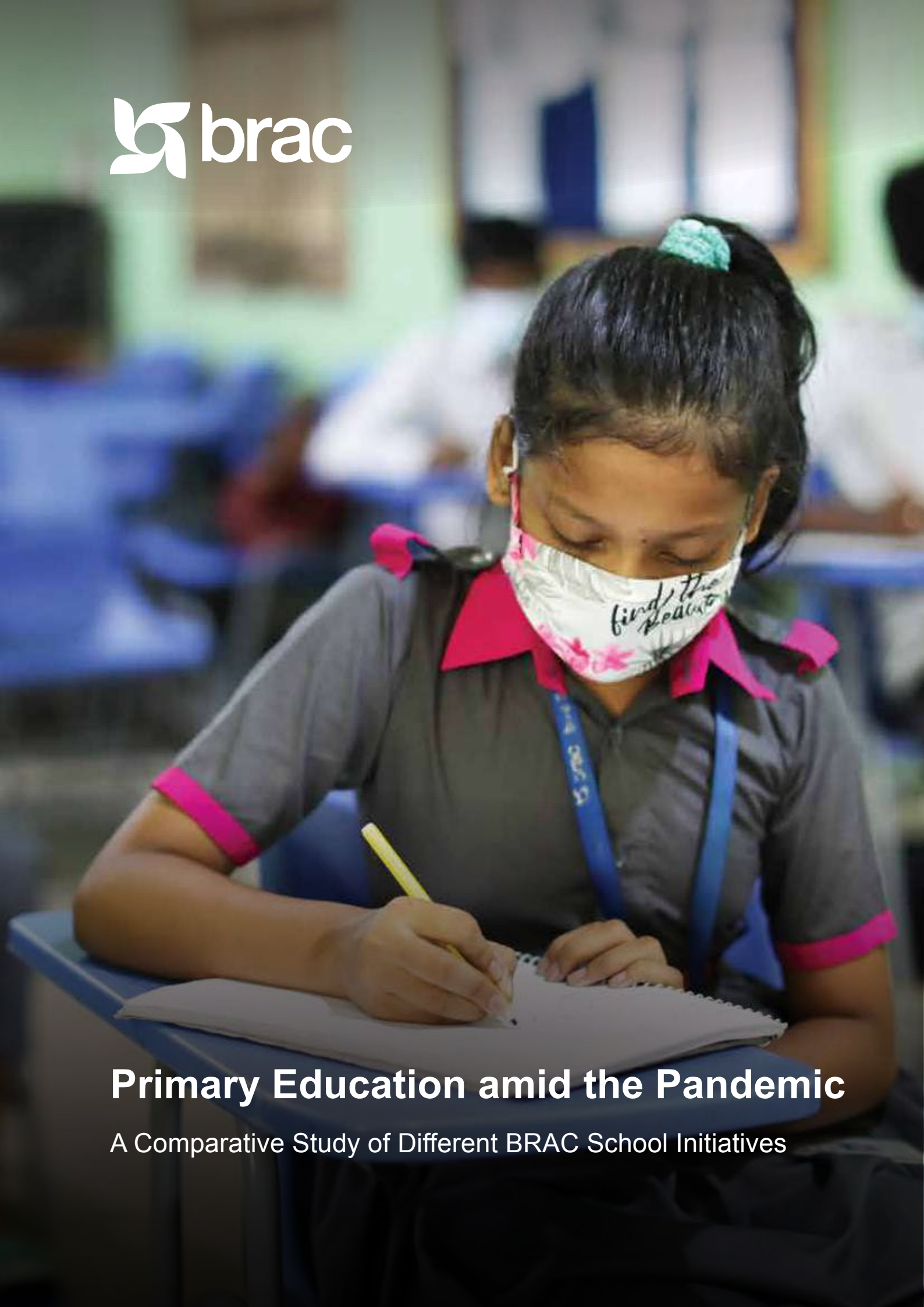

Primary Education amid the Pandemic

A Comparative Study of Different BRAC School Initiatives

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DISCLAIMER

This study was conducted by BRAC Institute of Educational Development (BRAC IED), BRAC University at the request of the BRAC Education Programme.

Any opinions, findings, conclusion or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the BRAC Education Programme or BRAC.

