilities that come with this post and his inability to fulfill all that is expected of him.

Bijon babu explains that if the sub-inspector's office and the VEC representatives worked in tandem then significant changes can be brought about in the primary school education system. Often because the SIs office is located at a distance from the individual schools, daily monitoring is not possible by them. If the VEC is active, and is in close touch with the SI, then in some senses, the VEC can become the monitoring "wing" of the SIs office. However in reality this does not work in most cases because the VEC is a political elected representative and often his decisions are colored by his political affiliation.

Chapter Summary

- More experienced SIs and RTs are likely to do a better job in monitoring and governing primary school education.
- SIs and RTs are over-burdened with work. Some SIs have more than two circles under their responsibility and on average, a single SI oversees one-hundred and five schools. Similarly, the RTs, who are required to make more frequent visits to individual schools, have on average forty-eight schools under their direct responsibility.
- Activities of RTs have impacts on attendance and dropout rates, but virtually no impacts on student learning achievements.
- RTs hold the opinion that it is lack of conscientiousness on part of teachers that lead to teacher absenteeism and the “come late and go early syndrome” among them.
- The SIs office reports that majority of schools complain about late arrival of rations and/or funds for mid-day meal programs. Schools in some circles also complained about inadequate number of textbooks for the students. There were also delays in receiving text books at the start of a new academic session.
- Among the requests made by the schools to the SI’s office, hiring of additional teachers, construction of additional classrooms and provision of drinking water were most common and urgent.
- Some SIs were of the opinion that *panchayat* politics and teacher unions did impose constraints in the functioning of the SIs office.
- Teacher conscientiousness and school infrastructure were the main reasons given by both the RTs and the SIs for naming “good” schools. Parent-teacher associations and VECs were less frequently cited as reasons for declaring a school to be “good”.
- Neither student nor teacher attendance rates were mentioned as reasons for identifying “good” schools. But in identifying “bad” schools, low teacher and student attendance rates and non-functioning community institutions like the VECs and MTAs were mentioned.

7

Government Interventions: Mid-day Meals and Teacher Training



Government interventions are necessary to mitigate inequities in access to quality primary education. These interventions include direct incentives to students in terms of provision of: free text books to all primary school children, free uniforms to girl students, cash stipends to children from scheduled tribe families, and cooked meals at lunch time to all primary school students. There are other indirect types of interventions: teacher training programs with the objective of improving the quality of education in primary schools, providing remedial education/coaching classes, etc. Both types of interventions are necessary for achieving improvements in access and quality of primary education.

In this chapter, we examine two interventions: the mid-day meal and the teacher training programs. We analyze the prevalence of these programs, and their impacts on the different student learning outcomes. The information about these programs is collated from different questionnaires that were used during our primary survey.

7.1 Introduction



Governments do attempt policy interventions to ameliorate some of the disadvantages that families face with regard to improving their child's quality of education. In India in general, and Bengal in particular, several schemes like provision of free textbooks, uniforms, school supplies, and cooked mid-day meals were introduced to encourage parents and children to participate in the education process.

Many of these programs have been in place for over two decades. We want to determine whether or not these programs have actually achieved their objectives of encouraging children to attend school regularly, of bringing back children who have dropped out of schools, and of helping parents from poor families ensure that their children receive at least one hot, nutritious meal per day, etc.

In this respect, the flagship intervention of the Government of India in partnership with the respective state governments is the Mid-Day Meal (MDM) program. In this chapter, we analyze the extent to which MDMs have improved the quality of primary education in rural Bengal.

The other large government intervention is the in-service Teacher Training programs. The objectives of these training sessions are to

continuously update teachers' knowledge on different subjects, to introduce them to new types of teaching pedagogy, and to improve their teaching practices. The hope is that these training sessions will aid in raising the quality of primary school education. In this chapter, we analyze the various aspects of pre-service and in-service teacher training programs and their impacts on student learning outcomes.

7.2 The Mid-Day Meal Program

Dhirendranath Saha is the current VEC president of the local village. Because of the month of Ramzaan, student attendance is low in a predominantly Muslim majority school. VEC president sells the leftover MDM rations in the open market and buys fish, mutton and eggs for his self-consumption. A DPSC chairman exclaims in frustration "VEC's objective is to organize picnics using resources meant for the MDM of students."

In 1995, the Government of India (GOI) stipulated that all children enrolled in public primary schools must be served a cooked meal during lunchtime in the school. The GOI would provide free rations required under the MDM to states who would then use their own funds to prepare and serve cooked meals to the students. The program was further strengthened by a Supreme Court ruling in 2001 that mandated all state governments who had not hitherto implemented the cooked meal program in their states to do so within a stipulated time period.

The objectives of the program were to increase school attendance of students, to improve learning capacities in children by providing them with nutritious food in adequate amounts, to discourage children from going home for

lunch (and not return for afternoon classes), and to encourage children from different social backgrounds to eat a meal together. MDM could also help develop good dietary habits, promote personal hygiene, and inculcate the importance of environmental sanitation.

According to the government’s mandate: each MDM should provide a child with a third of the daily nutritional requirement; the meal should consist of cereals and fresh vegetables; the MDM menu should be changed frequently so that the meal does not become unappealing over time; meals should be cooked and served in a hygienic manner; and portable drinking water should be provided with the meal.

There are some studies like Dreze and Kingdon (2001) which find that provision of mid-day meals have increased the enrollment of girls (but not of boys) in primary schools. A recent study in the Chindwara district of Madhya Pradesh by Afridi (2010) estimates the impact of MDMs on primary school enrollments and attendance rates, and the extent of gender disparities in school participation rates. She finds that the program has had a non-trivial impact on school attendance rates of girls in lower grades though the attendance rates of boys were unaffected by the introduction of the MDM scheme.¹

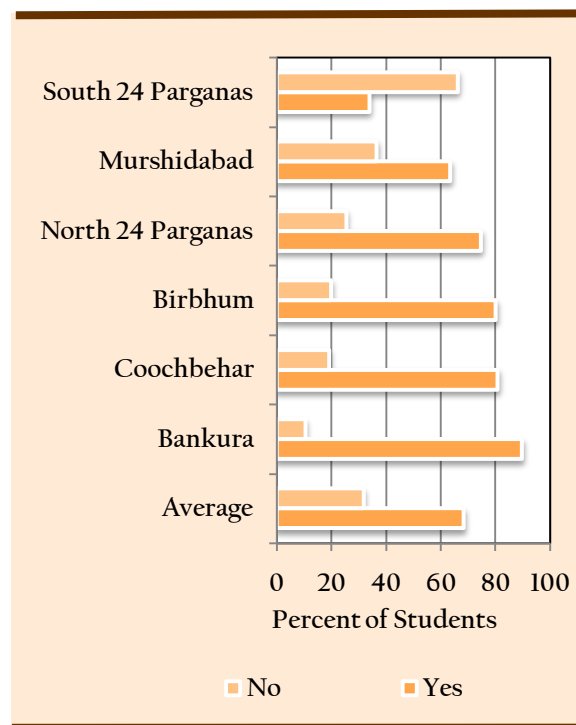
In this chapter, we correlate the provision of MDMs to attendance and dropout rates. We also examine the association between the provision of MDMs and the quality of primary education as proxied by the achievement test scores in numeracy and language.

¹ Other noteworthy studies include Dreze and Goyal (2003), Laxmaiah, Sarma, Hanumantha Rao, Reddy, Ravindranath, Rao and Vijayaraghavan (1999) among others. Ahmed (2004) evaluated a school feeding program in chronically food insecure areas of Bangladesh.

7.2.1 Provision of MDMs across the six districts

We asked students present on the day of the survey whether they had received any MDM on the last day that they had attended school prior to our school visit. Across the six districts, nearly 30 percent responded that they did not receive any MDMs on that day. The most laggard state is South 24 Parganas where we were informed that the MDM had been closed for the past several months due to lack of supplies and of funds [Figure 7.1].

FIGURE 7.1: Provision of MDMS across Districts



On average, 85 percent of household respondents stated that their wards received MDMs in school. But there were 13 percent of households who said that their children did not receive any MDMs in school. Of these children who did not receive MDMs, 80 percent resided in South 24 Parganas.

Students were also asked about the items served under the MDM. On average, rice, lentils,

vegetables and porridge (*khichudi*) are served in almost all districts.

7.2.2 Relationship between MDM provision and student outcomes

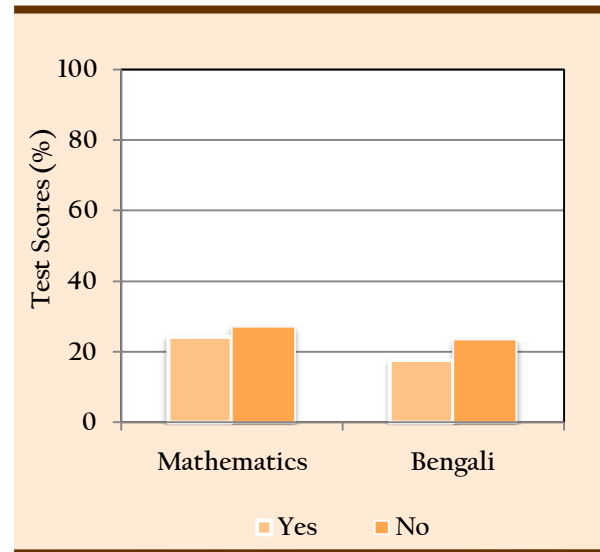
We start by examining the reasons children like to go to school? More than 90 percent of the students in our survey indicated that they like to go to school. However, reasons for wanting to go to school differ across students. Only 5.7 percent of students said that they like to go to school because of the Mid-Day Meal (MDM) scheme. This percent is the highest in Coochbehar (approximately 12 percent) and the lowest in South 24 Parganas (0.4 percent) where the scheme had been stopped in many areas for several months due to non-receipt of allocations. Students who stated that they liked to go to school for the MDMs scored lower than the others. Of course, this fact could be proxying for household wealth effects.

We also asked household respondents whether or not their wards get MDMs in school. Correlating the provision of MDMs with student test scores, we find that there is not much difference in test scores between students who receive a MDM in school and those who do not. [Figure 7.2]

We also asked the household respondents whether or not the cooked mid-day meal program had any impact on their children. Nearly 40 percent of household respondents stated that the MDM was disrupting the studies of the children or that the MDM had no impact. In Birbhum, more than 60 percent of households were of the opinion that the MDM was either disruptive to studies or had no impact on the children. Bankura households had the most favorable opinion of the MDM program.

We also control for any income effects that may be present in the above estimates by conditioning on the position of the household in

FIGURE 7.2: Test Scores & Provision of MDMs in Schools

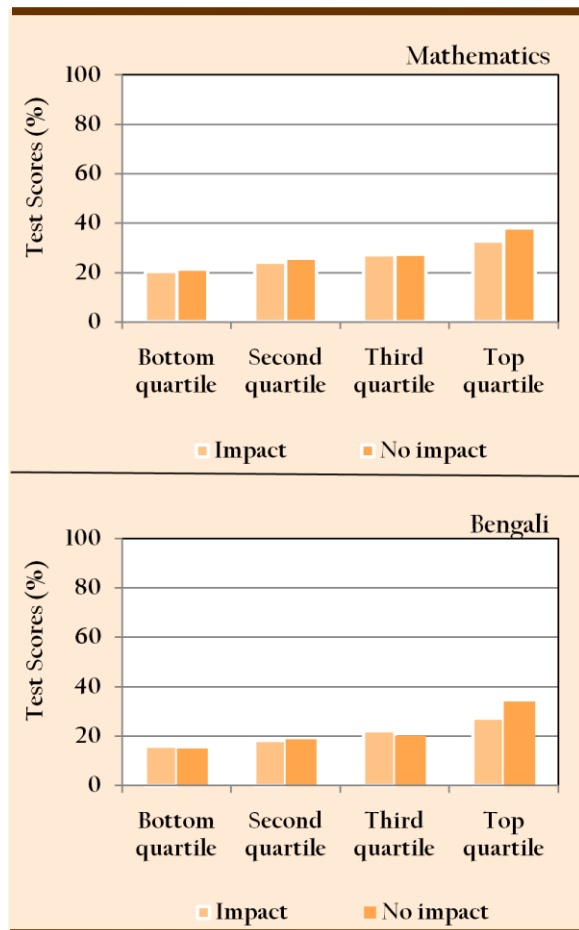


the wealth distribution.² Ten percent more households in the bottom wealth quartile had a positive opinion about the MDM as compared to households in the top wealth quartile. But only five percent fewer households in the lowest wealth quartile as compared to the top wealth quartile held the opinion that the MDM was either disruptive to studies or had no impact on the children.

If we correlate households' opinions regarding the MDM with test scores, we find that students in households that stated that the MDM had no positive impact on their children performed better. This pattern is observed even when we control for wealth effects. For each wealth quartile, mathematics test scores are higher for households that stated that the MDM had no impact [Figure 7.3]. Difference in test scores is the greatest for the richest wealth quartile.

² We use the wealth distribution as estimated in Chapter 3 where we used information on the possession of assets by households to construct a wealth index using principal components weighting method.

FIGURE 7.3: Test Scores, Household Opinion about MDMs, and Wealth Quartiles

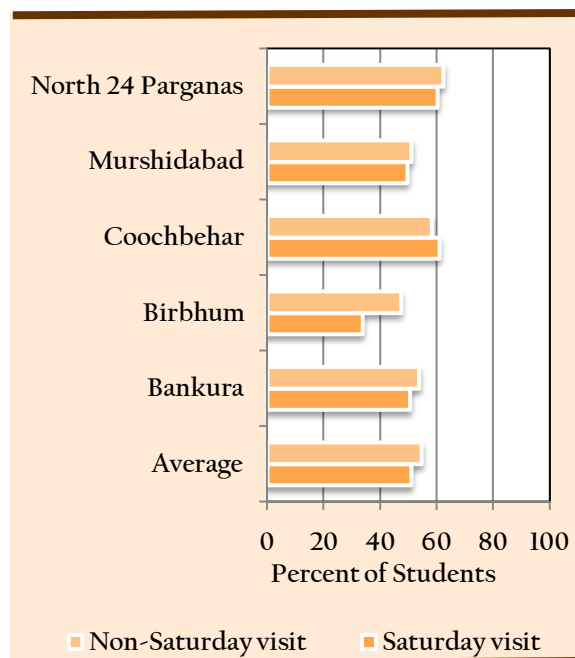


*Top wealth quartile is the wealthiest group.

Is there a correlation between the provision of MDMs and attendance rates of Class IV students? In West Bengal, MDMs are not served on Saturdays. The day of the week on which we visit a particular school is random. Using both these pieces of information we exploit the fact that a natural experiment takes place and estimate the extent to which the provision of MDMs influence student attendance and dropout rates [Figures 7.4]. Approximately 12 percent of schools representing 21 percent of enrolled students were surveyed on a Saturday.

There is a difference in student attendance rates depending on whether or not the school visits

FIGURE 7.4: “Saturday” Effect on Attendance Rates



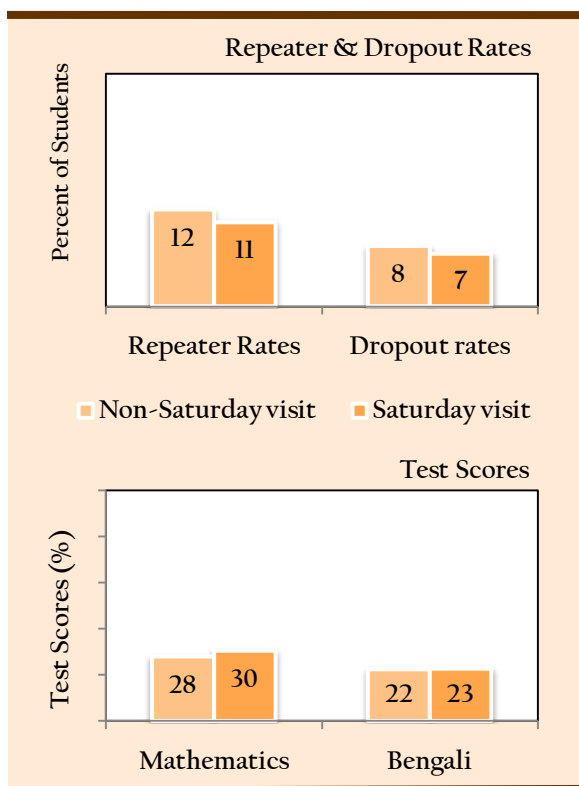
We do not report statistics for South 24 Parganas because during our survey we found that in many schools MDMs were not being given due to non-arrival of rations and/or lack of funds. The average therefore is over five districts.

happened to be on a non-MDM day. However there is a difference of only 4 percentage points which is much lower than that estimated by Afridi for her study in Chindwara district of Madhya Pradesh. Largest difference is observed for Birbhum where attendance rates are higher by nearly 14 percent on non-Saturday visit days.

But no significant differences are observed in other outcomes like dropout rates and test scores in Mathematics and in Bengali [Figure 7.5]. This is true for the full sample and across the individual districts.

Our findings suggest that MDMs may be necessary and important in certain situations, but are not by themselves sufficient to enhance the quality of primary school education in rural areas. That is, incentives like MDMs may bring children to school, but in the absence of a properly functioning school, quality of

FIGURE 7.5: “Saturday” Effect on Repeater & Dropout Rates and Test Scores



education and efficient use of resources is not possible.³

7.2.3 Administration of MDMs

When asked about problems regarding the MDM programme, more than fifty percent of teachers suggested that the responsibility of the MDMs should be divested from the teachers and be given to an independent organization or to the VECs. Twenty percent of the teachers also stated that rations and funds allocated for the MDM program are inadequate to make the intervention effective in improving student outcomes. However, there were very few teachers who held the view that the MDM should be stopped altogether.

³ A similar point has been made by Ramachandran, Mehrotra and Jandhyala (2007).

Head teachers reported that out of the total school visits made by the VEC representatives, approximately a fourth were to monitor MDM activities. One-fourth of the VECs discussed problems in MDMs in the last VEC meeting that was held prior to the survey. VEC members were of the opinion that in general the MDM is a good intervention because it reduces hunger among students, makes them attend school regularly, and in particular helps children from poorer backgrounds.

However, if we correlate VEC’s responses about the usefulness of MDMs to student outcomes we again observe that there is little effect on test scores and only marginal impacts on student attendance and dropout rates.