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Executive Summary

Introduction and Method

This study is on primary education amid the coronavirus (COVID-19) pandemic. The study reflects only the BRAC school programme. Educational activities and literacy skills of the fifth-grade students of six types of BRAC schools were compared. A comparison of BRAC school findings with similar national estimates was also made. The school types are Non-formal education under the Integrated Development Programme of BRAC (NFE-IDP), Second Chance Education for Out of School Children (SCE-OOSC), Non- formal education for Marma children (NFE-Marma), Bridge school, single-classroom Shishu Niketan [Shishu Niketan (single)], and multi-classroom Shishu Niketan [Shishu Niketan (multi)]. The BRAC school sample includes 3,822 students of Grade 5 from 190 schools located in 97 upazilas/thanas under 44 districts. The national sample consists of 800 students of the same Grade from 200 villages located in 100 upazilas/thanas under 64 districts. The sampled students were brought under a literacy test using the tool developed by the Education Watch group, a Civil Society initiative to monitor educational progress in Bangladesh. All other information was collected by interviewing the parents. The BRAC sample also includes information from 410 teachers. Data for this study were collected in December 2021.

Findings

The students' background

1. The age of students ranged from 9–15 years, with a mean of 11.6. Over 53% of the students were girls. NFE-IDP, SCE-OOSC, NFE-Marma, and Bridge school had more girls than boys; it was the other way around in two types of Shishu Niketan. A third of the students were from urban schools.

2. The mothers were more educated than the fathers. Half of the mothers and 41.1% of the fathers completed primary education. Both parents of 30.7% of the students had this level of education, and none of 16.6% had schooling. Both parents of 64.2% of multi-classroom Shishu Niketan students, 7.4% of single classroom Shishu Niketan, 27.8% of Bridge school, 18.8% of SCE-OOSC, 13.1% of NFE-IDP, and 4.1% of NFE-Marma completed primary education.

3. The principal source of household income includes day labour (20.6%), agriculture (16.5%), salaried job (16.2%), small business (15.8%), self-employment (8.7%), rickshaw/van pulling (8.4%), driving (6.4%), remittance (4.9%), and others (2.5%). At least one member of 48.8% of the households became unemployed during the pandemic. Food security status decreased for three-quarters of the households.

4. Overall, 73.7% of the students studied in other schools before admitting to BRAC schools. This was 91.2% in Bridge school, 73.8% in multi-classroom Shishu Niketan, 59.4% in SCE-OOSC, 46.8% in NFE- IDP, 46.3% in single classroom Shishu Niketan, and 17.3% in NFE-Marma.

5. Of the sampled students, 93.2% were admitted to BRAC schools before the pandemic and 4.1% during the pandemic; both continued in BRAC schools until the fieldwork of this study. The remaining students were admitted to other schools (1.3%) or dropped out of the education system (1.3%) during the pandemic.

The teachers' background

1. Over 93% of the teachers of multi-classroom Shishu Niketan and 100% of the remaining five types were females. Their age ranged from 19–53 years, with a mean of 31.8.

2. Nearly 32% of the teachers completed secondary education, 45.3% completed higher secondary education, 17.2% had a Bachelor's degree, and 5.6% had a Master's degree. Over 69% of the teachers of multi-classroom Shishu Niketan, 22.5% of SCE- OOSC, 15% of Bridge school, 12.5% of single classroom Shishu Niketan, 8% of NFE-IDP, and none of NFE-Marma had at least a Bachelor's degree.

3. Sixty-nine percent of the teachers joined BRAC schools on or before starting schooling for this cohort of students under study, 24.8% after starting school but before the pandemic, and 6.4% during the pandemic. About 85% of the teachers reported having basic training. The remaining did not, as they were replacement teachers. All got refresher training.

4. The length of experience of the teachers ranged from 0–30 years, with a mean of 9.6. The mean was highest in single classroom Shishu Niketan (12.2 years), followed by SCE-OOSC (9.5 years), Bridge school (9.3 years), multi-classroom Shishu Niketan (7.2 years), NFE-IDP (4.8 years) and NFE-Marma (4.2 years), respectively.

Availability of ICT gadgets at home and their use

1. Over 92% of the households had feature phones in 2020 and 2021. In 2020, 46.5% had smartphones, 53.1% had television sets, and 41.5% had Internet. These were 51.5%, 53.3% and 46.4%, respectively, in 2021. Ninety-four percent of the NFE-Marma households and over 99% of the others had a feature or a smartphone.

2. The students used ICT gadgets for educational purposes during school closure – 91.1% in 2020 and 83.6% in 2021. A decrease in this was observed in NFE-IDP, SCE-OOSC and Bridge school only. No gender difference was observed in this. More rural students used ICT gadgets than urban students in 2020, but no difference was observed in 2021. BRAC school students, in general, were much ahead of the students in the national sample – 91.1% versus 25.4% in 2020 and 83.6% versus 27.9% in 2021.

Engagement in education at home

1. The BRAC school teachers, on average, offered 38.7 phone and 38.2 home classes, totaling 76.9. The students' participation rate was 68.5% in the former and 71.2% in the latter; overall, 69.8%. A wide variation was observed in both by school type. A large proportion of the students of SCE-OOSC and NFE-Marma did not participate in any phone class. [1]

2. The parents compared three types of classes. Out of 10, they scored 9.5 for face-to-face classes, 7.1 for home classes, and 5.1 for phone classes.

3. Nearly 70% of the students submitted assignments with wide variation by school type – from 34.2% in NFE-IDP to 90.7% in multi-classroom Shishu Niketan. The majority of them did assignments rarely or sometimes. The girls were more likely to do assignments than boys (71.9% vs. 67.1%), and more urban students than rural areas did assignments (89.2% vs. 60.2%). BRAC school students were significantly less likely to do assignments than the students in the national sample (69.7% vs. 78.2%).

4. Nearly two-fifths of the students claimed to watch television classes – 37.6% of the boys and 41.5% of the girls, and 32.9% in rural and 53.8% in urban areas. A wide variation was also observed by school type – none of NFE-Marma to 54.7% of multi-classroom Shishu Niketan. The students in the national sample were far behind the BRAC school students in watching television classes, with only 15.3% of them availing of this.

5. The household members' tutored 65.3% of the students, and 29.7% availed of private tutoring, substantially varying by school type.[2] No gender difference was observed in any of them, but the rural students were ahead of the urban students in both. Their household members tutored over 68% of rural and 58.7% of urban students, and 31.5% of rural and 26% of urban students availed of private tutoring. Whereas no difference was observed between BRAC and the national sample in household members' tutoring, 65.7% of national sample students availed of private tutoring compared to 29.7% in BRAC.

Assessment of literacy skills

1. Overall, 34.9% of BRAC school students achieved literacy skills. No gender difference was observed. The literacy rate was 36.7% among rural and 30.9% among urban students.

1 The fact is that the phone classes were arranged for the students of 30 SCE-OOSC schools only and it was not possible to arrange the phone classes for NFE-Marma due to Internet connectivity problem.

2 Household members tutoring is free but private tutoring refers to on payment tutoring mostly provided by the outsiders.

The rate was 56.1% in multi-classroom Shishu Niketan, 41.9% in single classroom Shishu Niketan, 36.6% in Bridge school, 33.9% in NFE-IDP, 21.5% in SCE-OOSC, and 7.5% in NFE-Marma.

2. No gender difference was observed in literacy rate in any school type. The urban-rural difference persisted in two types. In SCE-OOSC, the rural students significantly outperformed the urban students, but in single classroom Shishu Niketan, the urban students surpassed their rural counterparts.

3. Component-wise, 92% of the students had reading skills, over three-quarters had writing and numeracy skills, and 41% had application skills. The girls did better than the boys in writing skills, but both did equally in the others. The rural students outperformed the urban students in each component.

4. Compared to 27.2% of the students in the national sample, the BRAC school students achieved 7.7 percentage points more literacy skills. The BRAC's rate was 0.4 percentage points higher than the projected national figure for the year. BRAC school students' supremacy over the students in the national sample was observed in all four components of literacy.

5. Students' participation in phone and home classes and doing assignments significantly contributed to predicting their literacy skills by controlling the effects of their background and school-andteacher-related factors.

Recommendations

1. The findings related to the educational activities amid school closure and other related issues including literacy test results need to be discussed at the management level and disseminated to the field level managers, programme organisers and teachers. More explanation along with pros and cons and the challenges of the initiatives should be explored aiming to redesign the three specific initiatives – phone and home classes and assignments.

2. An experimental design with at least one school type may be considered with an aim to make phone and home classes and the assignments entangled parts of BRAC education provision along with face-to-face classroom activities. A randomised control trial with various degrees of each of these initiatives may help find out the threshold of the composition of activities and investment for maximising learning achievement.


INSPIRE

CHAPTER

1

Introduction

Background

BRAC is famous for its non-formal education programme. The BRAC Education Programme (BEP) has a long experience in providing primary education through various alternative modes to the children of lower economic strata of the population living mostly in rural areas and urban slums. Starting in 1985, this initiative, throughout its journey, emphasised girls' access to education, specifically those from households being marginalised in different ways. The cadre of teaching staff is comprised of females from the communities. Continuous refresher training of teachers, close supervision by parents and BRAC staff and independent monitoring are keys to the success of this initiative (Nath & Shahjamal, 2010). About 6.2 million children completed primary education in BRAC schools over a period of three-and-a-half decades (1985–2021) (BEP monitoring data 2022). The quality of education provided through BEP was observed as satisfactory compared to the state-run mainstream primary education system (Nath et al. 1999; Nath, 2006, 2012).