Table 7.1: VEC Member’s Opinions Regarding the Usefulness of MDMs

Reasons	Percent
Satisfies student’s hunger	18.9
Raises student attendance	27.6
Provides nutrition	14.5
Helps poor families	29.4
Wastes school time	5.7
Switch to dry rations	4.0

Source: CSSSC-SRTT survey

7.3 Teacher Training Programs

Continuous on-the-job training of the teaching staff is an important input in providing quality education to students. Under the DPEP and the SSA interventions, there has been an emphasis on teacher training issues. However, there is anecdotal evidence that teachers rarely use the training materials in their classrooms. Teachers are very often critical of the training modules

Sheela Sarkar is very excited today. She informs her family that she will have to go to the next village tomorrow to attend a teacher training session. She need not carry her lunch with her since the organizers will provide lunch. Sheela will also be able to meet her friends Madhumita Mitra and Indrani Mazumdar who are teachers in another school within the same school circle. She will also get a travel allowance to go to the training sessions. Above all, she will get duty leave from her school job where she has to handle 70 students all on her own!

themselves and describe them as being impractical, far removed from the existing reality in primary schools in rural areas, etc. (PROBE, 1999; Pratiche Education Report II, 2009). In our survey, we have collected information on issues related to teacher training from the head teachers, Class IV teachers, and sub-inspectors at the school circle level, to assess the importance of training in imparting quality education in rural primary schools.

7.3.1 Recipients of Teacher Training Programs

All primary school teachers are expected to receive some pre-service teacher training. In addition, primary school teachers undergo regular in-service training to upgrade their knowledge about individual subjects, and to learn new teaching pedagogies. Teacher training programs are common in almost all schools. But the question is whether these programs have any effect on student outcomes. Through our questionnaires, we tried to gather

information on teacher training which we then correlate with student learning outcomes.

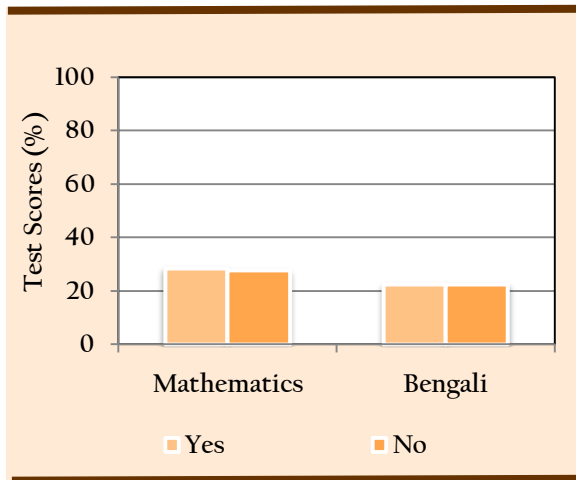
On average, both the head teacher and the Class IV teachers take on average seven days leave in an academic year to attend teacher training sessions. There are 58 schools in the sample where the Class IV teacher did not take any training in the previous year. Comparing the test scores of these schools to the remaining 182 schools, we find that teacher training has marginal impact on test scores.

According to the head teachers, three-fourths of the teachers in their school used the teacher training materials in classrooms. The two most common problems listed by head teachers in implementing training materials in classrooms are: few teachers attempt to innovate on classroom practices, and there is insufficient number of classrooms. Some of the head teachers also mentioned inappropriateness of training materials among the reasons for not implementing the training received in their schools.

Most Class IV teachers, when asked about the training programs, were of the opinion that these programs were useful and that the trainers who imparted the training were competent. Some stated that the timing of these programs was not proper, often disrupting the school sessions.

Is there any difference in student outcomes in schools where the training materials are used in classrooms as compared to schools where they are not? Correlating with test scores, attendance rates, and dropout rates, we find only marginal impact on test scores, and no impact (or even negative impact perhaps due to teacher absences from schools to attend these sessions) on attendance and dropout rates [Figure 7.6].

FIGURE 7.6: Test Scores & Implementation of Teacher Training Materials



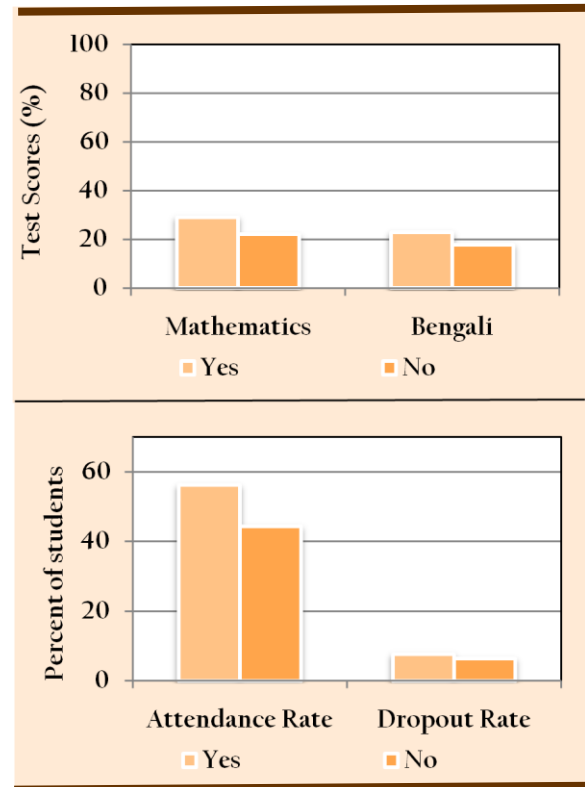
7.3.2 Providers of Teacher Training Programs

A DPSC chairman is quite candid about the role of teacher training programs in improving the quality of primary school education. He is of the opinion that these training sessions are often unplanned. There is no consideration given to whether the timing of the sessions will affect the school teaching adversely, what the topics of training should be and who should be the target audience. The only objective is to utilize the funds allocated for training during the financial year.

The other important constituency involved in teacher training activities is the sub-inspector's office. Nearly ninety percent of sub-inspectors interviewed during the course of our survey said that they conducted training modules themselves. However, only three-fourths said that they themselves had taken training in the

last three years to upgrade their own skills. Student outcomes show strong positive correlations with whether the sub-inspector has taken training or not [Figure 7.7].

FIGURE 7.7: Test Scores, Attendance & Dropout Rates & whether Sub-Inspector has taken Training in Last 3 Years

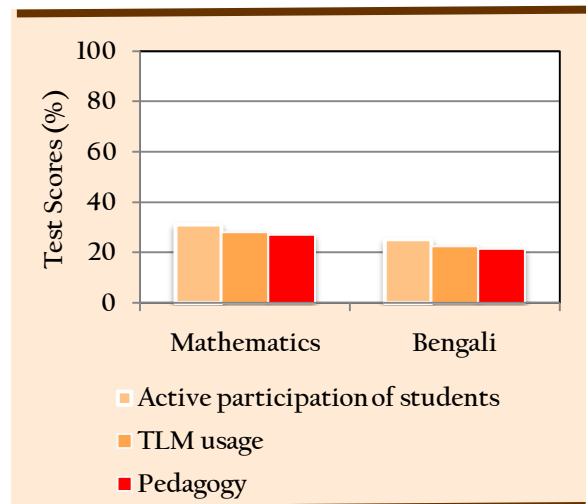


RTs received training on issues related to student enrollments, dropouts and attendance, on classroom practices, and on interactions with local community institutions.

Over ninety percent of the RTs interviewed during our survey said that they had been involved in teacher training programs in the two months prior to the survey date. Training topics in these sessions included usage of TLMs in classrooms, teaching pedagogy, encouraging students to participate in class, and methods to handle interactions with community organizations like VECs and MTAs.

Correlations with test scores are the highest if RTs gave training on how to improve student teacher interactions in classrooms. On the other hand, student attendance and dropout rates improve when teachers are provided with training in interactions with the local community [Figure 7.8].

FIGURE 7.8: Test Scores & Training Subjects

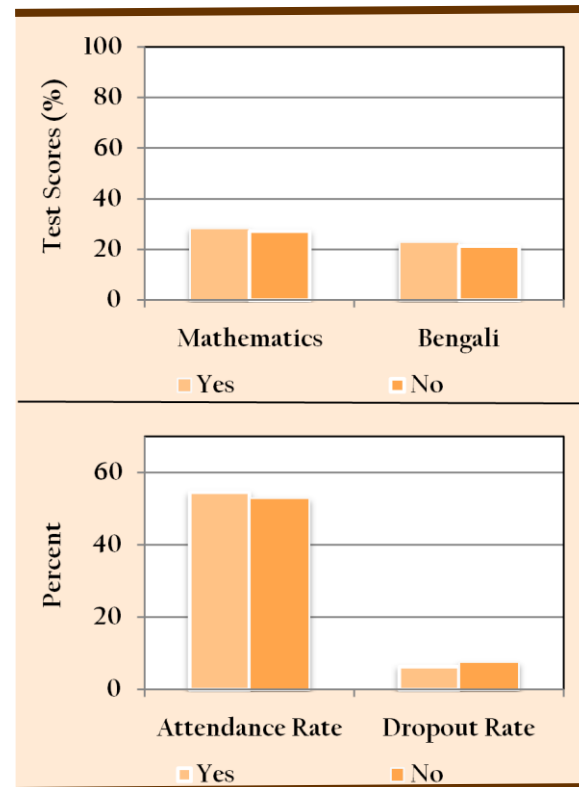


District officials fixed the agenda of the training sessions on most occasions. A third of the time, the SI fixed the agenda and in less than twenty percent of cases, it was the RTs who fixed the training agenda.

Fifty-one percent of RTs stated that training sessions had moderate impacts on primary education. About fifteen percent said that there was no impact. But, if we correlate these responses to student outcomes (i.e. test scores, attendance and dropout rates) we do not find any significant correlation between them.

Teacher training responsibilities indicated by the RTs included training teachers (70 percent), observing whether training materials were used in classrooms (50 percent), and demonstrating teaching pedagogy by taking classes themselves (18 percent). It is the last training activity by the RTs - demonstrating teaching pedagogy by

FIGURE 7.9: Student Outcomes & Class Demonstrations by RTs



that has the strongest correlation with student outcomes [Figure 7.9].

Seventy percent of RTs are of the opinion that teachers used training materials in the classroom. Comparing outcomes between RTs who hold the opinion that teachers use training materials and those who do not use the materials, we find some differences in test scores, but no differences in attendance and dropout rates.

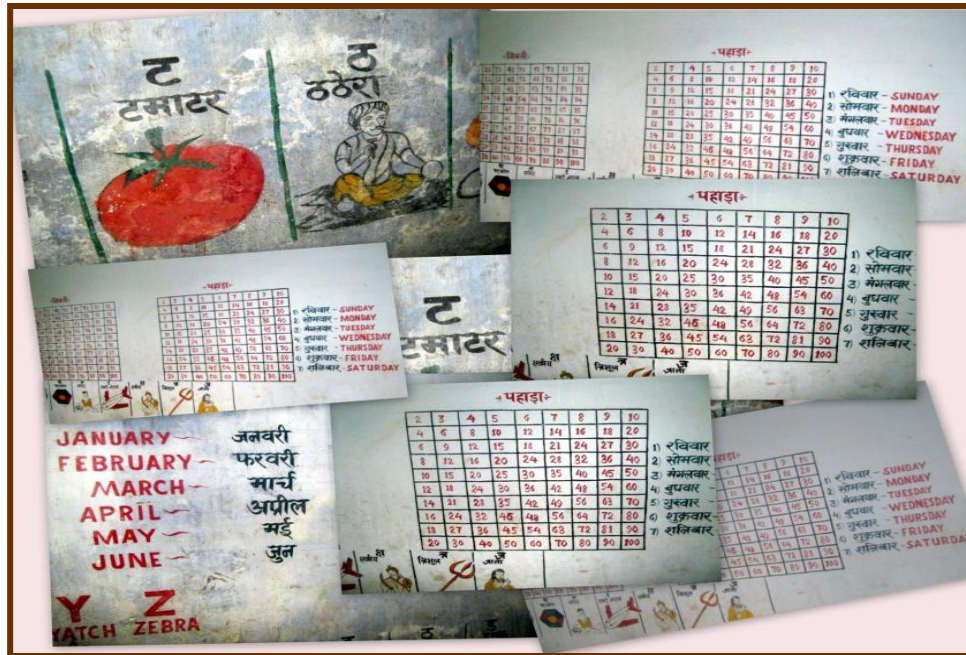
Topics chosen for training are often decided by SI's office with little regard for local sensibilities and issues. The same topics are repeated in several different training sessions in a year. To make training effective, the entire exercise has to be made interesting for the teachers.

Chapter Summary

- On average, 85 percent of household respondents stated that their wards receive MDMs in school. Of the 13 percent of households who said that their children do not receive any MDMs in school, 80 percent resided in South 24 Parganas. During our field survey, we were informed that the MDM program in South 24 Parganas has been suspended for the last several months because of lack of funds and rations.
- Less than ten percent of students reported that they went to school because mid-day meals were served.
- Nearly 40 percent of household respondents stated that the MDM was disrupting the studies of the children or that the MDM had no impact.
- Correlating the provision of MDMs with student test scores, we find that there is not much difference in test scores between students who receive MDM and those who do not. This pattern also holds when we control for household wealth effects.
- There is a difference in observed attendance rates depending on whether or not our school visit occurred on a non-MDM day. But this difference is only 4 percent. There are no significant differences in other outcomes like dropout rates and test scores.
- Teachers are not very enthusiastic about being given the responsibility of implementing the MDM program. They would rather that it be given to an agency that is external to the school. The VECs, on the other hand, are more active participants in the monitoring of the MDMs.
- Teacher training programs were quite common in all our sampled schools. However, the impact of these training sessions on student learning outcomes varied depending on the training subjects. For example, class demonstrations by the RTs had significant impact on all student outcomes: test scores, attendance rates, and dropout rates.
- Training teachers to encourage student participation in class had a large impact on test scores. Similarly, making teachers aware about how to handle interactions with community organizations like the VECs and MTAs help in improving student attendance rates and in reducing dropout rates.

8

Jharkhand: Low Mean, Low Variance

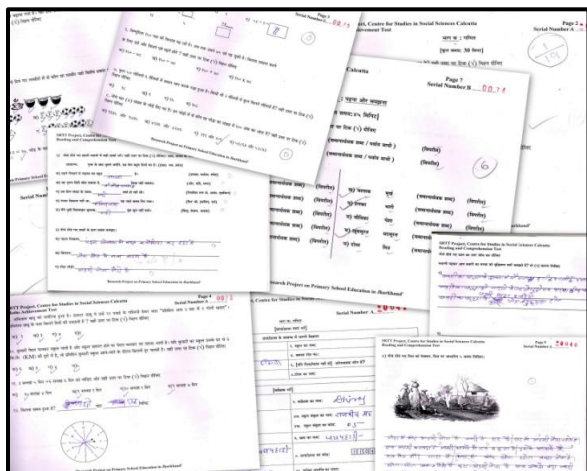


In this chapter, we present analysis from our primary survey implemented in four blocks of Dumka district in Jharkhand. Achievement tests in numeracy and in language (Hindi) were administered to Class IV students. The tests are similar in structure to those administered in West Bengal.

Unlike in West Bengal, where we observe significant variance in test scores across schools, blocks, and districts, the observed test scores in Jharkhand are uniformly low (in numeracy and in language) across the different blocks in Dumka.

We focus on the characteristics of the different stakeholders of primary school education in Dumka – students and households, teachers, local community, and school administration. We try to discern those features of the different stakeholders that help explain the uniformly low test scores. We look for policy recommendations that can be made based on the data, which can improve the quality of primary education in Jharkhand.

8.1 Introduction



Jharkhand is one of the most educationally backward states of India. According to Census 2001, literacy rates in Jharkhand were 54 percent as compared to 69 percent in West Bengal. Nine percent of children in the age-group 6-14 years has never been enrolled in school. (This is higher than the national average of 6.6 percent).

We conducted a pilot study in Dumka district of Jharkhand. Our aim was to get a detailed picture of the existing primary school education system – demand for schooling among households, school infrastructure and teaching staff, involvement of community in provision of primary education, and effects of government interventions like mid-day meal schemes.

8.2 Sample Design

We expect students to pick up functional knowledge along with text book knowledge while attending school. During one such visit to a school in Masaliya, we ask a student whether he washes his hands with soap before eating. He retorts “Is there soap available in school or at home for us to use it before eating?”

We implemented survey instruments similar to those used in West Bengal, with minor changes to reflect the specific characteristics of the state. We chose a district that shared a border with West Bengal so that some limited comparisons can be made with West Bengal. Of the eight districts in Jharkhand, that shared a border with West Bengal, we chose Dumka as our sample district.¹ Dumka has approximately equal proportion of tribal and non-tribal population.²

FIGURE 8.1: Sampled Blocks



Multi-stage stratified sampling techniques were used for selecting the different units. All blocks in Dumka were categorized into four wealth quartiles using a principal components weighted wealth index that was constructed using the block amenities data from Census 2001.³ From each wealth quartile, one block was

¹ The eight districts are: East and West Singhbhum, Ranchi, Bokaro, Dhanbad, Dumka, Pakur and Sahibganj.

² According to the Census 2001 data, 45 percent of the district population belongs to the ST community and 6 percent belong to the SC community. Even though official statistics are not available, a fifth of the population in Dumka belongs to the OBC group.

³ The variables used in constructing the wealth index included radios per person, television sets per person, telephones per person, cycles per person, scooters per person, and cars per person.

randomly chosen (all urban blocks were excluded). Sampled blocks were Raneshwar, Shikaripara, Masaliya and Ramgarh [Figure 8.1].⁴

Unlike in West Bengal, there is no established *panchayat* system in Jharkhand. It was thus difficult to map the schools to the existing *panchayat* system. But Cluster Resource Centres (CLRCs) are very strong and schools can be mapped to them. Thus from each block, we randomly selected five CLRCs (“*sankul*”) and from each CLRC, we sampled two schools.

Furthermore, in Jharkhand, there are two types of government schools: standard primary or middle schools (with primary sections) with trained (Basic Training completed) head teachers and *utkramit* (or *abhiyan*) schools which were previously informal schools established under the Education Guarantee System (EGS) that have been upgraded to formal primary schools recently. Each *utkramit* school has two teachers. All teachers in these schools are appointed on contractual terms. Generally, the villagers appoint the most educated person of the village as a teacher. Funding for infrastructure and other school facilities are provided by the Sarva Shiksha Abhiyan (SSA).

Utkramit schools constitute approximately half of the primary schools in Jharkhand. Given this, if we chose our sample only from government primary schools, we would be missing a very important component of the school system in Jharkhand. As a result, we choose one government school and one *utkramit* school from each sampled CLRC. Thus for Jharkhand, we have twenty government schools and twenty *utkramit* schools in our sample.

Finally, unlike West Bengal, Class IV is not the terminal year of primary school education in

⁴ The blocks are in terms of their wealth index ranking with Raneshwar being the wealthiest block.

Jharkhand. Thus, strict comparability with the West Bengal study is not possible.