Along with all spectra of human life, education has been disrupted amid the coronavirus (COVID-19) pandemic (UNESCO, 2020). In Bangladesh, classroom activities of the whole school education system were shut down for one-and-a-half years amid the pandemic. The country has ranked as one of the top few countries with uninterrupted longest school closures (UNESCO global dataset, 2021). Like many other educational institutions in Bangladesh, the teachers and students of BRAC schools adopted some alternative methods to carry out education during this period. This research is an attempt to compare different types of BRAC primary school initiatives just after the reopening of the schools. Some comparisons were also made with relevant national statistics wherever possible. The national statistics were taken from a recent study on education in Bangladesh during COVID-19 school closure (Nath et al. 2022).

The BRAC school programme

At present (in 2021), BEP had six different types of initiatives. These include Non-formal education under the Integrated Development Programme of BRAC (NFE-IDP), Second Chance Education for Out of School Children (SCE-OOSC), Non-formal education for Marma children (NFE-Marma), Bridge school, single classroom Shishu Niketan [Shishu Niketan (single)], and multi-classroom Shishu Niketan [Shishu Niketan (multi)]. Except for the last type, all others are single classroom, one teacher schools with around 30 students in each. Therefore, only a cohort of students stay in each of these types of schools at a time, but multiple cohorts in the remaining. Students take their seats on mats in all other types except the two types of Shishu Niketan. Chairs and tables are used in both single-and-multi-classroom Shishu Niketan. The national curriculum is followed in each type. Free textbooks provided by the National Curriculum and Textbook Board (NCTB) are used including some supplementary materials produced by BEP. It requires at least a Bachelor's degree to be a teacher in the multi-classroom Shishu Niketan, but a Secondary School Certificate for the remaining. A short description of each type is provided below.

Non-formal education under the Integrated Development Programme of BRAC (NFE-IDP): This is BRAC's traditional non-formal school designed for children of age 8–10 years, who did not admit to school or dropped out of education after 1–2 years of schooling. The students complete five academic years of primary education (Grades 1–5) over a period of four calendar years.

Second Chance Education for Out of School Children (SCE-OOSC): This type is similar to NFE-IDP. SCE-OOSC is located in one rural and one urban location in two different districts. BEP runs this type under an agreement with the Bureau of Non-Formal Education (BNFE) of the government of Bangladesh.

Non-formal education for Marma children (NFE-Marma): This type of school is specifically designed for the children of a small ethnic community– Marma. Starting from pre-primary the students complete their primary education in this school within six calendar years. The full lesson in pre-primary is provided in Marma language which gradually decreases to 5% in the 5th Grade. Bangla and English are introduced in Grade 1 with 20% and 10% share, respectively; which end up with 70% and 20%, respectively.

Bridge school: Bridge school admits only those children who have dropped out of the formal education system in Grades 2–4. The admitted students go through a bridge course for four months and then start lessons of Grade 2 or 3– based on their level at the end of the bridge course. After the bridge course, those who start lessons in 2nd Grade receive an education of additional 36 months to complete the full course of primary education. This is 32 months for those who start with the lessons of 3rd Grade.

Shishu Niketan (single classroom): This fee-based school starts from pre-primary or Grade 1 and ends at Grade 5. This is also a single classroom, one teacher school. Tuition fees are mostly the same in each Grade. The duration of schooling is 5/6 calendar years depending on the starting Grade.

Shishu Niketan (multi-classroom): This is also a fee-based school, though the fees are higher than single classroom Shishu Niketan. Tuition fees gradually increase with the increase of Grade. This school starts from pre-primary and ends at Grade 5 taking six calendar years. Led by a headteacher this type of school has many classrooms and teachers. Each classroom has 30–35 students. In 2021, a total of 3,567 BRAC schools were in operation with 110,404 students. The majority of these students were in Grade 5 – 88,347 students in 3,209 schools. Table 1.1 shows the number of schools and students in Grade 5 and the percentage of girls by school type. On average, 53.6% of the students were girls.

School type	Number of schools	Number of students	% of girls
NFE-IDP	25	696	61.1
SCE-OOSC	666	18,969	56.4
NFE-Marma	5	75	46.7
Bridge school	1,700	47,630	54.7
Shishu Niketan (single)	741	19,172	46.7
Shishu Niketan (multi)	72	1,805	46.2
Total	**3,209**	**88,347**	**53.6**

Table 1.1. Distribution of fifth-grade students by BRAC school type

These 5th Graders started their schooling with the above BRAC schools 2–4 years back from the start of the coronavirus (COVID-19) pandemic. All these BRAC schools were also shut down on 17 March 2020 when all educational institutions in the country were closed by a government directive. Like all other schools in the country, the classroom activities of BRAC schools were postponed until 11 September 2021. Therefore, the students experienced school closure for 18 months.

Educational activities during school closure

The BRAC Education Programme (BEP) took several initiatives to continue the education of the students of its schools. The first instruction to the students was to stay at home safely and to review the previous lessons already taught before school closure. The parents were asked to facilitate this as much as they can with their limited education. The three specific initiatives of BEP are assignments, phone classes, and home classes.

Assignments: These are mostly exercises for the students on languages, mathematics and other subjects, where questions are written on a piece of paper keeping space for students' work. The teachers reached these (known as sheets) to the students' homes and collected them after a certain duration. They were supposed to get back those to the students with their feedback. This was for a short duration, say 6–8 weeks.

Phone classes: The teachers arranged weekly group calls over cell phones for approximately-half an hour dividing the students into 5/6 groups. The students in a particular group were fixed considering the closeness of their homes. During each half hour of class, the teachers discussed lessons and provided their instructions for further studies or homework. The students were also allowed to ask questions to their teachers. These remote classes were arranged when there were restrictions on mass movements from the administration (central or local) due to the pandemic.

Home classes: The teachers arranged these face-to-face classes at the premises of the students when there were no restrictions on mass movements. The same group of students participated in each class on a prefixed premise. This was mostly a mini classroom with a duration of slightly more than a phone class. The activities were similar to that in a phone class.

At least one phone or home class was arranged per week for each group of students. Some student groups got three classes in a fortnight if the number of groups was less. The assignments were centrally created. The trainers of the BEP central office trained the Programme Organizers, who then provided training to the teachers on the new teaching methods. Guidelines for each of the above activities and necessary instructions for the teachers were provided by the central office of BEP. BEP branch offices provided supervision and monitoring. Note that BEP had no budget provision for the phone classes for the students of SCE-OOSC. Only 30 such schools had some arrangement on a pilot basis. The phone classes were not possible to arrange in NFE-Marma schools due to Internet connectivity problems. The other issue is that due to reduced COVID-19 protocol restriction, the number of home classes has increased in 2021 than in 2020 and therefore, the number of phone classes has decreased.

In addition to the above, the students were asked to watch academic programmes on Bangladesh Television or Sangsad Television (afterwards called television class). The television classes were universal and were organised under the auspices of the Ministry of Primary and Mass Education (MoPME).

Rationale

The management team of BEP expressed its interest to BRAC Institute of Educational Development (BRAC IED), BRAC University to have a comparative analysis of the learning achievement of the students of various types of schools under its operation. A question, therefore, came whether the analysis should consider the students of all the Grades or a sample of Grades. A consensus was made to assess the learning achievement of only the 5th Graders because they occupied four-fifths of the total number of BRAC school students in 2021. The other benefit of this was also brought in mind – assessment of the 5th Graders would allow comparing BRAC school students with the national level assessment of 5th Graders under the study education in Bangladesh during COVID-19 school closure (popularly known as 'learning-loss study'), if the same assessment tool is used.

Study objectives

With the above considerations, the following were the objectives of this study.

1. To make a comparison of educational activities during the school closure and literacy levels of the 5th Grade students of six types of BRAC schools, viz., NFE-IDP, NFE-Marma, SCE-OOSC, Bridge school, Shishu Niketan (single classroom), and Shishu Niketan (multi-classroom);

2. To compare the educational activities and literacy levels of the students of BRAC schools with the similar estimates of 5th Graders obtained from the 'learning-loss study';

3. To estimate the dropout rate of the students of the aforementioned BRAC schools during the school closure; and

4. To explore the factors predicting literacy skills of BRAC school students specifically to identify the role of the educational activities during the pandemic in attaining literacy skills.

CHAPTER

2

Research Method

A large scale sample survey of students was the main method. A representative sample of students was selected keeping a provision of independent estimates by school type. These students were brought under a literacy test and their parents were interviewed for relevant information. In addition, the teachers of the sampled students provided some information. Grade 5 students' data from the national 'learning loss study' were used to compare the BRAC school findings with the national scenario. The following sections provide relevant methodological information about the BRAC school sample. Similar information on the national sample is available in Nath et al. (2022).

The instruments

Three instruments were used to collect data for this study. These are a literacy assessment test, a questionnaire for students' information, and a teacher questionnaire. A brief description of the instruments is given below.