8.3 Schooling Outcomes

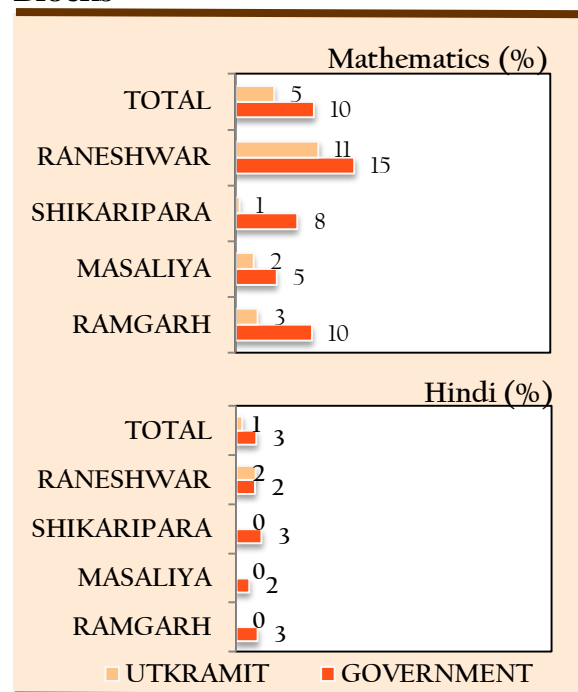
Test Scores

In Jharkhand the test scores are *uniformly low* across all students. That is, we observe a pattern of “low mean, low variance” in test scores in Jharkhand unlike the low mean, high variance pattern observed for rural West Bengal.

Average scores in numeracy in government and in *utkramit* schools are respectively 10 and 5 percent respectively. The gap in scores between the government and *utkramit* schools is marginally narrower in Raneshwar, which is also the wealthiest block (in terms of our created wealth index). In this block, the mathematics scores are 15 and 11 percent respectively in government and *utkramit* schools.

Test scores in Hindi are low in both types of schools uniformly across all blocks. Average Hindi score is 3 percent in government schools and 1 percent in *utkramit* schools [Figure 8.2].

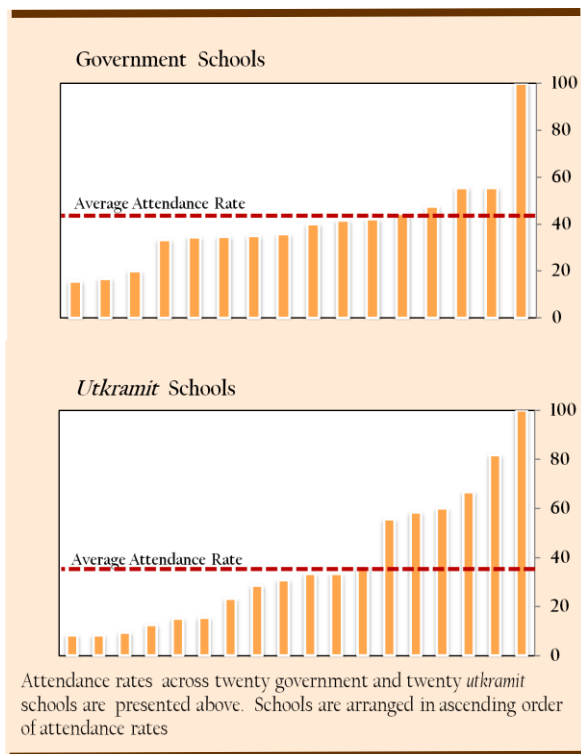
FIGURE 8.2: Test Scores across Blocks



School Attendance Rates:

Average student attendance rates are lower than that observed for West Bengal. But there is not much difference in attendance rates between government and *utkramit* schools. The average attendance rate in government schools is 41 percent while that in *utkramit* schools is 38 percent.⁵ On average, only two-fifths of the total enrolled students attend school on a particular day [Figure 8.3].

FIGURE 8.3: Attendance Rates across Schools (Percent)



8.4 Characteristics of Households

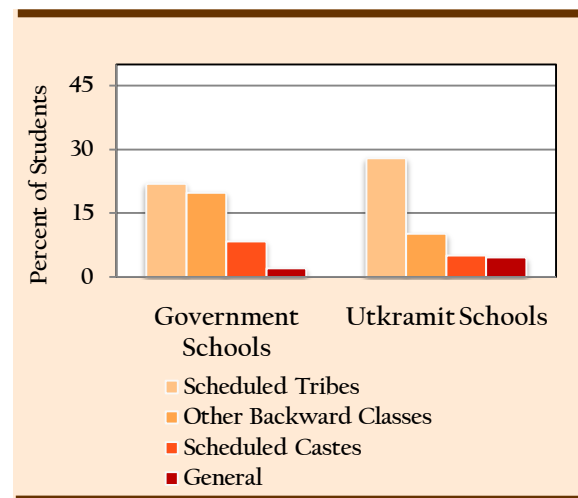
Demographics, Income and Education Levels:

About half the students in the sample belong to the scheduled tribe (ST) group, 30 percent to the Other Backward Classes (OBCs) and 13 percent to scheduled castes (SC). Percent of ST

⁵ 256 students wrote the achievement tests designed by us. Of these, 145 are enrolled in government schools and 111 in *utkramit* schools.

students enrolled in *utkramit* schools are higher compared to government schools. OBC and SC students are more likely to attend government schools [Figure 8.4]. This is different from the West Bengal sample where the students were either SCs or from the general category. Also unlike West Bengal, it is unlikely that there would be differences across socio-religious dimensions given that 93 percent of the student households are Hindu.

FIGURE 8.4: Social Composition of Households



Sampled households in Jharkhand are poorer compared to the West Bengal sample. Very few households have electricity, and most of the respondent families lived in temporary (“*katcha*”) housing.

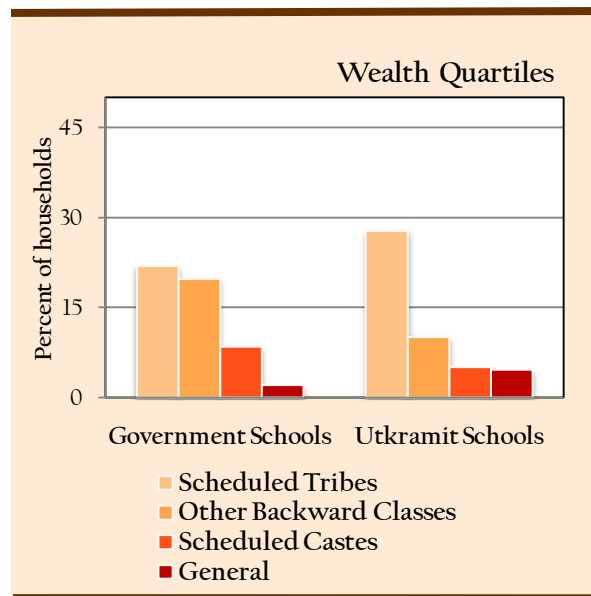
We use information on the possession of household assets to construct a principal components weighted wealth index.⁶ Households are categorized into four wealth quartiles using the index. Students enrolled in government schools are less likely to belong to the poorest wealth quartile as compared to students enrolled in *utkramit* schools [Figure

⁶ The assets included in the wealth index are: cot, radio, television, plough, tractor, watch, mobile, landline, motorbike, sewing machine, water pump.

8.5]. This is not surprising because a third of the ST households in the sample belong to the poorest quartile and, as seen from Figure 8.4, more students from ST households are enrolled in *utkramit* schools as compared to government schools.

Household income levels are important because there are direct and indirect costs of going to school, even though on paper the government has a policy of free primary education for all. Households are less likely to pull their children out from school following an income shock if they are not poor. Households are more likely to be in a position to make additional investments to improve the learning levels of their children if they are not income-constrained.

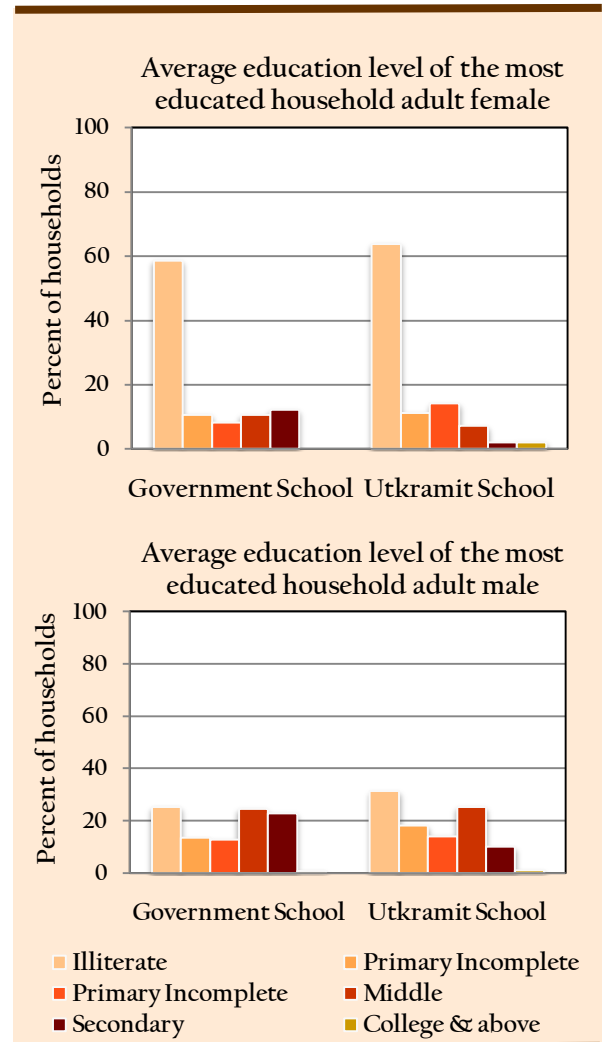
FIGURE 8.5: Distribution of Households across Wealth Quartiles



The education levels of household adults, particularly of the females, are very low. In majority of the households, adult female members are illiterate. In less than a third of households, the most educated adult female member has completed primary school education. Education levels of male adult members are marginally better with 21 percent

of households reporting that their adult male members are illiterate. The education levels of adult members in households of students enrolled in government schools are higher than in households of students enrolled in *utkramit* schools [Figure 8.6].

FIGURE 8.6: Education Levels of Adult Household Members



In 30 percent of the households, no adult member is literate. Students belonging to such households are “first-generation learners”. In West Bengal, by comparison, 23 percent of our sampled students are first-generation learners. A third of the students belonging to ST and OBC households are first-generation learners.

Proportion of first generation learners are 5 percent more among students enrolled in *utkramit* schools as compared to those enrolled in government schools.

Demand for Education

In our sample, adult household members are not very educated. But they still send their children to school, and they give the following reasons for doing so [Figure 8.7].⁷ Irrespective of school type, household respondents are predominantly of the opinion that education will help boys get better employment opportunities, while girls' education will improve their marriage prospects. This pattern is different from that observed in West Bengal, where the gender differences are not very significant and where the importance of marriage prospects as a reason for educating children is very low.

Investments made by households in child's education:

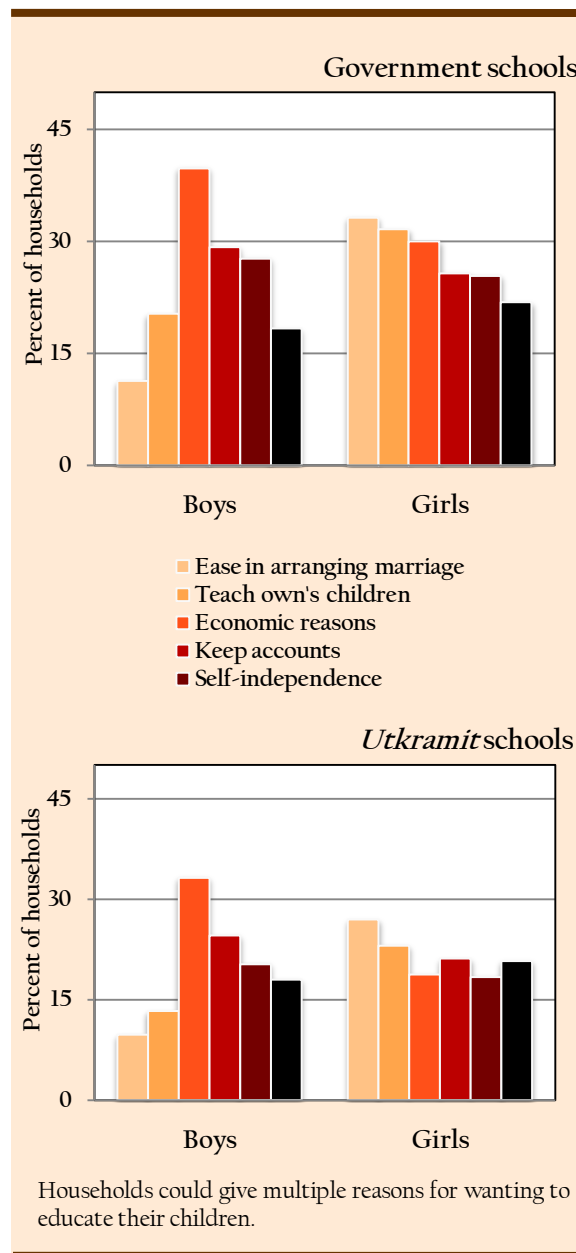
Parents make private investments in various ways to improve their child's learning: by arranging for private tuition, by getting involved in the child's education process, by being aware about the child's school, etc..

In Jharkhand, even though nearly 79 percent of respondents opine that private tuitions are necessary, only about 16 percent engage private tutors for their wards.⁸ Families who do engage a private tutor, spend approximately Rs. 100 per month. Parents of children enrolled in government schools spend Rs. 20 more than the amount spent by parents of children enrolled in *utkramit* schools. These estimates are in line with the expenditures made by the households in West Bengal.

⁷ We survey households of only those students who wrote the achievement tests implemented by us.

⁸ This is half the proportion of families who have engaged private tutors for their wards in our sample from the six districts of West Bengal.

FIGURE 8.7: Respondent Reasons for Educating Boy & Girl Children



Lack of funds is the primary reason given by parents for not engaging private tutors for their wards; unavailability of a private tutor in the village is the other reason that is cited. Poor quality of teaching in school, and the inability of family members to help a child with his/her school work are the two main reasons for parents wanting to engage private tutors.

Another way in which parents can contribute to their child's learning is by being pro-active in the child's education process: by visiting the child's school, and by being aware of the names of the head teacher and the class teacher. In our sample, involvement of parents in these ways is more likely to occur for students enrolled in *utkramit* schools [Figure 8.8]

A reason for this could be that the head teacher and teachers in *utkramit* schools are appointed by the villagers primarily from the local areas. Guardians are therefore familiar with them and less hesitant to discuss issues concerning their ward's education. This is different in government schools where the teaching staff are often recruited from outside. In fact, head teachers in government schools travel at least 5 kilometers on average to reach their school while head teachers in *utkramit* travel at most one kilometer to reach their schools.

8.5 Characteristics of Students

Student attendance and absenteeism:

98 percent of students interviewed during the survey enjoy going to school. Like West Bengal, students in Jharkhand say that it is their eagerness to learn new things that makes them go to school [Figure 8.9]. Children also opined that they go to school to play and to interact with other children. Getting a hot cooked meal in school is a less stated reason for going to school. While this is similar to the West Bengal data, it is surprising for Jharkhand because on average, student households are relatively poorer.

If students do enjoy going to school to play and to learn, the question is why do we observe such low school attendance rates? On average, only 14 percent of the students interviewed say that they attend school regularly. This is corroborated by the head teachers of the government and *utkramit* schools.

FIGURE 8.8: Non-monetary Investments by Guardians in their Child's Education

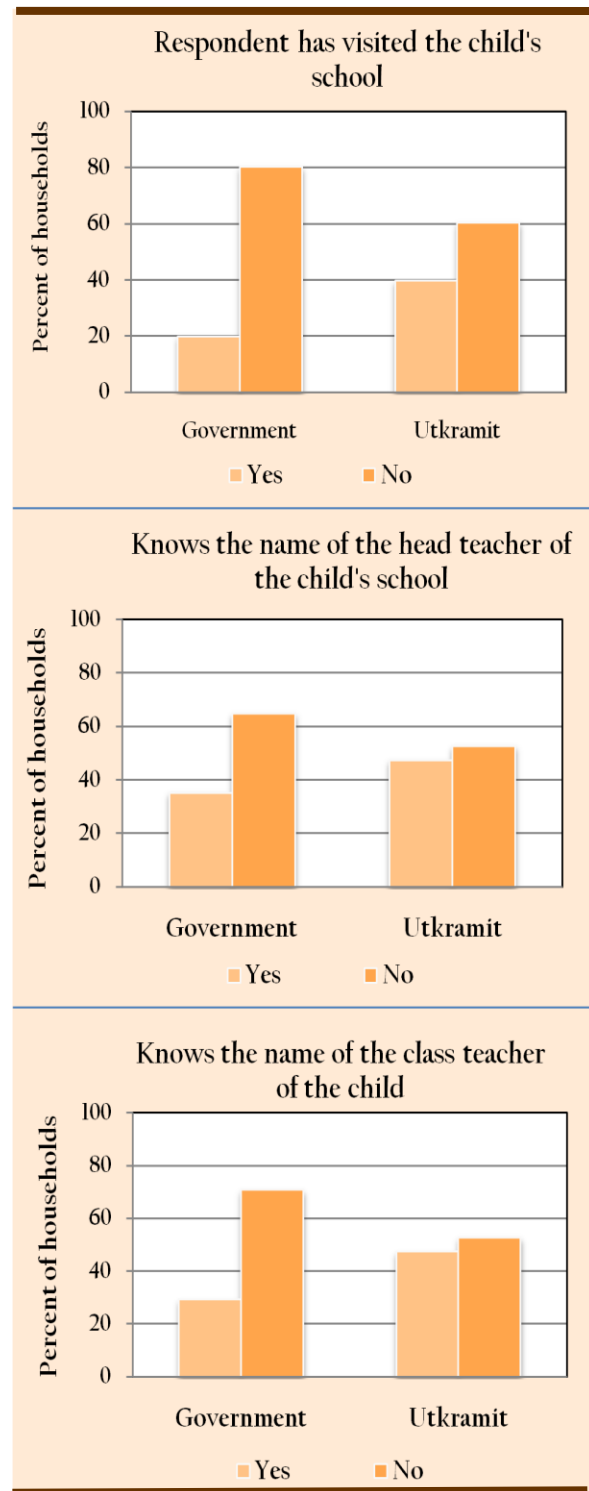
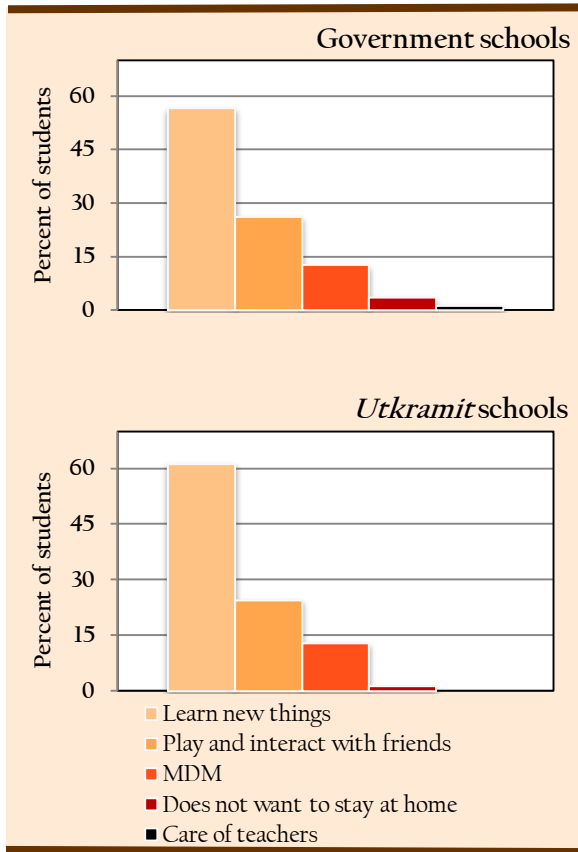


FIGURE 8.9: Reasons Why Children Like Going to School



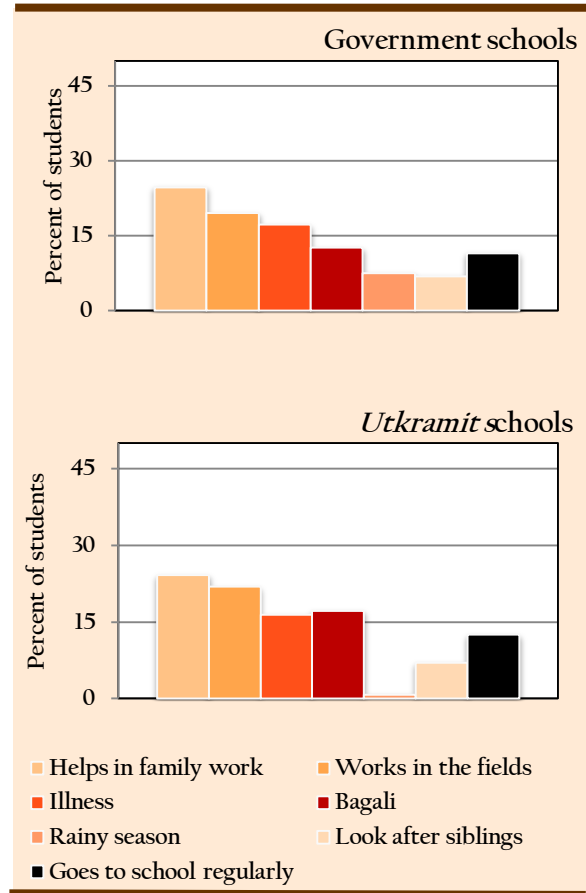
It is primarily economic reasons like working in the fields, helping in family work, looking after siblings etc. that keep children away from school. This pattern also differs from West Bengal where the primary reason for missing school was illness. There are no obvious differences in reasons for absence across school types [Figure 8.10].