Literacy assessment test: This is a 23-item tool assessing skills in the areas of reading, writing, numeracy and application of these three skills. Each area contains six items. This tool is used one-to-one basis. It has two equivalent sets (Sets Ka and Kha), which are used equally distributing in the sample. The average duration of the test is about 40 minutes per respondent. The data reliability is 90% (Ahmed et al. 2003).

Questionnaire for students' information: Information related to the socio-economic background of the students, their demography, activities to continue education during school closure, and attendance in school before and after school closure due to the pandemic are the issues of this questionnaire.

Teacher questionnaire: This includes a list of all students who were admitted to BRAC schools before the pandemic, those who were admitted during the pandemic and identification of those who left school. In addition, the distance between school and branch office, teachers' age, gender, educational qualification, training, length of experience, and joining time in BRAC school were the issues of this questionnaire.

Sample

The students were the key to this study. Therefore, their literacy skills were considered the key to calculating the sample size for the study. Considering 50% literacy rate, 95% confidence limit, 5% error of precision, design effect 1.5 and 25% dropout rate, it was estimated that a sample of 800 students would be required for each school type. The formula provided in Cochran (1977) was used in calculating the sample size. The sample was drawn at two levels. Forty schools were randomly selected from each of the four types [viz., SCE-OOSC, Bridge school, Shishu Niketan (single), and Shishu Niketan (multi-class)]. In each of the selected schools, 20 students were randomly selected. On the other hand, all the students of the other two types [NFE-IDP and NFE-Marma] were brought in the sample. Therefore, a total of (800 x 4 + 696 + 75 =) 3,971 students were sampled for the study from 190 schools. These schools were located in 97 upazilas/thanas under 44 districts.

BEP head office provided the list of the schools. The teachers of the sampled schools provided the students' list [the headteachers in the case of Shishu Niketan (multi-classroom)]. Although 3,971 students were sampled, 3,822 could be successfully brought under the study. Table 2.1 shows the sample at a glance.

School type	Number of schools	Number of students	
		Initial sample	Actual sample
NFE-IDP	25	696	613
SCE-OOSC	40	800	800
NFE-Marma	5	75	75
Bridge school	40	800	775
Shishu Niketan (single)	40	800	800
Shishu Niketan (multi)	40	800	759
Total	**190**	**3,971**	**3,822**

Table 2.1. Sample at a glance

Fieldwork

The school sample was drawn by the Research Team, but the student sample by the trained Field Research Assistants (FRAs). Recruitment and training of the FRAs were held in Dhaka. The Research Team members trained them. The FRAs started their fieldwork by interviewing the teachers of the sampled schools and collecting the student list from them. They administered the literacy test to the sampled students and interviewed the parents of the students for administering the questionnaire for students' information. All the interviews were held at the homes of the respondents. As the FRAs visited the respondents unnoticed, some of them had to visit more than once. A total of 53 FRAs worked dividing them into 24 teams. Three supervisors and the Research Team members supervised the fieldwork. The training of the FRAs was held in the last week of November 2021 and the fieldwork took the whole month of December 2021.

Data analysis

The Statistical Package for Social Sciences (SPSS version 21) was used in analysing data. Basic statistics such as mean, median, standard deviation, frequency distribution, quintiles, rate (in percentage form) etc., were the tools to understand the situation. Cross-tabulations with two or more variables were often done. Appropriate statistical tests were carried out to find the significance of the differences. A multiple logistic regression analysis was also performed to fulfill the requirement of a specific objective. The student and teacher samples were not proportional to the respective population; therefore, weights had to be used for aggregated estimates. Weights by school type were calculated using the procedure given in Cochran (1977). Annexes 2.1 and 2.2 provide the weights used.

CHAPTER

3

Background of Students & Teachers

3

This chapter presents the background characteristics of the students under study. It has three distinct sections. These are about the schools, the students, and the teachers.

The schools

Out of 190 study schools, 130 were located in rural and 60 in urban areas. All NFE-IDP and NFE-Marma schools were located in rural areas. Overall, two-thirds of the students were from rural schools and one- third from urban schools. The proportion of urban students was 55% in SCE-OOSC, 33.4% in Bridge school, 12.3% in single classroom Shishu Niketan, and 39.3% in multi-classroom Shishu Niketan (Table 3.1). On average, the schools were 10.5 kilometres away from the branch offices of BEP from which they were administered. The urban schools were 7.9 kilometres and the rural schools were 11.7 kilometres away from the branch offices. The average distance from branch office to school was 2.9 kilometres for NFE- IDP, 9.2 kilometres for SCE-OOSC, 17 kilometres for NFE-Marma, 10.5 kilometres for Bridge school, 12 kilometres for single classroom Shishu Niketan, and 8.3 kilometres for multi-classroom Shishu Niketan.