Inside the classroom: Subject preference, pedagogy, and student punishment

Hindi, Mathematics, and English are the most commonly taught subjects followed by Environmental Sciences and Physical Sciences. Most students, whether in government or in *utkramit* schools, state Hindi to be their favorite subject followed by Mathematics, even though the latter is preferred by a much smaller percent of students.

Insofar as teaching pedagogy is concerned, virtually no student mentions “joyful learning” as a method used by teachers. By and large, teachers in both types of schools write on the blackboard and/or read from the textbook.

FIGURE 8.10: Reasons for Missing School



Even though, corporal punishment is not formally allowed in schools, approximately 81 percent of students report that they have been punished in some way or the other. This is also corroborated, to an extent, by their parents. The parents however admit that their wards have not been abused or humiliated by their teachers or by their peers with regard to religion, caste and/or gender.

Of the students who claim that they have received some form of punishment, more than fifty percent say that they have been hit with

objects like a stick or a ruler, or their ears have been twirled; another 30 percent say that they have been scolded. Less than 10 percent say that they have been verbally abused as a form of punishment. This is similar across school types.

The reasons for receiving punishments are also similar across school types. These include: not doing homework, talking in class, fighting with others within school premises.

8.6 The School Universe: Role of school infrastructure & teaching staff

The previous section establishes that there is demand for schooling among parents and students. In this section we examine the characteristics of supply of schooling in our sampled areas. Specifically we comment on the available school infrastructure and on the teaching personnel in our sampled schools.

School infrastructure:

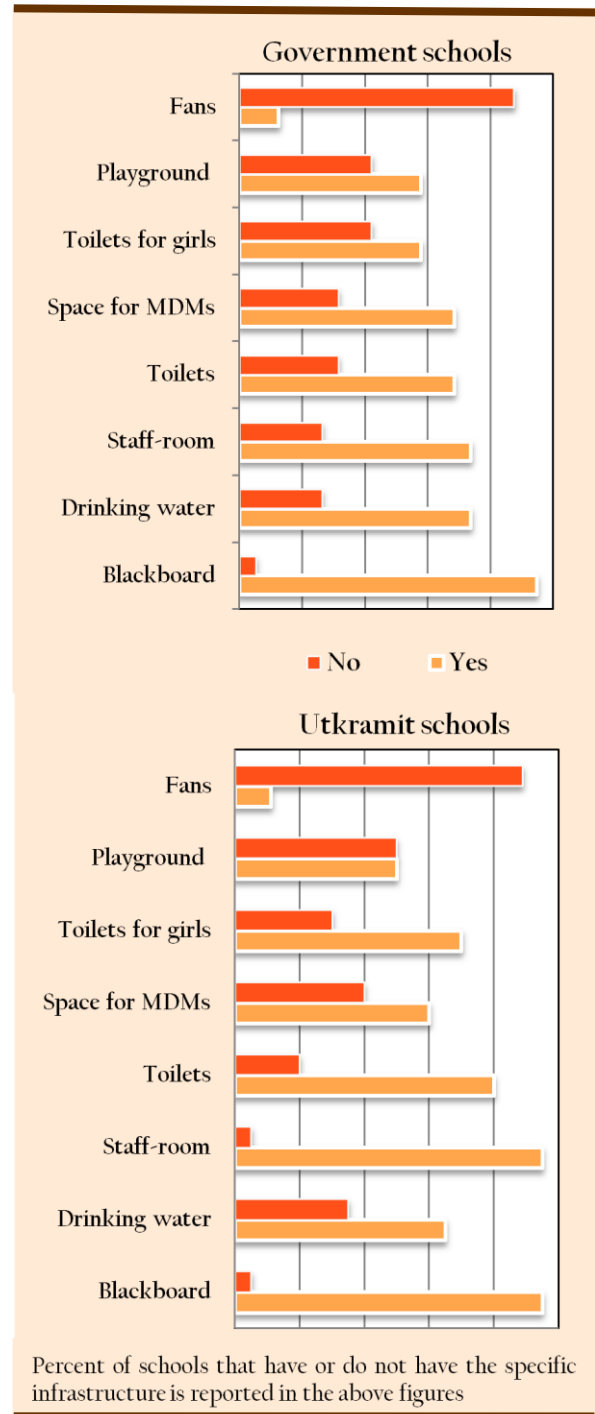
Existing school infrastructure in Dumka is marginally better than that in West Bengal. But there are some differences as compared to West Bengal, and between government and *utkramit* schools in Dumka.

Majority of the school buildings are permanent in Dumka whereas in West Bengal, about 25 percent of the school buildings are semi-permanent. Facilities like a playground, toilets etc. are better in Dumka as compared to West Bengal [Figure 8.11].

A third of the government schools do not have a toilet. For *utkramit* schools, this number is nearly 50 percent. But if there is a toilet in the school, then students in *utkramit* schools are more likely to be allowed to use it as compared to students in government schools.

Toilets are often not cleaned, and if cleaned it is the children who do the cleaning. Very few students say that there is a sweeper in the school to clean classrooms and toilets. It is more

FIGURE 8.11: Physical Infrastructure of Schools

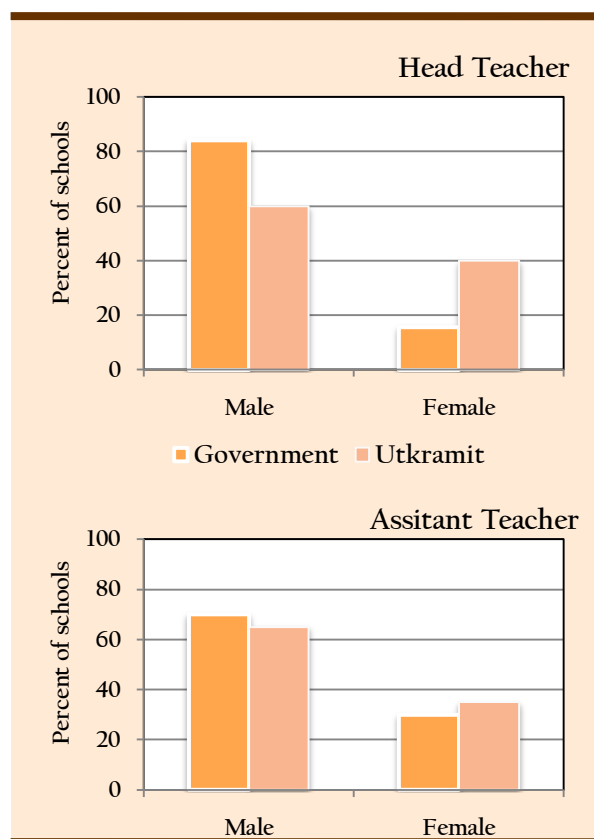


likely that toilets are cleaned regularly in government schools as compared to *utkramit* schools.

Teacher characteristics:

Pupil teacher ratio (PTR) in Jharkhand is 40 students to a teacher. This ratio is closer to the nationally mandated ratio and is lower than the 55:1 PTR estimated for West Bengal. However, the total teaching staff in Jharkhand includes *para* teachers. In *utkrमित* schools, a majority of the teaching staff are *para* teachers. Even in government schools in Dumka, there is a *para* teacher for every government teacher unlike in West Bengal where *para* teachers constitute 20 percent of the total teaching staff.

FIGURE 8.12: Gender of Teachers



There are differences in gender composition of teaching staff across government and *utkrमित* schools in Dumka [Figure 8.12]. Majority of the head teachers of *utkrमित* schools belong to the OBC social group, whereas in government schools no such caste predominance is observed. Assistant teachers in government schools are

primarily from the OBC groups while in *utkrमित* schools they are from the Scheduled Tribes.

There are also differences in age and in educational qualifications of the head and the assistant teachers across the two school types. Head teachers are relatively younger and less qualified in *utkrमित* schools as compared to head teachers in government schools. Head teachers in government schools have more experience in the field of education (16 years) compared to head teachers in *utkrमित* schools (2 years). This pattern is also observed for assistant teachers.

Teacher absenteeism from school for duty reasons:

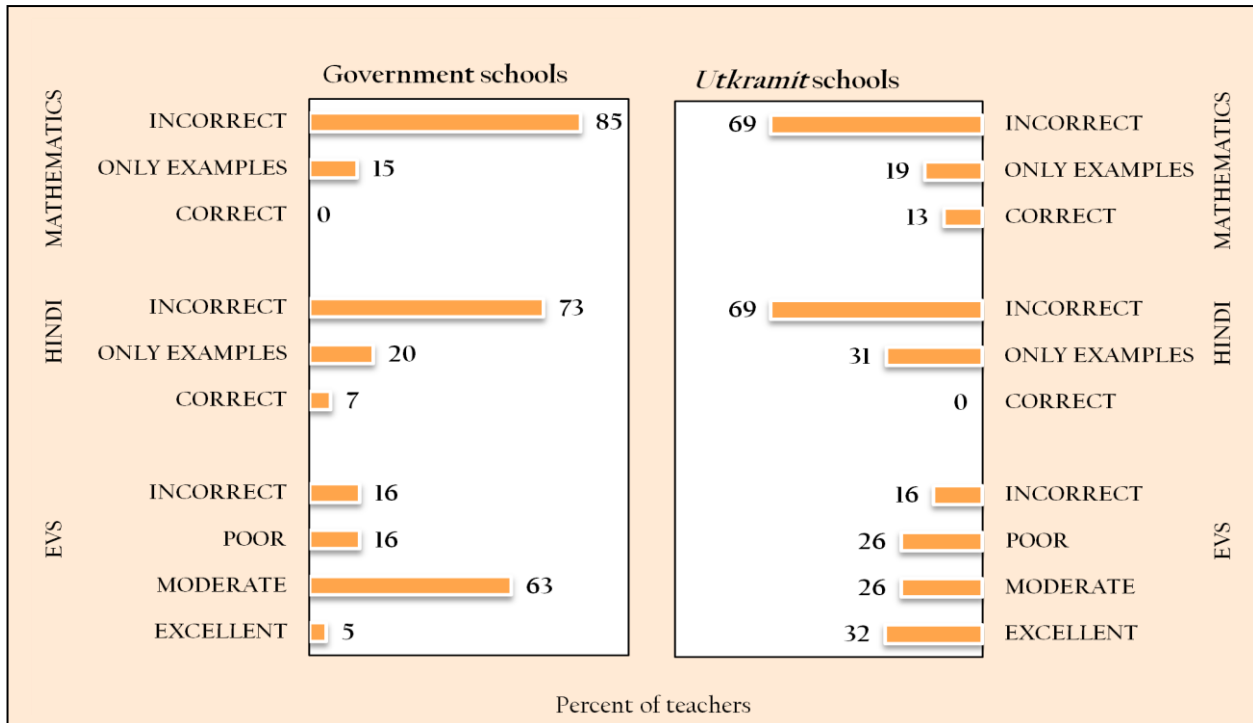
Head teachers of government schools are more likely to be away from school on official duty as compared to their counterparts in *utkrमित* schools. The reasons for official leave varies from attending training programs to attending official school related meetings [Table 8.1]. In general, *para* teachers are not used for school or non-school related official duties. Of the twenty head teachers in *utkrमित* schools, eighteen are *para* teachers, one is a *para* teacher who is the acting head teacher and there is only one school where the head teacher is a government teacher.

Table 8.1: Number of Days of Leave taken by the Head Teacher across Schools

Nature of leave	Government school	<i>Utkramit</i> school
a. Personal reasons	11	10
b. Training	5	10
c. School related official meetings	24	0
d. Duty in other offices	2	0
e. Going to banks to collect salary	12	4
f. Other non-school related governmental work	4.5	0

Source: Primary survey in Dumka, 2009

FIGURE 8.13: Teaching Pedagogy



Teaching pedagogy:

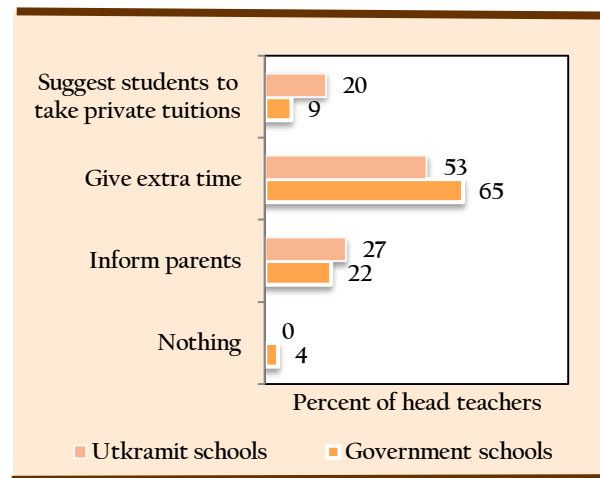
We asked Class IV teachers how they would explain the concepts of synonyms, opposites and fractions to their students. Based on their responses, we coded them as: “correct”, or “incorrect”, or “only examples provided”. We also asked them how they would explain environment related concepts. Based on their responses, we coded them as: “incorrect”, “poor”, “moderate” or “excellent”.

Figure 8.13 reveals the problems in teaching pedagogy in both types of schools. Teachers in *utkramit* schools are relatively more knowledgeable than those in government schools, but the levels of correct pedagogy used to explain basic concepts to students are low in both types of schools.

Even though the teaching methods in primary schools in Dumka are not very thorough, continuous internal written and oral assessments of students are done on a frequent

basis. This is true across both types of schools. If students do not perform well in the internal assessments then in most cases teachers are asked to spend extra time with them to improve their learning [Figure 8.14].

FIGURE 8.14: Responses of Head Teachers to Poor Performance of Students in Internal Assessments



Handling students in a class environment:

We also asked teachers how they would handle students who disrupt classes frequently and male students who misbehave with female students. Based on their responses, it appears that government teachers are better at handling class situations while *utkramit* teachers find it easier to handle deviant behavior like that of boys misbehaving with girls [Figure 8.15].

There are remedial schools where students who are lagging behind in studies can do classes free of cost to help them “catch up” with their peers. But, few households (less than 5 percent) send their wards to these schools. This is despite the head teachers being enthusiastic about the scheme with 70 percent of them endorsing the intervention.

Most head teachers in both types of schools were of the opinion that this scheme allows weak students from underprivileged homes who cannot afford private tuitions an opportunity to improve their education levels. Students in such classes are taught in a language that they can understand, and they get more attention since there are fewer children in the class thereby getting them interested in studies.

8.7 Community Interactions: An examination of the VECs

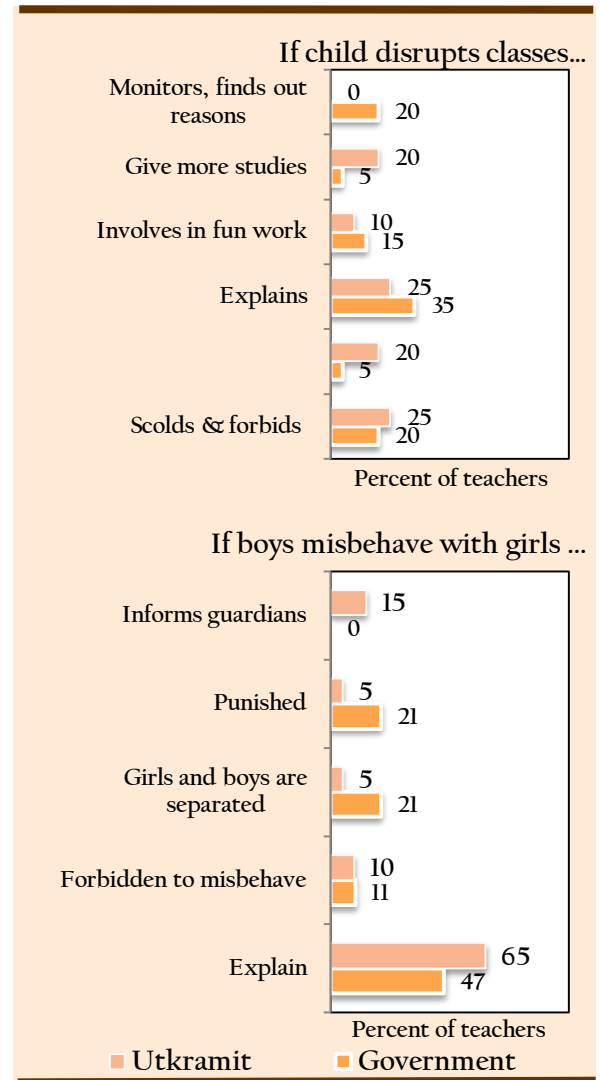
Even though the *panchayat* system is not a very well established institution in Jharkhand, there is a VEC in thirty-nine of the forty schools that we survey in Dumka district.⁹ What is the primary role that they play in the provision of primary school education? Are the households aware about the existence and the role of VECs? Are there complementarities in the roles of the

⁹ One among the twenty government schools surveyed did not have a VEC in place at the time of survey.

VEC and the Sub-Inspector? These are some of the issues that we will explore in this section.

Less than a third of the households are aware of the existence of VECs attached to government schools. This number is even lower for VECs

FIGURE 8.15: Responses of Teachers to Unruly Children



attached to *utkramit* schools [Figure 8.16], and even fewer among them have knowledge about the activities of the VECs.

VEC presidents of both government and *utkramit* schools claim that their main role is to monitor various schools activities like quality of

teaching, discipline within schools, maintenance of school infrastructure, etc. [Figure 8.17]. Very few among them think that creating awareness about the importance of education among parents is a part of their responsibility. This probably explains the lack of knowledge among guardians about the existence of the VECs.¹⁰

On average, there are more female members in VECs attached to government schools as compared to *utkramit* schools. In both school types, there are approximately twelve members in total. Annually, more meetings are held in VECs attached to government schools (about one per month) as compared to *utkramit* schools (about one per two months).

8.8 School Administration

We interviewed four sub-inspectors (SIs) and nineteen cluster resource persons (CRPs) during the survey, who represented the circles of our sampled schools. The SIs are overburdened; each SI has 12 circles and 250 primary and middle schools under his/her responsibility. In some cases, one SI has the responsibility of two blocks. According to the SIs, lack of support staff in the office is a major constraining factor. This forces them to do desk-work like writing reports in addition to visiting schools and undertaking teacher trainings. CRPs on the other hand visit approximately 20 schools per month.

We also asked the head teachers about the frequency of visits by officials from the primary school administration over the past year [Figure 8.18]. Officials from the district primary education office make the least number of school visits. Eighty percent of the head

¹⁰ Monitoring of teachers include absenteeism, punctuality, whether teachers are conscientious when in school; monitoring of students include discipline, attendance and whether they are present in school for the entire school-time.

FIGURE 8.16: Awareness about VECs among Households

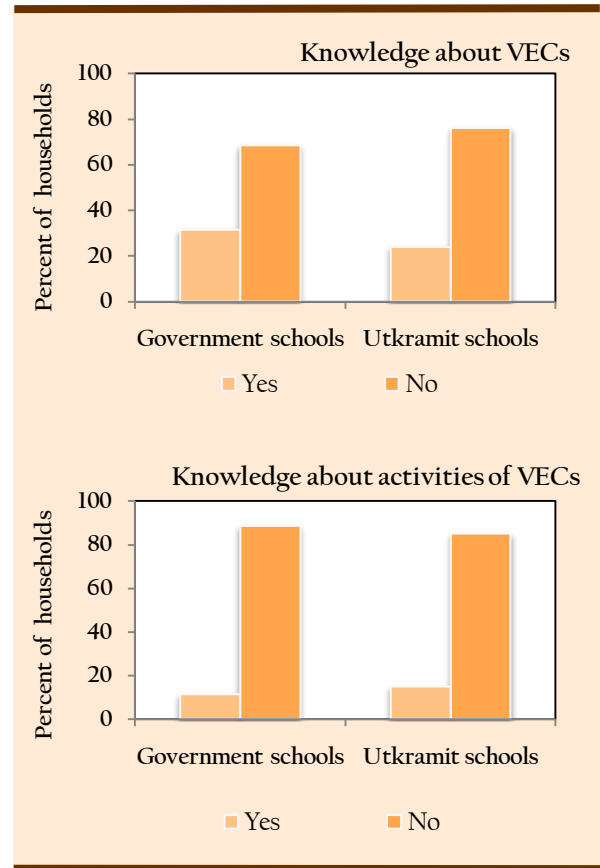
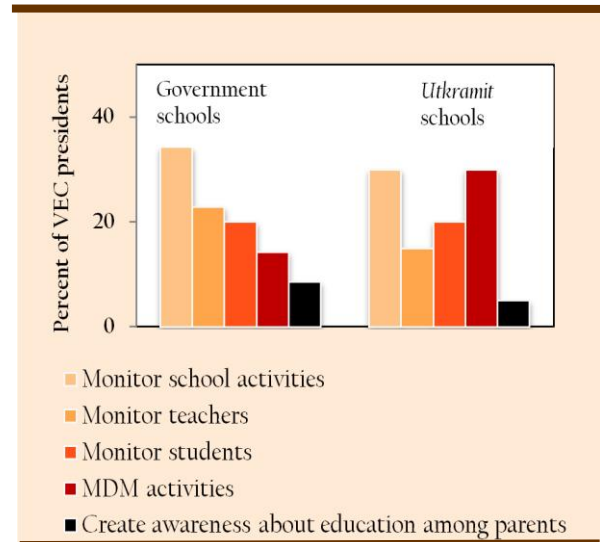


FIGURE 8.17: VEC president's opinion about the role of VECs



teachers claim that their schools were never visited by an official from the district. Primary education officials at the block and circle levels are more likely to visit *utkramit* schools as compared to government schools. One reason for this could be that *utkramit* schools have only recently been upgraded from EGS type of non-formal schools to formal primary schools. Therefore these schools may require more attention and monitoring as compared to the more well-established government schools.

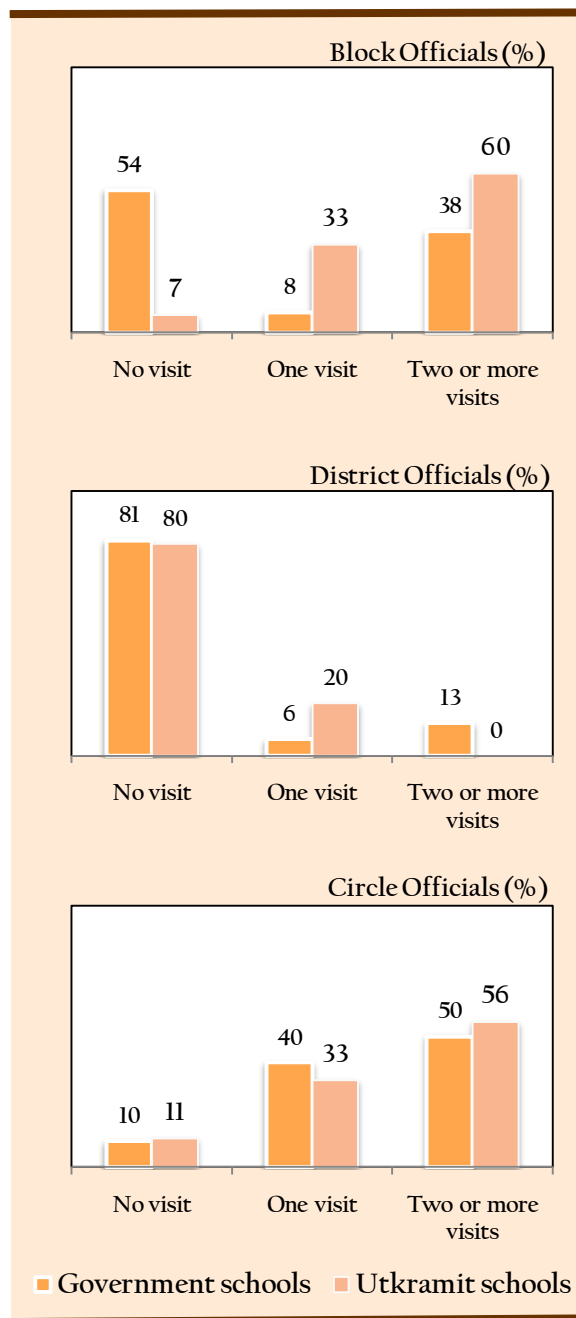
A prime responsibility of the SI's office and the CRPs is to oversee teacher training activities. All SIs that we interviewed are graduates. The main responsibility of training is given to the CRPs. If a CRP is unavailable to provide training in a specific subject, then the SI conducts the training. Otherwise, the SIs' responsibilities regarding teacher training are primarily about logistics and monitoring.

CRPs have to take training themselves on an average of 30 days at the time of joining their job. The topics in which they receive training are the basic training materials, interactions with community, administrative issues, and specific subjects like Mathematics, English, Hindi and Science. Some CRPs take additional training in computers and in typing, but the majority of the CRPs interviewed indicated that they took no further training. For most part, training imparted to the CRPs is given only once at the start of their career as a CRP.

Training modules conducted by the CRPs are decided by the district school education office in consultation with the block education officer or the block resource person and (in some cases) the school teachers. The topics of training range from teaching pedagogy to use of TLMs by teachers [Figure 8.19].

We evaluate the competency levels of the CRPs who conduct training sessions with the school teachers. We ask the CRPs the same pedagogy

FIGURE 8.18: Involvement of the Administration at Various Levels



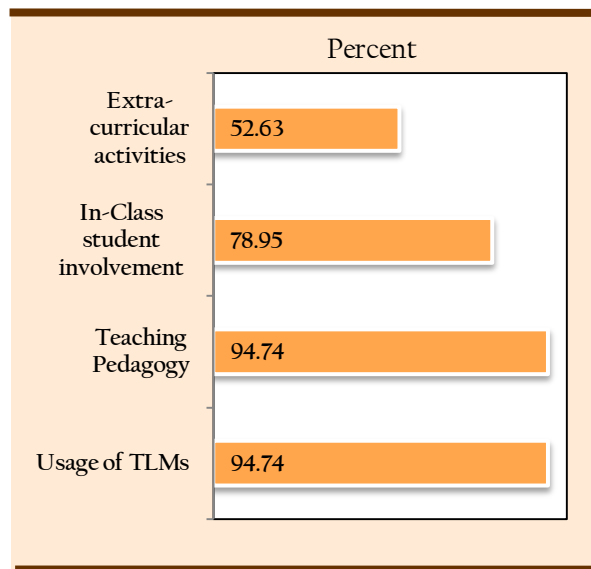
questions related to Environment, Hindi and Mathematics that we had asked the teachers.

Based on their responses, we find that all the CRPs interviewed were able to explain the prevention and risks of malaria and diarrhea correctly. Moreover, 70 percent of the CRPs did

an excellent job with their explanations. Similarly, only one among the twelve CRPs who conducted training in Mathematics, gave incorrect answers when asked about concepts of addition, multiplication and fractions. Most used examples as explanations.

Among the nineteen CRPs that we interviewed, there was only one CRP who trained teachers in Hindi language. Even this single CRP could not correctly explain the concepts of synonyms, antonyms, and conjugate words to the field investigators. This suggests that there may not be adequate competent language teacher trainers. To a certain extent, this probably reflects in the near zero test scores in language across the forty schools surveyed by us.

FIGURE 8.19: Topics Discussed in Training Sessions Conducted by CRPs



Guru Goshti meetings

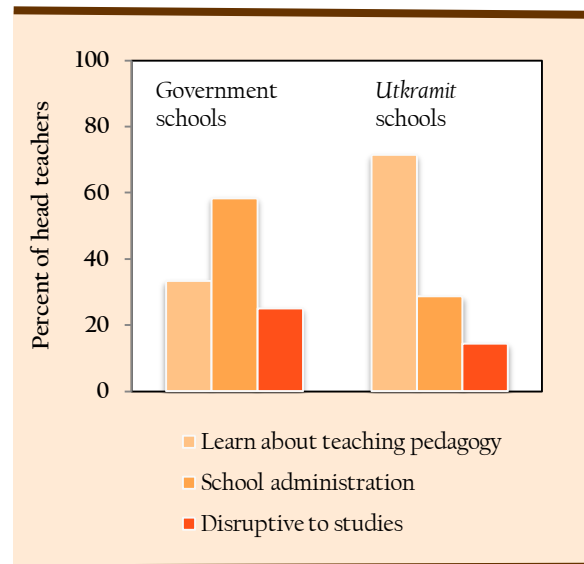
These are monthly meetings held on a fixed date every month. The objective of these gatherings is to exchange information on various events and activities at different levels of the administration related to primary school education; block officials receive reports from different schools on issues related to MDM, fund utilization, and school enrollments

especially of scheduled tribes and castes and of OBCs. In a state like Jharkhand, where habitations are far apart and in remote areas, organizing such meetings is an important and easy means for the school to be in contact with the administration.

The agenda is set by the block office and a meeting is attended by the block officials (block education officer, block resource person, block project officer), CRPs, head teachers and teachers. Representatives from the district primary education office rarely attend such a meetings.

Head teachers in both government and *utkrमित* schools are enthusiastic about the monthly *guru goshti* meetings. Majority are of the opinion that these meetings have a positive impact, though the reasons offered differ across government and *utkrमित* schools [Figure 8.20]. Basically teachers get general information about education related events; they get guidance on various school issues, about implementation, problems and solutions of mid-day meal program and guidance about how to compile and send reports to higher authorities.

FIGURE 8.20: Impact of *Guru Goshti* Meetings



8.9 Government Intervention: A Study of the Mid-Day Meal Scheme

Several incentives like cooked mid-day meal, free textbooks, and free uniforms are provided to students to encourage them to come to school regularly and to ensure that they continue to stay enrolled in the school system. In addition, tribal students are also paid stipends ranging from Rs.50 to Rs 350. In this section, we focus on one such intervention – the cooked mid-day meal program. We report the opinions of the households and the students about the usefulness of the program in improving quality of primary education. We also examine the problems that the service providers face in the delivery of the program.

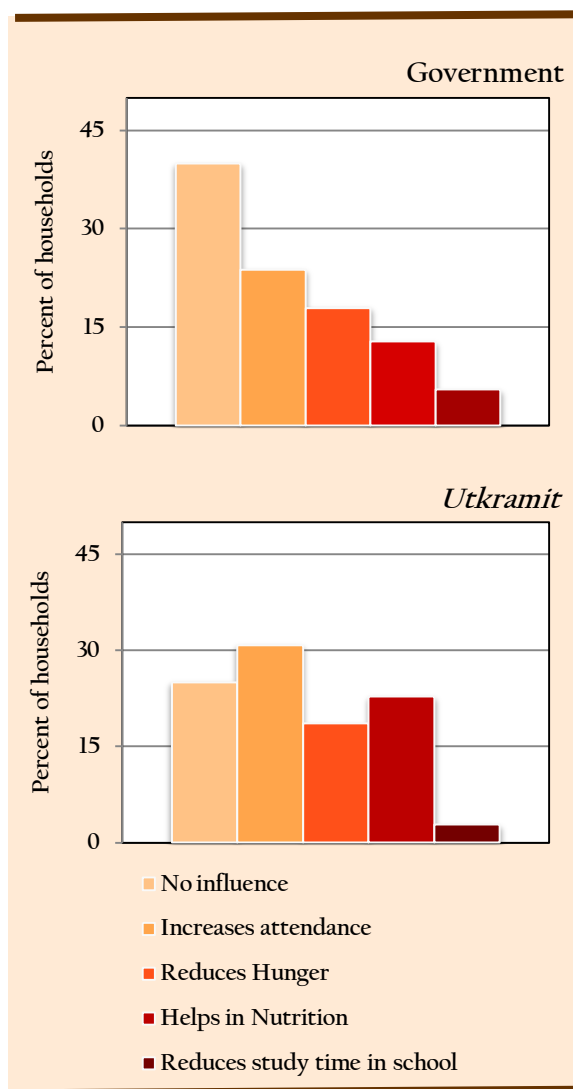
Household and Student opinions:

As mentioned before, less than 15 percent of the students state that they go to school because of the provision of MDMs.¹¹ Do their guardians also hold a similar opinion? The responses differ depending on whether the ward goes to a government or to a *utkramit* school [Figure 8.21]. About 40 percent of the respondents whose children go to government schools are of the opinion that the MDMs have no impact on education. Another 6 percent say that MDMs in fact disrupts studies as children are easily distracted. However, parents of children who go to *utkramit* schools are more enthusiastic about the MDM program – approximately 70 percent of the respondents claim that MDMs have had a positive impact on their children.

A possible reason for these two distinct response patterns may be the differences in the socio-economic profiles of the households across the two types of schools. As mentioned earlier, a larger proportion of tribal and economically

¹¹ More than 95 percent of the guardians interviewed during the course of the survey state that their wards receive MDMs in school.

FIGURE 8.21: Opinion of Household Respondents about the Impact of MDMs on their Wards



weaker sections of the population enroll their children in *utkramit* schools.

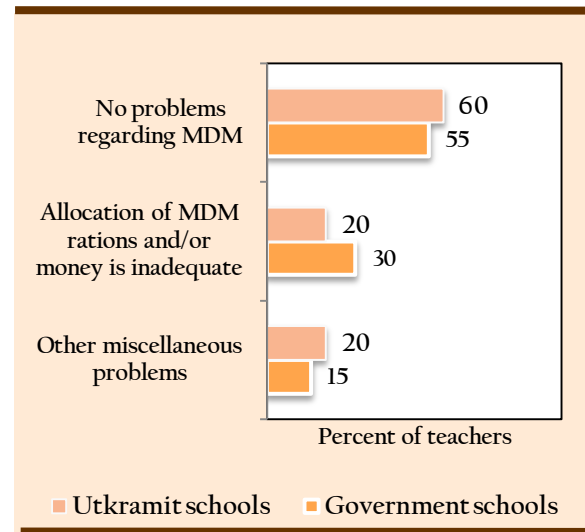
Students were also asked about the food items that are typically served under the MDM program. The responses across both types of schools were similar. The predominant food served was snacks that comprised of puffed rice, biscuits and chips. This was followed by porridge and lentils. Nutritious items like milk, eggs, fish, and meat were rarely served.

Teacher's opinions regarding the MDMs:

Majority of the teachers in both types of schools felt that there are no major problems regarding the provision of MDMs [Figure 8.22]. But in both types of schools, there are some complaints about the inadequate allocations of rations and funds for the MDM scheme. Also an oft repeated complain that the FIs heard during the survey (but which is not revealed in the data) is that the teachers have to get the MDM rations allocated to their schools from the Block Development Officer's (BDO) office at the block level. They have to undertake this task at their own expense and often classes are disrupted because of this.

Solutions suggested by the teachers to the above problems include: increase in allocations, delivery of rations directly to schools or to the SI's office, not giving the responsibility of the MDM program to the teacher and giving it to an

FIGURE 8.22: Problems Faced by the Teachers in the Provision of MDMs



External person, and need for better co-ordination between the VEC, MTA and *saraswati vahini* members.