The students

Traditionally BRAC schools admit more girls than boys. The proportion of girls was 53.3% in the sample, which was not the case for each school type (Table 3.1). More girls than boys were admitted to four school types; these are NFE-IDP (59.9%), SCE-OOSC (58.9%), Bridge school (53.5%) and NFE-Marma (52%). An opposite scenario was observed in both types of Shishu Niketan. The proportion of girls was 47.8% in the single-classroom and 46.6% in the multi-classroom schools. This was 52.3% in rural areas and 55.3% in urban areas (Annex 3.1). A minimal difference was observed in the proportion of girls between rural and urban schools in three types: SCE-OOSC, Bridge school, and Shishu Niketan (single). In the multi-classroom Shishu Niketan, 45.8% were in rural and 48% in urban areas.

School type	% of urban students	% of girls	Age (Years)			
			Range	Mean	SD	Median
NFE-IDP	0.0	59.9	9–15	11.4	1.6	11.0
SCE-OOSC	55.0	58.9	9–15	12.0	1.7	12.0
NFE-Marma	0.0	52.0	9–15	11.5	1.5	11.0
Bridge school	33.4	53.5	9–15	11.6	1.6	11.0
Shishu Niketan (single)	12.3	47.8	9–15	11.2	1.4	11.0
Shishu Niketan (multi)	39.3	46.6	9–15	11.1	1.2	11.0
Level of significance	p<0.001	p<0.001		p<0.001		
Total	**33.2**	**53.3**	**9–15**	**11.6**	**1.6**	**11.0**

Table 3.1. Area, gender and age distribution of students by school type

The age of the students varied from 9–15 years, with a mean of 11.6 years and a standard deviation of 1.6 (Table 3.1). Overall, 5.6% of the students were of age nine years, 21.1% were of age 10 years, 28% were of age 11 years, 19.8% were of age 12 years, 13.6% were of age 13 years, and 12% were of age 14-15 years (Annex 3.2). The mean age of the students varied from 11.1 to 12 years by school type. It was 11.1 years in multi-classroom Shishu Niketan, 11.2 years in single classroom Shishu Niketan, 11.4 years in NFE-IDP, 11.5 years in NFE-Marma, 11.6 years in Bridge school, and 12 years in SCE-OOSC (Table 3.1). This was 11.5 years among rural and 11.7 years among urban students (Annex 3.2).

The mothers were more educated than the fathers measured in years of schooling completed. Of the mothers, 25.6% never admitted to school, 23.5% admitted to the school but dropped out before completing primary education, 46.2% completed primary education but left school before completing secondary education, and 4.7% completed secondary education or studied more (Annex 3.3). These figures were 36.7%, 22.1%, 33.4% and 7.8% among the fathers (Annex 3.4). It was observed that 50.8% of the mothers and 41.1% of the fathers completed primary education (Table 3.2). Both parents of 30.7% of the students completed primary education, and none of 16.6% of the students had a single year of schooling. Comparing each of the above indicators, it was observed that the parents of the students of multi-classroom Shishu Niketan were the most educated, followed by those of single-classroom Shishu Niketan, Bridge school, SCE-OOSC, NFE-IDP and NFE-Marma, respectively.

Percentage distribution of parents by the level of education separately for rural and urban areas are provided in Annexes 3.5 and 3.6. The parents of the rural school students were more educated than those in urban areas. For instance, 56.6% of rural and 39.2% of urban mothers, 45.7% of rural and 32% of urban fathers completed primary education (Table 3.3). Both parents of 36.3% of rural and 19.4% of urban school students had such a level of education. Both parents of about a fifth of the urban students and 15.1% of the rural students had no schooling. School type-wise analysis also shows a similar result for each type.

School type	Parents completing primary education			Both parents never schooled
	Mother's	Father's	Both	
NFE-IDP	26.0	24.1	13.1	128.0
SCE-OOSC	38.9	30.9	18.8	22.9
NFE-Marma	9.5	20.3	4.1	68.5
Bridge school	48.0	38.4	27.8	15.8
Shishu Niketan (single)	68.0	55.9	47.4	12.8
Shishu Niketan (multi)	79.6	70.1	64.2	5.0
Level of significance	p<0.001	p<0.001	p<0.001	p<0.001
Total	**50.8**	**41.1**	**30.7**	**16.6**