A, B, C and D are participating in our achievement test. Suddenly C angrily asks one of our FIs why she has been asked these questions. The FI looks puzzled and asks her which question did she find offensive. She retorts that she is a Class III student and the questions in the question paper are for Class IV students. The FI shows her the attendance register where she is listed as Class IV student. In response to that, the student opens her bag and shows the FI her school text books and other materials. They are Class III study materials. The teacher had listed her as a Class IV student because the attendnace in the school was low and the teacher was worried that it would be specifically mentioned in our report.

A primary school in Ranigram village has many students coming from the nearby orphanage centre. The students do not attend classes everyday. They are allowed to come to school by the school authorities on every alternative day. The authorities claim that this is because of lack of space but our survey team does not accept that explanation!

Ram, Bibi, Shibu and Gopal are present in school and are going to take the achievement test. Suddenly Ram starts crying inconsolably. Ms. Jharna our chief supervisor who is present in the classroom tries to find out the reason but the child does not respond. Shibu then explains that Ram cannot understand any Hindi. He only understands Santhali language and is nonplussed and upset to see the Hindi question paper!

Chapter Summary

- Achievement test scores in Jharkhand exhibit a pattern of “low mean *and* low variance”. This is in contrast to the pattern of “low mean and high variance” observed in West Bengal.
- On average, less than fifty percent of students attend school on any given day.
- Student households are poorer than their West Bengal counterparts. To a certain extent, this explains why students are irregular in attending school. Unlike in West Bengal, children’s engagement in some productive activity at home forces them to miss school. Very few students miss school due to physical illness.
- There is demand for education among households and students. Parents would like their children to get quality education.
- School infrastructure is comparable and is, to an extent, better than that available in West Bengal. However, on many occasions, students are made to clean toilets or classrooms in the schools.
- Pupil teacher ratio is lower than in West Bengal, and closer to the national mandated level of 40:1.
- Teaching pedagogy in Mathematics and in Hindi is poor.
- While MDM is provided in almost all schools, the food items served under the scheme are not nutritious or adequate. Often snacks like biscuits, potato chips, and puffed rice are served to the children in place of a cooked meal.

9 | Policy Conclusions



Our research offers important insights on the inequities that exist in educational outcomes at primary level in rural India, even for areas that are under uniform institutional structures and administration. We analyze student achievements and disbursement of resources that vary across administrative blocks, gram *panchayats*, and schools within the same gram *panchayat*.

Our research identifies reasons that possibly explain observed divergences in education outcomes across geographical boundaries and population groups. It (a) confirms some of the earlier findings in the education literature, (b) contradicts some of the existing myths, and (c) provides some evidence on issues that have hitherto not been investigated rigorously.

We confirm that learning levels and attendance rates in primary schools remain low in rural India, though the extent of heterogeneity in these outcomes is different across our two

sampled states – West Bengal and Jharkhand.¹ Test scores are uniformly low in Jharkhand while in West Bengal there are considerable variance at all levels – across districts, within districts across blocks, within blocks across schools, and within schools across students from different socioeconomic and religious

Master Jasimuddin Sheikh and Ms. Dipti Sen are residents of Birbhum and North 24 Parganas respectively. Dipti Sen belongs to a BPL household. Both Jasimuddin and Dipti score over ninety percent in the Mathematics achievement test and seventy-five percent in the Bengali test. Average Mathematics and Bengali scores of their respective schools are forty-five percent each.

¹ Learning levels are based on achievement tests designed by us that evaluate pupils' cognitive understanding and creativity, and not just their bookish knowledge.

backgrounds.

Student attendance rates are low in both states - on average, only one-half of enrolled students attend school on any given day.² Further, a “no assessment” “no-detention” policy may not necessarily improve the quality of primary school education. Learning gaps continue to accumulate over the primary school cycle which results in children either dropping out of the primary school system or repeating grades.

Our study confirms a direct relationship between language and numeracy test scores – if a child has performed well in one subject she is also likely to have performed well in the other subject. Coochbehar is the only district where correlations between student Mathematics and Bengali scores is sixty percent.

Household Effects

Differences in achievement levels across socio-religious groups are also evident in our sample -

Sudip is a Class IV student in a primary school in Barjora block of Bankura district. Sudip has scored ninety-four percent in Mathematics and seventy-two percent in Bengali. Sudip's mother has completed her primary education and his father his higher secondary education. Sudip's mother knows the name of the headmaster of his school, his Class IV teacher, has visited his school and is an active participant of the MTA. Sudip's parents spend Rs.200 per month on his private tuitions.

² Pratiche Report (2009) estimates student attendance rates to be seventy-five percent (i.e., significantly higher than that estimated in our survey). A possible reason for the difference could be that while Pratiche relies on administrative records to estimate attendance rates, we calculate attendance rates based on the head count of children present on the day of our survey.

upper caste Hindu boys are the best performers and Muslim girls are the worst performers. Students belonging to scheduled caste families have performed reasonably well in our achievement tests.

Existing evidence in the education literature indicates the following relationships. A child's learning is related to: (i) whether or not (s)he is a first-generation learner, (ii) parents' and elder siblings' education levels, (iii) whether or not parents take active interest in his/her school activities, and (iv) household's economic status. These dependences are reaffirmed in our study.

An important finding of our study is that

Snigddha, Tapati, Pranati, Anuragi, Sebina, Mamtaj are our household respondents in the sample. Each one of them holds the opinion that their child is learning very well in his/her school. Each child of the above mentioned guardian has scored seventy percent or more in both subjects in our achievement tests. All respondents except Anuragi have completed upper primary level. Anuragi however has only received informal primary education..

irrespective of their own education levels, parents are perceptive about their children's educational achievements. Correlations between parents' perceptions and students' performance in the achievement tests administered by us are very high. This evidence directly contradicts the opinions of teachers who claim that it is because parents cannot judge the learning levels of their wards that the children are unable to absorb the teaching imparted by them.

We also questioned parents regarding the ability of their children to comprehend notices put up in primary health centres and *panchayats*, and their children's aptitude in filling out simple

Hat-Ashuria Suripara Primary School: A Success Story

Hat-Ashuria Suripara is a primary school located in Barjora block of Bankura district (school circle: Barjora (South)). This school, established in 1968, is the “best” school in our sample of two hundred and forty schools in terms of average test scores in Mathematics and Bengali. Ninety percent of the students belong to either scheduled caste families or are Muslims. The physical infrastructure of the school is excellent with a permanent building, four useable classrooms (student-classroom ratio of thirty-two is to one), a functioning library, and a ramp for disabled students. There are three government teachers and one para teacher with a pupil teacher ratio of thirty-two students to one teacher. Teachers in this school are well-qualified and our data reveals that their teaching pedagogy is also good relative to the rest of the sample. There are weekly assessments of students, and teachers take the teacher training programs very seriously. The head teacher has many years of teaching experience both as a teacher in the school and as a head teacher. None of the teachers were involved in any non-teaching official work during the academic year 2008-09. The school was visited by primary school administrators (from district, block and cluster levels) more than twenty times during 2008-09. Even though the current sub-inspector has two circles under his responsibility and 115 schools to oversee, he visited Hat-Ashuria Suripara Primary School twice during 2008-09. Moreover, when asked to identify the “best” school in his circle, the sub-inspector mentioned Hat-Ashuria Suripara as the best in his two circles. Reasons mentioned by the SI for choosing Hat-Ashuria Suripara as the best school in his two circles were excellent teacher-student relationship, teacher conscientiousness, usage of TLMs in class, good teaching pedagogy, and where teachers spend their own money to purchase stationary for students if necessary. The president of the VEC is a graduate and both the VEC and the MTA are actively involved in the delivery of primary school education in this area. Such schools are few and far between, but the primary school system must strive to replicate many such schools to ensure provision of high quality primary education in rural India.

forms, and making telephone calls. These simple skills may not matter much in the case of average middle class families, where the parents already possess such skills. But for traditionally deprived families these simple abilities of their children are valuable for accessing economic opportunities and welfare benefits and services that are offered by the government. In our sample, parent’s perceptions about their children’s functional abilities are very highly correlated with the scores received by the children in the achievement tests.

Most parents in our sample are of the view that private tuitions are an essential part of primary education. This is true even in schools like Hat-

Ashuria Suripara where the test scores are the highest in the sample. Seventy-two percent of our household respondents said that they have engaged a private tutor for at least one of their children.³ Households spend on average Rs. 155 per child per month on private tuition to supplement school education. Surprisingly, the view that private tuitions are a

³ Our numbers are similar to those reported in the Pratichi Report (2009). But unlike the Pratichi Report, our household respondents are of the view that private tuitions are necessary because teachers are not conscientious or because students want to learn things outside the curriculum rather than a heavy school curriculum.

necessity is reiterated by school teachers, VEC representatives, and circle officials.

characteristic of the school that has some impact on learning levels. But overall, school

An Un-named Primary School in Birbhum: A Failure

It is a school, established in 1954, within seven kilometers from the block head quarters and with moderate physical infrastructure facilities. Student composition is primarily tribal and from the scheduled castes. Spoken language at home is not Bengali. Only one-fifth of the total students enrolled in Class IV attended school during our school visit. On average, fifty percent of students are repeaters. There are four government teachers with a pupil teacher ratio of seventeen students to one teacher. Teachers in this school, while professionally trained, do not have a graduate degree. The residences of both the head teacher and the Class IV teacher are four kilometers away from the school. None of the teachers were involved in any non-teaching official work during the academic year 2008-09. No internal student assessments were conducted by the school administration. The school was visited by primary school administrators (from district, block and cluster levels) on only four occasions during 2008-09. Even these visits focused on non-learning activities like formation of committees, conducting an audit of the MDM program etc.. Even the current sub-inspector identified this school as a non-performer in his circle. Reasons mentioned by him include low student enrollments, irregular attendance, lack of awareness among guardians, lack of involvement by VEC and MTA, majority of first generation learners and majority of students from tribal households.

Students from households belonging to the top wealth quartile do equally well irrespective of whether they take private tuitions or not. However for the poorer wealth quartiles, there is a difference in the test scores depending on whether the child takes private tuitions or not.

School and Community Effects

An aspect of this report that distinguishes it from many existing studies on primary school education in rural areas is the extensive school level analysis that is presented here.

Using data collected under the study, we find that attendance and dropout rates are more closely related with school infrastructure such as the availability of playground attached to a school and the availability of a separate girls' toilet. But learning levels do not show any significant correlation. Classroom-students ratio is the only physical infrastructural

infrastructure is less of a constraining factor today than it was a few decades ago in both the states.

Pupil Teacher Ratios (PTRs) are high, with the average PTR for the sample being fifty-five students to a teacher.⁴ The scenario is particularly bleak in the districts of Murshidabad and South 24 Parganas where, on average, a single teacher has to manage more than seventy students. We do find some associations between PTRs and low test scores, low attendance rates, and high dropout rates.

⁴ Seven percent of our sampled schools are single teacher schools. This is higher than that reported in the Pratichi report (2009). We also estimate that thirty-one percent of our sampled schools have four or more teachers. Again this is much lower than the reported forty-one percent by Pratichi for their sample.

From the information gathered during our survey, we were also able to get useful insights on the role of the pedagogy being used in classrooms, and on the use of internal assessments on student outcomes.

This research also explored some school issues that are important but rarely examined in the literature. One aspect is the handling of disruptive situations and/or student underperformance in classrooms. We find that student outcomes are worse if teachers are aware of deviant behavior in classrooms but do not take any actions. This is in contrast to situations where teachers make attempts to understand the underlying causes of the problems. Insights from within-classroom evidence can be useful in designing teacher training programs where teachers, especially new recruits, are alerted about the different ways to handle difficult classroom situations.

Head teachers and teachers often complain about the burden of non-school related official duties that they have to perform as a part of being a government employee. Based on the responses of the head teachers and Class IV teachers, we find that less than ten percent of leave taken by them are on account of non-school related official duties. But we do find that in schools where the head teacher and teachers are absent from school even on official duty, student learning outcomes suffer.

Wherever there is *effective* community engagement – formal or informal – of parents, local residents, and the school in the delivery of primary education, student outcomes are better. Our research however also shows majority of sampled households are unaware of the activities of formal community institutions like the VECs and MTAs. In some school areas we find that informal arrangements between the local community and the school have positive effects on children’s education.

School monitoring and co-ordination by circle and block offices are important in the delivery of primary school education. In schools like Hat-Ashuria Suripara in Bankura, Kirnahar Junior Basic in Birbhum, Gar Shyamnagar FP School in North 24 Parganas, Kanthalberia PS in South 2 Parganas, where monitoring by primary school administrators is more frequent, student outcomes are definitely better. We find that school inspectors (SI) are more often than not acting as administrators responding to administrative issues like formation of various school committees, facilitating MDM rations and funds etc., but are not providing much pedagogical support. Our evidence suggests that schools in which the SIs themselves conduct teacher training programs have better student tests scores and attendance rates.

Government Interventions

Using the information that mid-day meals (MDMs) are not served on Saturdays in West Bengal, we assess the impact of MDMs on student attendance rates.⁵ We find that there is only a marginal difference in student attendance rates between schools that we visited on a weekday where mid-day meals were served as compared to schools that we visited on a Saturday where no mid-day meals were served.⁶

Evidence presented in this report suggests that MDMs may be necessary and important in certain situations, but they are not by themselves sufficient to enhance the quality of primary school education in rural areas. They can, to an extent, help in bringing children to

⁵ Schedule of school visits were not decided on a specific criteria and were unannounced.

⁶ This is different from the evidence reported in The Pratchi Education Report II (2009) where they state that “The programme has contributed immensely to the improvement in the rate of attendance of children”.

school; but in the absence of a properly functioning school, quality of education is not improved. It is also noteworthy that stakeholders of primary schools located in more backward areas of our survey are more enthusiastic about MDMs, suggesting that it is an important intervention for poor parents and for children from vulnerable households.

Another major government intervention in primary education is the teacher training program. District Primary Education Program (DPEP) and Sarva Shiksha Abhiyan (SSA) programs has incorporated continuous on-the-job training of the teaching staff as an important input in providing quality education to students. But anecdotes from the field and data collected during our survey suggest that these programs have been ineffective in bringing about significant improvement in the quality of primary education.

The resource teachers in the circle office have the prime responsibility of imparting teacher training programs. Training components like improving student-teacher interactions in classrooms seem to have an impact on test scores; other aspects like training of teachers in their interactions with the local community and guardians show some correlations with higher student attendance rates. But by and large, teacher training programs need to be modified substantially to make them more effective tools in improving the quality of primary education.

Our research shows that no single intervention is adequate to ensure that children come to school regularly and learn. A comprehensive policy that engages all stakeholders in primary school education needs to be formulated. Policies have to be such that they provide incentives to parents to make them enthusiastic about sending their wards to school regularly and to actively participate in their learning process, to teachers to make them more

conscientious towards their students, to students to make learning more accessible and enjoyable, and to communities and administration to provide better monitoring and logistical support.

Some innovative interventions have been implemented on a smaller scale in different parts of India targeting the different stakeholders of primary school education. We conclude our discussion by highlighting some of these policy interventions.

One scheme that is increasingly gaining popularity in India is the Conditional Cash Transfer scheme (CCT) where cash grants are given to poor households conditional on behavior that leads to improvements in their children's human capital. For example, a child must be enrolled and must have at least 85 percent school attendance for his/her family to get the cash grant; in addition, the child might be required to attend an after-school program regularly. The advantage of CCTs is that families do not have to use children as risk-coping instruments, thereby avoiding long-term costs on child human capital formation. For CCTs to be effective, the cash grants need to constitute a significant percent of a household's total income, and the required eligibility conditions need to be strictly monitored.

The *Dhanalakshmi* scheme launched in March 2008 by the Ministry of Women and Child Development, Government of India is a CCT scheme aimed at providing a set of staggered financial incentives for families to encourage them to nurture and educate girl children. The scheme provides cash transfers to families of a girl child on fulfilling certain specific conditions such as birth registration, immunization, school enrolment and retention, and on not marrying her off before she is 18 year old. The scheme has been implemented in 11 blocks across seven states – Andhra Pradesh, Bihar, Chhattisgarh,

Jharkhand, Orissa, Uttar Pradesh, and Punjab.

The *Laadli* scheme implemented by the Delhi and Haryana Governments is another CCT scheme that provides cash incentives to girl children, transferred directly to their bank accounts, upon birth and upon attainment of various levels of education. Under this program, the Government deposits Rs.10, 000 in the name of girl child at time of her birth, and subsequently deposits Rs.5000 at the time of her admission to Classes I, VI, IX, X and XII. The accumulated amount of approximately Rs.1 lakh becomes eligible to girl child on attaining 18 years of age conditional on her passing the Xth standard examination.

In informal conversations with different administrative officials, we found that teachers are sensitive about the public's knowledge regarding the quality of learning levels in their schools. Earlier, with a continuous public evaluation process in place, teachers used to "compete" with each other to ensure that their students performed well in public examinations. If the basic idea of "healthy" competition among the teachers can be introduced then it is likely that teachers will be more conscientious and responsible for their students.

In Andhra Pradesh, an experimental study gave bonuses to teachers for average improvement in student scores on independently administered tests. Students in "incentive" schools outperformed those in control schools in mathematics tests (0.19 standard deviations) and language tests (0.12 standard deviations) (Muralidharan and Sundararaman 2006).

Finally, it might be a good policy to assure lagging students that they will receive extra instructional support in the learning process.

The *Balsakhi Program* is a remedial education intervention in 122 public primary schools in Vadodara and 77 schools in Mumbai. A tutor

(*balsakhi*), usually a young woman recruited from the local community and paid a fraction of the cost of civil-service teachers Rs.500-750 per month, worked with children in grades 2, 3 and 4 who were identified as falling behind their peers.

The instructor typically met with a group of approximately 15-20 of these children who were taken out of the regular classroom into a separate class for two hours of the four hour school day. Instruction focused on the core competencies the children should have learned in the first and second grades, primarily basic numeracy and literacy skills. The program had substantial positive impacts on children's academic achievement. Scores on tests administered after the program showed that in both cities in both years, the program improved overall test scores, with the biggest gains in mathematics (Banerjee, Cole, Duflo and Linden (2004)).

Ramgopal is a student in a primary school in Shikaripara, Dumka. He is happy and exclaims that we will get a cooked meal during our MDM after several months. He points out to the MDM menu stuck on the school wall and says that we never get the food items listed on the menu. Our teacher Ms. Munni owns a grocery shop in the village. She buys snacks and biscuits and distributes them to us during MDM time. But today, school authorities start preparations for a cooked MDM as soon as the survey team arrives in school.

Appendix | Sample Design: West Bengal



The focus of study is rural areas in the five District Primary Education Program (DPEP) districts (Bankura, Birbhum, Coochbehar, Murshidabad, and South 24 Parganas) and the district of North 24 Parganas in West Bengal [Figure A.1].

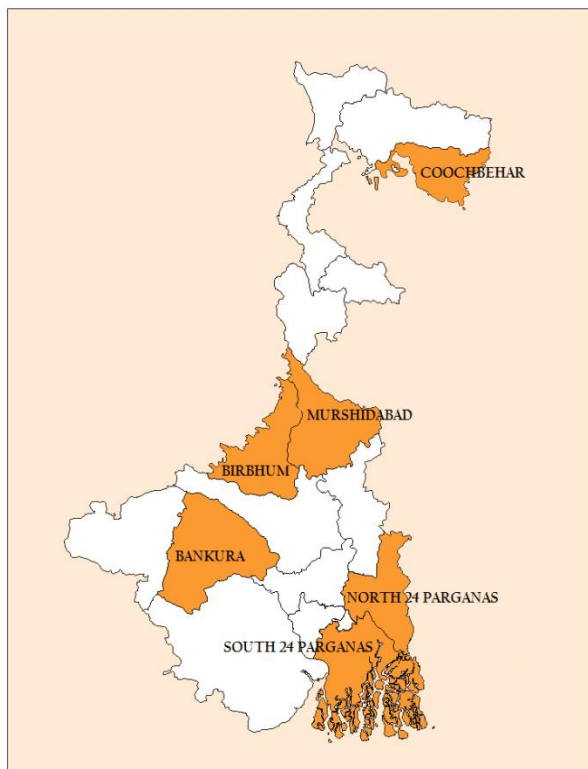
Choice of DPEP districts was predicated on the fact that under the DPEP program, greater emphasis was given on components that could potentially improve the quality of learning in the long-run. Some of these components included improved teacher training programs through block clusters, translating textbooks into local languages, improving the pedagogy to make it more child-friendly, involving the local communities through Village Education Committees (VECs) and Mother Teacher Associations (MTAs) to create awareness about

education among parents and to monitor the school activities at the local level etc..

The social demographic composition of the districts show that overall, our sample is composed of a third each of SC/STs, Muslims and Others (OBCs and Hindus). These proportions however vary across the six districts [Table A.1]. The proportion of literates aged seven and above in the sampled districts is approximately the same as that of the state [Table A.2].

The survey was implemented during the months of December 2008 – March 2009. This meant that the Class IV students had completed nearly three-fourths of the academic year in Class IV. The survey instruments were administered at various levels of the primary school system.

Figure A.1: Sampled Districts



Date and time of arrival in a school was unknown to both the school authorities and school administration. Achievement tests in Bengali or Hindi and Mathematics were administered to all Class IV students who came to school on our school visit day. In schools with multiple sections of Class IV, the test was administered to all sections.

During the school visit, interviews of the head teacher and any one (if there were multiple teachers) Class IV teacher covering topics like existing school infrastructure, teaching pedagogy, official leave, involvement of guardians, etc. were conducted. We also took assistance from the school teachers to identify the VEC representatives that we planned to interview during the survey.

Student interviews about their assessments of the schooling system (pedagogy, behavior of teachers in school etc.), usefulness of Mid-Day Meal schemes (MDMs), functional knowledge about common events etc. were conducted

Table A.1: Socio-religious composition of sample

	SC	ST	Muslim	Others
<i>Bankura</i>	42.9	10.36	7.51	50.89
<i>Birbhum</i>	29.51	6.74	35.08	28.67
<i>Coochbehar</i>	50.11	0.57	24.24	25.07
<i>Murshidabad</i>	12.00	1.29	63.67	23.04
<i>North 24 Pgs</i>	20.60	2.23	24.22	52.95
<i>South 24 Pgs</i>	32.12	1.23	33.24	33.41
<i>Sample average</i>	29.26	3.74	31.33	35.67
<i>West Bengal</i>	23.02	5.50	25.25	46.24

Source: Census 2001

within the school premises after the achievement tests had been conducted and after the students had had their MDMs. Students were also asked to assist the survey team to provide details about the directions to their households.

We started conducting the household interviews either in the evening on the day of the achievement tests or the following morning. We asked them about their opinions regarding the schooling system (usefulness of MDMs, private versus public schooling, private tuitions, engagement with school's school activities etc.).

During a school visit, we also conducted interviews of the Village Education Committee (VEC) president and any one other member of the VEC (other than the head teacher), seeking their views and their involvement in the primary school system of their locality.

While the survey team was in a particular block, we also completed the school-circle interviews of the sub-inspector and any one resource teacher. These interviews sought to assess the problems faced by the administrators and their views regarding the quality of schools in their circle

Finally, Ms., Jharna Panda interviewed all the District Primary School Council chairmen (DPSC) to get their overall assessment of primary schooling in their district. Some of these interviews were conducted after the survey was over and when some preliminary data analysis of their respective districts had been completed. This gave us an opportunity to seek their comments on some of our survey findings.

Sampling Procedure & Administration of the Achievement Tests

Multi-stage stratified sampling techniques were used for selecting the different sampling units. All blocks in a district were categorized into

four wealth quartiles based on a principal components weighted wealth index using block amenities data from Census 2001.¹ From each wealth quartile, one block was randomly chosen. While selecting the blocks, the urban blocks if any, were excluded. Figure A.2 shows the sampled blocks across the six districts.

From each of the sampled blocks, five *gram panchayats* were randomly chosen based on a population proportional scheme and from each *gram panchayat*, two schools were proportionately selected from a population list of all government schools.²

Overview of the Achievement Tests

The objective of the achievement test was to quantify the learning levels of the students. Other parts of the questionnaire were used to assess the extent to which schools contribute to human and social development of children etc.. Tests were designed in Mathematics and Bengali, the two basic core competencies developed in primary schools.

The achievement tests were designed keeping in mind the learning assessment literature. Further, some of the questions were taken from an international assessment study (the Trends in International Maths and Science Studies - TIMSS, <http://www.timss.org> and Progress in International Reading Literacy Study - PIRLS, <http://isc.bc.edu>) for which performance data of students from over 40 countries is available.

There were two sections: a Mathematics and a Bengali section each for a duration of 45 minutes

¹ The variables used in constructing the wealth index included banks per person, radios per person, television sets per person, telephones per person, cycles per person, scooters per person, cars per person.

² A replacement school for all sampled schools was also listed.

with a ten minute break in between. The Mathematics section had 19 items and the Bengali section 5 items with a few sub-items. The tests were “graded” in the sense that the difficulty of the questions increased as the test progressed. All questions in the test paper could be categorized into questions that a student should be able to answer at the completion of Class I, II, III and IV respectively. All language texts in the Mathematics paper were in Bengali.

During the pilot conducted in three of our sampled districts – South 24 Parganas, Coochbehar and Murshidabad, we found that children often copied from each other. This was often the case in schools with larger class sizes. To circumvent this problem to an extent, three versions of the test paper were designed (the content of the problems were the same but the order of the multiple choice were changed and in some mathematics problems the numbers

were changed slightly) such that no two students seated next to each other were given the same question paper. In each school there were at least two invigilators and in case of larger class sizes (>30 students), the district supervisor and two additional persons were present to invigilate the exam. The invigilators were instructed not to allow the school teachers to be present in the classroom while the achievement test was administered. Further, invigilators were given strict instructions not to give any verbal instruction and/or help to the students.

Table A.2: Literacy levels across Socio-religious Groups

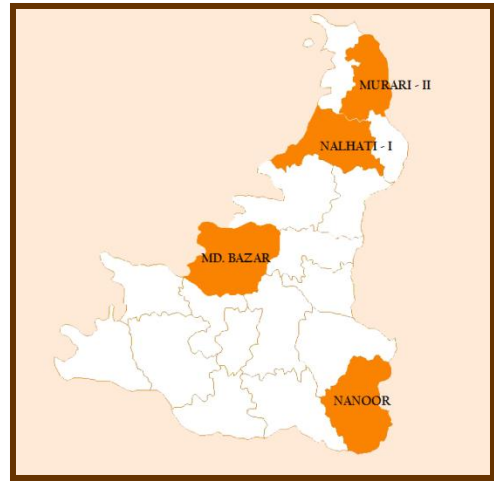
	SC	ST	Muslim	Others
<i>Bankura</i>	42.92	49.60	59.91	70.18
<i>Birbhum</i>	45.74	31.20	59.86	61.48
<i>Coochbehar</i>	64.35	55.31	56.07	66.3
<i>Murshidabad</i>	48.91	35.79	48.63	54.35
<i>North 24 Parganas</i>	70.79	46.09	65.05	78.07
<i>South 24 Parganas</i>	67.36	43.29	59.83	69.45
<i>Sample average</i>	56.68	43.55	58.23	66.64
<i>West Bengal</i>	59.04	43.40	57.47	68.64

Figure A.2: Sampled Blocks across Districts

BANKURA



BIRBHUM



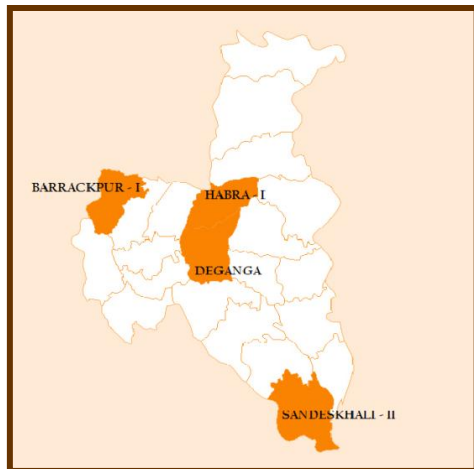
COOCHBEHAR



MURSHIDABAD



NORTH 24 PARGANAS



SOUTH 24 PARGANAS



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Statistical Appendix

Table A.I. Mathematics Test Scores in Different District Blocks

Name of Block	Total Score	Grade-wise scores			
		Grade 1	Grade 2	Grade 3	Grade 4
BANKURA	28.2	51.2	37.2	18.5	13.7
Raipur	25.6	51.3	31.2	18.4	11.6
Bankura-I	21.6	40.2	32.2	11.9	10.8
Onda	29.9	53.2	43.4	19.1	10.5
Barjora	34.2	59.8	42.2	24.7	21.8
BIRBHUM	26.5	51.7	31.8	17.7	10.6
Murarai-II	26.3	46.5	34.6	18.0	14.3
Nalhati-I	24.1	48.0	32.0	16.7	6.3
Nanoor	30.5	56.2	36.4	22.1	19.7
Md. Bazar	20.9	56.1	24.1	13.9	2.3
COOCH BEHAR	21.9	47.1	25.0	15.8	7.0
Sitalkuchi	23.0	48.8	27.2	17.4	6.4
Mathabhanga-II	22.1	44.5	26.0	16.5	10.1
Dinhata-II	16.9	43.3	16.6	13.2	4.6
Cooch Behar-II	24.0	51.9	30.3	16.3	7.0
MURSHIDABAD	23.0	46.2	26.5	16.9	14.3
Samserganj	13.2	36.4	13.3	8.6	5.8
Lalgola	26.5	50.0	31.2	19.3	16.4
Jalangi	29.8	53.5	33.7	22.4	22.1
Nabagram	23.5	45.1	27.9	17.3	13.0
N 24 PARGANAS	35.1	61.6	44.1	24.4	21.8
Sandeshkhali-II	27.7	52.2	33.8	20.0	14.6
Deganga	34.5	63.3	43.0	23.9	21.3
Habra-I	36.5	68.4	45.1	25.1	23.1
Barrackpur-I	40.8	62.3	54.5	28.5	28.1
S 24 PARGANAS	32.1	60.5	42.4	23.8	17.5
Kultali	37.8	61.3	51.5	26.2	19.9
Mandirbazar	36.9	67.9	46.4	25.8	22.3
Bhangar-I	20.4	44.9	25.7	13.3	7.4
Baruipur	38.6	67.9	46.1	30.0	20.5

Table A.2. Bengali Test Scores: District Blocks

Name of Block	Total Score	Grade-wise Scores			
		Grade 1	Grade 2	Grade 3	Grade 4
BANKURA	25.0	50.3	22.4	35.3	3.8
Raipur	19.2	36.3	18.5	26.8	1.1
Bankura-I	19.7	46.4	16.6	28.0	2.2
Onda	27.8	55.8	24.9	41.1	3.8
Barjora	32.1	62.7	29.5	45.3	7.9
BIRBHUM	18.4	40.1	13.6	33.7	2.5
Murarai-II	16.0	40.7	10.2	34.6	1.1
Nalhati-I	18.3	45.3	13.8	32.5	2.0
Nanoor	22.3	47.6	17.0	41.4	4.5
Md. Bazar	15.0	27.0	13.3	26.1	2.5
COOCH BEHAR	16.9	38.1	1.4	12.9	32.4
Sitalkuchi	15.2	37.4	9.8	33.5	1.7
Mathabhanga-II	16.4	37.3	13.3	34.4	1.9
Dinhata-II	14.8	35.5	10.6	30.1	0.2
Cooch Behar-II	20.4	42.2	17.9	31.7	1.9
MURSHIDABAD	16.0	34.8	11.9	32.9	3.0
Samserganj	8.0	19.9	4.5	20.9	0.1
Lalgola	18.8	38.4	15.4	33.9	2.5
Jalangi	20.5	44.1	15.0	38.4	5.8
Nabagram	17.9	36.8	12.9	38.5	3.5
N 24 PARGANAS	31.5	56.7	29.9	42.7	4.8
Sandeshkhali-II	23.9	51.7	20.7	34.5	3.7
Deganga	30.9	56.8	29.2	44.3	4.4
Habra-I	33.2	57.6	32.8	44.6	4.5
Barrackpur-I	36.7	60.7	37.1	47.5	6.3
S 24 PARGANAS	24.6	50.9	22.9	40.5	3.0
Kultali	29.4	60.4	26.1	43.3	4.5
Mandirbazar	27.3	48.7	25.2	45.2	4.0
Bhangar-I	16.3	33.0	12.5	26.3	1.8
Baruipur	30.6	61.5	27.8	47.3	1.5

Table A.3A. Grade Distribution in Mathematics : District Blocks

Name of Block	Zeros	1-34 percent	35-49 percent	50-64 percent	65-79 percent	80 percent & above
BANKURA	12.0	54.6	16.0	10.7	3.9	2.8
Raipur	10.7	60.7	14.3	11.6	2.7	0.0
Bankura - I	16.5	63.9	13.4	3.1	1.0	2.1
Onda	11.3	46.0	22.6	14.5	4.0	1.6
Barjora	9.4	47.9	13.7	13.7	7.7	7.7
BIRBHUM	9.5	62.5	12.6	9.9	4.2	1.2
Murarai - II	6.6	62.9	13.6	12.2	4.2	0.5
Nalhathi - I	17.1	55.9	9.9	13.2	3.3	0.7
Nanoor	5.4	60.0	11.9	11.4	7.6	3.8
Md. Bazar	9.1	71.2	15.2	3.0	1.5	0.0
COOCH BEHAR	9.1	74.5	11.1	4.3	0.8	0.2
Sitalkuchi	7.9	74.3	10.9	5.0	1.0	1.0
Mathabanga - II	8.8	73.3	10.5	6.1	1.3	0.0
Dinhata - II	10.1	82.4	5.9	1.7	0.0	0.0
Cooch Behar - II	9.6	68.2	17.0	4.4	0.7	0.0
MURSHIDABAD	15.0	60.3	11.6	9.3	3.1	0.7
Samserganj	33.0	56.9	5.8	2.9	1.5	0.0
Lalgola	12.9	55.2	16.2	12.9	2.1	0.8
Jalangi	5.5	59.8	13.7	12.5	6.6	2.0
Nabagram	8.9	69.3	10.9	8.9	2.1	0.0
N 24 PARGANAS	3.7	49.4	21.3	17.3	7.1	1.1
Sandeshkhali - II	5.8	62.0	16.8	10.2	5.1	0.0
Deganga	5.4	48.3	18.8	17.9	7.9	1.7
Habra - I	3.7	47.5	22.3	18.6	6.6	1.2
Barrackpur - I	0.0	39.7	27.4	22.6	8.9	1.4
S 24 PARGANAS	5.3	52.4	19.8	13.9	6.9	1.7
Kultali	3.1	45.7	24.4	15.9	8.5	2.4
Mandirbazar	0.0	50.3	23.2	15.9	8.0	2.7
Bhangar - I	16.5	64.1	11.4	5.9	2.1	0.0
Baruipur	1.8	49.4	20.2	17.9	8.9	1.8

Table A.3B. Grade Distribution in Bengali : District Blocks

Name of Block	Zeros	1-34 percent	35-49 percent	50-64 percent	65-79 percent	80 percent & above
BANKURA	12.3	56.3	16.1	12.3	2.4	0.6
Raipur	16.1	67.0	8.0	8.0	0.0	0.9
Bankura - I	20.6	55.7	16.5	6.2	1.0	0.0
Onda	6.5	56.5	19.4	15.3	1.6	0.8
Barjora	6.0	46.2	20.5	19.7	6.8	0.9
BIRBHUM	20.7	60.3	10.8	7.4	0.9	0.0
Murarai - II	15.5	73.2	8.5	2.8	0.0	0.0
Nalhati - I	11.8	70.4	12.5	4.0	1.3	0.0
Nanoor	13.0	61.1	13.0	10.8	2.2	0.0
Md. Bazar	42.4	36.4	9.1	12.1	0.0	0.0
COOCH BEHAR	12.3	75.8	7.8	3.7	0.5	0.0
Sitalkuchi	13.4	74.8	6.4	5.5	0.0	0.0
Mathabanga - II	13.6	73.3	9.7	3.1	0.4	0.0
Dinhata - II	10.9	84.0	3.4	1.7	0.0	0.0
Cooch Behar - II	11.1	71.1	11.9	4.4	1.5	0.0
MURSHIDABAD	18.7	64.8	9.7	5.9	0.6	0.2
Samserganj	39.9	55.1	2.9	2.2	0.0	0.0
Lalgola	13.3	66.0	13.3	7.1	0.4	0.0
Jalangi	13.3	64.8	11.3	8.2	2.0	0.4
Nabagram	8.3	73.4	11.5	6.3	0.0	0.5
N 24 PARGANAS	4.8	54.0	19.4	15.7	5.3	0.9
Sandeshkhali - II	5.8	68.6	15.3	7.3	2.9	0.0
Deganga	7.9	52.5	13.3	17.5	7.9	0.8
Habra - I	4.1	48.4	24.8	16.1	5.4	1.2
Barrackpur - I	1.4	46.6	24.0	21.9	4.8	1.4
S 24 PARGANAS	6.5	60.8	20.6	11.2	0.9	0.0
Kultali	4.9	56.1	22.0	15.9	1.2	0.0
Mandirbazar	4.0	62.3	23.2	9.9	0.7	0.0
Bhangar - I	16.0	67.1	11.0	4.6	1.3	0.0
Baruipur	1.2	57.7	26.2	14.3	0.6	0.0

Table A.4. Attendance & Dropout Rates : District Blocks (Percent)

Name of Block	Attendance Rates	Dropout Rates			
		Overall	From Class I to II	From Class II to III	From Class III to IV
BANKURA	53.2	6.2	3.8	9.0	5.8
Raipur	48.1	6.9	8.3	7.4	4.9
Bankura - I	57.9	8.4	5.6	11.7	7.8
Onda	50.9	6.8	0.4	11.4	8.5
Barjora	56.1	2.8	0.9	5.7	1.9
BIRBHUM	46.0	6.5	7.1	5.2	7.3
Murarai - II	41.7	5.0	4.3	4.0	6.6
Nalhati - I	50.4	6.4	4.9	8.7	5.5
Nanoor	67.2	7.7	11.9	3.6	7.5
Md. Bazar	24.7	7.1	7.4	4.5	9.4
COOCH BEHAR	58.5	7.6	6.1	10.0	6.8
Sitalkuchi	56.4	7.3	3.1	7.0	11.9
Mathabanga - II	62.6	7.2	5.1	7.3	9.1
Dinhata - II	59.4	8.8	12.5	11.8	2.1
Cooch Behar - II	55.7	7.2	3.6	13.9	4.1
MURSHIDABAD	50.9	6.8	7.2	7.7	5.4
Samsorganj	33.1	3.4	1.4	7.3	1.4
Lalgola	43.8	9.7	7.8	9.0	12.4
Jalangi	55.8	6.1	4.4	8.7	5.1
Nabagram	70.8	7.9	15.3	5.7	2.7
N 24 PARGANAS	62.2	9.1	12.2	8.6	6.1
Sandeshkhali - II	61.2	13.5	8.2	16.8	15.4
Deganga	67.7	4.0	4.3	3.8	4.8
Habra - I	61.6	5.4	10.4	3.7	2.3
Barrackpur - I	58.3	13.5	26.1	10.2	1.9
S 24 PARGANAS	52.5	9.5	10.5	10.3	7.6
Kultali	57.1	8.9	11.5	2.8	11.6
Mandirbazar	68.9	11.8	13.4	11.6	10.5
Bhangar - I	41.5	6.9	9.5	9.8	1.4
Baruipur	42.7	10.5	7.7	17.0	6.7

Table A.5. Gender, Religion and Social Groups of Student Households (Percent)

District Name	Male	Hindus	Muslims	Social Group			
				SC	ST	OBC	General
BANKURA	46.44	93.8	0.7	36.0	13.3	10.2	40.4
BIRBHUM	49.35	48.7	50.3	25.7	3.1	3.6	67.5
COOCHBEHAR	46.78	78.5	19.9	55.7	0.8	7.3	36.3
MURSHIDABAD	44.85	24.1	75.6	11.4	0.9	2.2	85.5
NORTH 24 PARGANAS	47.38	69.5	29.8	29.3	7.4	6.7	56.6
SOUTH 24 PARGANAS	43.25	61.3	38.3	43.4	0.4	1.4	54.8
OVERALL	46.19	58.7	40.1	32.3	3.7	4.8	59.2

Table A.6. Students taking Private Tuitions across Districts : Gender & Wealth Quartiles (Percent)

District Name	Gender		Wealth Quartiles			
	Male	Females	Bottom Quartile	Second Quartile	Third Quartile	Top Quartile
BANKURA	32.5	31.1	22.0	31.4	35.3	39.8
BIRBHUM	40.2	41.9	39.1	42.4	42.6	41.2
COOCHBEHAR	50.6	47.1	40.2	42.9	56.1	57.1
MURSHIDABAD	16.8	15.3	9.4	16.8	14.3	23.9
NORTH 24 PARGANAS	47.4	46.6	36.9	42.3	58.2	52.4
SOUTH 24 PARGANAS	40.3	39.3	39.1	39.5	38.2	42.2
OVERALL	37.3	35.8	28.7	34.7	39.7	44.4

Table A.7. Education Levels of Male & Female Adult Members in Household

	Females	Males
Illiterate	33.2	23.4
Informal schooling	9.4	9.4
Primary incomplete	13.8	14.2
Primary complete	19.2	17.9
Upper primary	17.5	20.0
Secondary	4.9	7.6
Higher secondary	1.4	3.8
College & above	0.6	3.7

Table A.8. Awareness of Household Members across Wealth Quartiles (Percent)

	Bottom Quartile	Second Quartile	Third Quartile	Top Quartile	Total
<i>Knows names of head teacher & Grade IV teacher</i>					
Knows both names	28.0	29.1	34.7	43.8	33.6
Knows only one name	29.6	29.2	27.2	25.9	28.1
Knows neither names	42.4	41.6	38.2	30.4	38.4
<i>Knows about VECs / MTAs</i>					
MTA only	15.5	17.5	19.4	17.4	17.3
VEC only	8.5	6.4	7.7	10.0	8.2
Both VEC & MTA	9.7	11.8	14.7	25.4	15.2
Neither VEC nor MTA	66.2	64.3	58.2	47.2	59.4

Table A.9. Parent's Satisfaction with School Teaching

	Percent
Very good	25.2
Good	55.7
Unsatisfactory	14.2
DK / Can't say	4.9

Table A.10. Home Visits by Teachers and/or School Visits by Parents

	Percent
Only parents visit schools	43.4
Only teachers visit homes	5.7
Both parents & teachers visit	26.1
Neither visits	24.9

Table A.11. Importance of Private Tuitions

	Percent
BANKURA	94.8
BIRBHUM	95.1
COOCHBEHAR	97.4
MURSHIDABAD	97.2
NORTH 24 PARGANAS	93.4
SOUTH 24 PARGANAS	96.5
OVERALL	95.8

Table A.12. Students who Received Physical Punishment (Percent)

District Name	Yes	Physical punishment	Reasons for Punishment			
			Not doing homework	Talking in Class	Fighting in school	Irregular attendance
BANKURA	71.9	68.7	46.3	22.2	29.8	1.8
BIRBHUM	69.8	82.8	67.4	13.2	19.1	0.4
COOCHBEHAR	90.8	85.1	67.9	11.4	19.7	1.0
MURSHIDABAD	83.4	70.0	47.6	18.0	28.5	5.9
NORTH 24 PARGANAS	70.5	66.8	53.5	18.8	25.3	2.5
SOUTH 24 PARGANAS	90.3	68.4	55.8	18.1	25.9	0.3
OVERALL	80.2	72.9	55.1	17.1	25.3	2.5

Table A.13. Student Absenteeism (Percent)

District Name	Absent Occasionally	Reasons for Absence		
	Yes	Work in field/ household	Visits relatives	Illness
BANKURA	68.5	30.6	28.5	40.9
BIRBHUM	79.8	53.1	25.9	21.0
COOCHBEHAR	80.5	26.9	17.0	56.1
MURSHIDABAD	83.4	55.3	24.3	20.4
NORTH 24 PARGANAS	83.6	27.3	21.9	50.8
SOUTH 24 PARGANAS	90.6	25.3	19.5	55.3
OVERALL	81.1	37.1	22.5	40.4

Table A.14. Preference of Private Schools (Percent)

District Name	Yes	Reasons				
		Good English	Good Pedagogy	School Uniform	Bus Facilities	Sports Facilities
BANKURA	54.4	22.7	20.7	32.5	14.3	9.9
BIRBHUM	69.0	17.7	15.6	32.2	14.3	20.2
COOCHBEHAR	45.4	18.8	26.2	31.1	18.5	5.5
MURSHIDABAD	58.6	16.6	28.9	25.4	21.2	7.9
NORTH 24 PARGANAS	41.4	39.7	11.1	22.2	19.8	7.1
SOUTH 24 PARGANAS	46.0	34.6	15.4	18.6	14.3	17.1
OVERALL	52.2	23.4	20.9	26.7	17.5	11.4

Table A.15. Persons Helping Students with their Schoolwork at Home (Percent)

District Name	Only by family members	Only by private tutors	By both family members & private tutors	No help at home
BANKURA	57.8	18.15	14.19	9.9
BIRBHUM	68.3	20.4	3.17	8.14
COOCHBEHAR	58.5	18.5	17.04	5.93
MURSHIDABAD	73.2	7.7	5.84	13.28
NORTH 24 PARGANAS	42.6	41.8	9.19	6.41
SOUTH 24 PARGANAS	37.2	56.4	2.23	4.19
OVERALL	56.6	26.4	8.82	8.21

Table A.16. Functional Knowledge of Students

Functional Activities	Percent
Washing hands before meals	87.7
Brushing teeth before breakfast	99.2
Washing hands with soap after using toilet	88.3
Bathe regularly	99.2
Blaming others for fear of punishment	14.9
Fighting with other children	24.9
Respect elders	97.0
Irresponsible behavior/wastage of other's property	11.6
Littering on streets	16.2
Wastage of water	19.2
Cause damage of trees	13.4

Table A.17. Received MDM

District Name	Percent
BANKURA	90.5
BIRBHUM	80.9
COOCHBEHAR	83.3
MURSHIDABAD	66.7
NORTH 24 PARGANAS	76.3
SOUTH 24 PARGANAS	35.7
OVERALL	70.5

Table A.18. Gender, Religion & Social Group of Head teacher, Grade IV Teacher (Percent)

	Head teacher	Grade 4 teacher
Males	87.5	76.6
Hindus	82.5	84.1
Muslims	17.1	15.5
Christians	0.4	NA
SC/ST	35.4	33.1
OBC	9.2	10.9
General	55.4	54.8

Table A.19. Educational Qualification (Percent)

	Head teacher	Grade IV teacher
Upto higher secondary	64.2	43.5
College	30.8	46.8
More than college	5.0	9.7

Table A. 20 School Infrastructure

	Percent
<i>School building</i>	
Permanent	74.6
Semi-permanent	25.0
No building	0.4
<i>Student-classroom ratio</i>	
Less than 40 students to a class	38.8
Between 40-70 students in a class	29.7
More than 70 students to a class	31.5
<i>Staffroom for teachers</i>	
Yes	61.7
<i>Seating arrangements for students</i>	
Yes, in all classrooms	33.8
Yes, in majority of classrooms	10.8
Yes, in a few classrooms	25.0
No, in no classrooms	30.0
<i>Separate toilet for girls</i>	
Yes	43.3
<i>Attached playground for students</i>	
Yes	49.2
<i>Availability of first-aid box</i>	
Yes	22.5
<i>Availability of TLMS</i>	
Yes	86.3

Table A.21. Perception of Head Teacher regarding changes in his School (Percent)

	Significant	Moderate	Marginal / No change
Learning opportunities	32.9	54.2	12.9
Teaching opportunities	37.1	41.7	21.3
School discipline	52.9	38.8	8.3
Quality of teachers	62.9	31.7	2.1
Quality of students	11.3	72.9	15.4
Help from guardians	22.9	34.6	41.7
Help from local community	29.6	38.3	32.1
Help from teachers	76.6	15.5	3.8
Teachers absenteeism rate	84.2	10.4	3.3
Student absenteeism rate	36.7	53.3	9.2
Student dropout rate	2.1	5.4	92.1

Table A.22. Opinion of Head Teacher Regarding Issues Related to Primary School Education (Percent)

	Good	Moderate	Poor
School syllabus	70.4	25.4	4.2
Teaching pedagogy	78.3	20.8	0.8
School administration	57.9	30.4	11.7
Teacher training	82.9	15.8	0.8
Quality of teachers	78.3	17.5	2.9

Table A. 23. Opinion of Grade IV Teachers regarding Usefulness of the following :

	Percent
Showing videos in school	89.2
Book- day	87.9
Ma-mela	90.9
Naveenbaran	85.0
Teacher training programs	92.5
Timing of teacher training program	80.0
Quality of trainers	85.0

Table A.24. Gender, Religion & Social group of VEC President & VEC Member (Percent)

	Male	Hindus	Muslims	Social Group			
				SC	ST	OBC	General
VEC president	69.9	72.9	27.1	45.2	7.5	6.7	40.6
VEC member	23.8	66.5	33.5	36.7	5.0	5.4	52.5

Table A.25. Education Levels of VEC President & VEC Member (Percent)

	VEC president	VEC member
Less than primary	10.1	13.3
Primary, Upper Primary	41.2	54.2
Secondary and higher secondary	*	25.8
Graduate and above	48.7	6.3

Table A.26. Opinion of VEC Member Regarding Teaching Staff

		Percent
<i>Gender of teachers</i>		
Male teachers are better		25.4
Female teachers are better		42.1
No difference across genders		26.3
Donot know		6.3
<i>Government teachers vs. SSK Sahaiykas</i>	General student	Students from backward communities
Government teachers are better		20.4
Sahaiyakas are better		35.8
No differences		9.6
No SSKs in the local area		19.6
Donot know		13.8

Table A.27. Political alignment of VEC & Panchayat

	Percent
VEC & Panchayat : Left Front	50.4
VEC : Left Front, Panchayat : Opposition	17.9
VEC : Opposition, Panchayat : Left Front	11.3
VEC & Panchayat : Opposition	20.4

Table A.28. Role of VEC Presidents

	Percent
Awareness campaigns	49.2
Inform about school facilities	55.1
Make household visits	50.6
Inform about importance of education	54.6
Organize meeting with parents	53.7

*Multiple responses possible

Table A.29. Gender, Religion & Social Group of SI, RT (Percent)

	Sub-Inspector	Resource Teacher
Males	93.5	91.2
Hindus	81.48	81.58
Muslims	17.59	18.42
SC/ST	24.27	14.91
OBC	4.85	7.89
General	70.87	77.19

Table A.30. Previous Employment (Percent)

	Sub-Inspector	Resource Teacher
Primary school teacher	26.3	39.5
High school teacher	32.2	13.2
Head teacher	N.A.	37.7
RP/KRP	N.A.	7.9
Business	21.5	N.A.
Unemployed	17.6	1.8

Table A.31. Opinion of SI regarding changes in quality of primary education is last four years (Percent)

	Significant changes	Moderate changes	Marginal / No change
Female student attendance	14.8	71.3	13.0
Male student attendance	11.1	65.7	22.2
Female primary completion rates	23.2	68.5	7.4
Male primary completion rates	17.6	67.6	13.9
Female dropouts from class 4 to 5	21.0	47.0	30.0
Male dropouts from class 4 to 5	10.0	54.0	34.0
Teacher absenteeism	19.4	50.0	25.9
“Come late, go early” syndrome of teacher	8.3	40.7	43.5

Table A.32. Complaints & requests received by SI's office

	Percent
<i>Complaints</i>	
Irregular rations / funds for MDM	99.1
Inadequate textbooks	24.1
Delay in receiving textbooks for new academic year	17.6
Irregular receipts of TLMs	4.6
<i>Requests</i>	
Additional classrooms	89.8
Drinking water facilities	73.2
Additional teachers	99.1

Table A.33. Responsibilities of RTs

RTs opinions	Percent
Student issues	91.2
Teacher issues	98.3
MDM issues	48.3
Teacher training	93.9
Contacts with DIET	30.7

Table A.34. Teacher Training Issues

RTs opinions	Percent
<i>Fixes agenda for training</i>	
DPSC's office	64.7
SI's Office	31.0
<i>Subjects for training</i>	
TLM usage	44.0
Pedagogy	59.5

DUMKA (JHARKHAND)

Table J.1 Students covered by different types of sampled schools

	Percent
Government	44.9
Utkramit	55.1

Table J.2 Test Scores across blocks (Percent)

	Government Schools		<i>Utkramit</i> Schools	
	Mathematics Scores	Hindi Scores	Mathematics Scores	Hindi Scores
Ramgarh	9.7	2.7	2.8	0.0
Masaliya	5.2	1.7	2.3	0.0
Shikaripara	7.8	3.2	0.5	0.0
Raneshwar	15.1	2.4	10.5	2.5
DUMKA	10.0	2.6	4.9	0.8

Blocks are arranged in terms of block level wealth quartile, from the poorest to the wealthiest

Table J. 3: Religion & Social Group (Percent)

	Government Schools	<i>Utkramit</i> Schools
<i>Religion</i>		
Hindus	92.2	89.6
Muslims	—	2.6
Christians	5.5	7.8
<i>Soual Group</i>		
SC	16.1	10.6
ST	41.9	58.4
OBC	37.9	21.2
General	4.0	9.7

Table J. 4 : Facilities Available in Student Households (Percent)

	Government Schools	<i>Utkramit</i> Schools
Electricity within household	9.7	1.8
Separate kitchen	54.6	33.0
Household members	5.7	5.7
<u>Type of house</u>		
Temporary	88.2	95.4
Semi-permanent	3.4	0.9
Permanent	8.4	3.7
<u>Water source</u>		
Piped water inside	4.0	0.9
Piped water outside	36.8	45.8
Deep tubewell	33.6	29.0
River / Pond	2.4	1.9
Well	23.2	22.4
<u>Sanitation facilities</u>		
No facilities	83.6	93.9
Community	1.6	0.9
Limited family usage	7.8	2.7
Only nuclear family	7.0	2.7

Table J. 5 : Distribution of Household across Wealth Quartiles by School Types (Percent)

	Government Schools	<i>Utkramit</i> Schools
Bottom wealth quartile (poorest)	20.6	30.4
Second wealth quartile	26.2	25.2
Third wealth quartile	24.1	25.2
Top wealth quartile (richest)	29.1	19.1

Table J. 6 : Education Levels of Male & Female Adult Members in Household (Percent)

	Females	Males	Females	Males
Illiterate	51.2	17.8	57.6	25.0
Informal schooling	7.3	7.6	6.1	7.0
Primary incomplete	10.6	13.6	11.1	18.0
Primary complete	8.1	12.7	14.1	14.0
Upper primary	10.6	24.6	7.1	25.0
Secondary	6.5	11.9	2.0	6.0
Higher secondary	5.7	11.0	0.0	4.0
College & Above	0.0	0.8	2.0	1.0

This research report studies the “quality and reach of primary education” in rural India. The investigation is based on primary surveys conducted in six districts of West Bengal – Bankura, Birbhum, Coochbehar, Murshidabad, and the North and South 24 Parganas (and a pilot study in Dumka, Jharkhand). On the basis of student performance in achievement tests in numeracy and language (designed by the researchers), the report quantifies the average academic competence of Class IV students. In addition, student attendance rates are estimated by the head count of the students present on the day that achievement tests were administered in each of 240 schools in West Bengal (and 40 schools in Jharkhand).

Student achievement test scores and student attendance rates and dropout rates are correlated to: students’ household characteristics (social group, wealth, education, parental interest), school features (infrastructure, teacher-student ratio, pedagogy, teacher training), community engagement and parental awareness, school administration, and policy interventions like midday meals and teacher training programs.

Learning levels and attendance rates in primary schools are quite low in the rural areas. In rural Bengal, however, there is considerable variation in academic outcomes at various levels – across districts, within districts across blocks, within blocks across schools, and within schools across students from different socioeconomic and religious backgrounds. Such variations allow researchers to draw policy conclusions regarding ways to improve the quality and reach of primary education.

The data indicates that no single intervention will be adequate to ensure the delivery of high quality primary education in rural India. A comprehensive policy that engages all stakeholders in the primary education system needs to be formulated. There is need to encourage parents to actively participate in their children’s learning process, there is need to provide incentives to teachers to improve pedagogy and classroom-management skills, and there is need to ensure that local communities and administrators provide better monitoring and logistical support to the primary school system.