Table 3.2. Percentage of students by parental education and school type

School type	Parents completing primary education						Both parents never schooled	
	Mothers		Fathers		Both			
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
SCE-OOSC	51.4	28.7	38.4	24.8	28.1	11.0	22.3	23.4
Bridge school	51.9	40.2	41.6	32.0	32.0	19.3	14.2	18.9
Shishu Niketan (single)	67.8	69.4	56.3	53.6	47.7	45.4	13.2	10.3
Shishu Niketan (multi)	85.1	71.2	72.7	66.0	68.0	58.4	3.8	6.8
Level of significance	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001
Total	**56.6**	**39.2**	**45.7**	**32.0**	**36.3**	**19.4**	**15.1**	**19.6**

Table 3.3. Percentage of students by parental education, school type and area

Information on the principal income sources of the students' households was collected. Over 69% of the households were concentrated in four sources of income (Table 3.4). These are day labour (20.6%), agriculture (16.5%), small business (15.8%), and salaried job (16.2%). The other sources include self-employment (8.7%), rickshaw/van pulling (8.4%), driving (6.4%), remittance (4.9%), and others (2.5%). School type-wise variation was observed in this. The highest proportion of the households lived on agriculture in two types, viz., NFE-IDP (34.7%) and NFE-Marma (64%). It was day labour in another two types – SCE-OOSC (27%) and Bridge school (20.3%). Although small business was the principal source of income for the highest proportion of households of multi-classroom Shishu Niketan, it was agriculture (22%) and small business (20.1%) for single classroom Shishu Niketan. A similar type of rural-urban

School type	School type						Total
	NFE-IDP	SCE-OOSC	NFE-Marma	Bridge school	Shishu Niketan (single)	Shishu Niketan (multi)	
Agriculture	34.7	10.1	64.0	16.6	22.0	11.5	16.5
Day labour	29.7	27.0	29.3	20.3	15.8	11.5	20.6
Salaried job	4.2	20.8	1.3	17.2	10.1	15.5	16.2
Small business	14.5	15.9	4.0	13.5	20.1	29.1	15.8
Driver	0.3	5.0	0.0	6.8	6.9	6.5	6.4
Rickshaw/van puller	4.7	11.4	0.0	7.7	7.2	7.5	8.4
Self-employed	3.6	6.9	1.3	9.5	8.9	9.4	8.7
Remittance	2.4	1.1	0.0	5.5	6.8	5.9	4.9
Others	5.7	1.9	0.0	2.7	2.2	3.2	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.4. Percentage distribution of students by the principal sources of household income and school type

variation was observed in each school type (Annex 3.7). Overall, agriculture was at the top in rural areas, and it was the salaried job in urban areas. Rural households were also ahead of urban households in terms of remittance as the primary source of income.

At least one member in 48.8% of the households lost their earnings during the pandemic (Table 3.5). This was highest in SCE-OOSC (59.8%), followed by single classroom Shishu Niketan (47.9%), Bridge school (45.3%) and multi-classroom Shishu Niketan (44.1%), respectively. Whereas at least one member of 34.3% of the households of NFE-IDP lost their earnings, it was none in NFE-Marma. Those who lost their income, on average, lost it for four months. One per cent of them were unemployed at the time of fieldwork of this study. Being unemployed was more common in urban areas than in rural areas – 62% versus 42.2% (Annex 3.8). The urban-rural difference was much higher in SCE-OOSC and Bridge school households than in multi-classroom Shishu Niketan.

School type	At least one member was umployed	Income decreased	Expenditure decreased	HH food security status decreased	
				One step	Two steps
NFE-IDP	34.3	79.8	42.6	65.6	8.3
SCE-OOSC	59.8	88.0	37.9	58.0	20.8
NFE-Marma	0.0	60.0	30.7	48.0	37.3
Bridge school	45.3	84.5	45.8	53.5	24.1
Shishu Niketan (single)	47.9	79.5	39.0	49.6	21.4
Shishu Niketan (multi)	44.1	76.5	38.7	47.8	25.6
Level of significance	p<0.001				
Total	**48.8**	**83.8**	**42.4**	**53.7**	**22.7**

Table 3.5. Percentage of households by school type and various indicators related to economic status during the pandemic

The income and expenditure patterns of the households have changed during the pandemic. Income decreased in 83.8% of the households, increased in 1.1% of the households and remained the same in 14.9% (Annex 3.9). Expenditure decreased in 42.4% of the households, increased in 23.3% of the households, and remained the same in 34.3% (Annex 3.10). The respondents rated their households' yearly food security status on a four-point scale. The points in the scale were *always in deficit, sometimes in deficit, breakeven, and surplus.* They did so for two different periods – during and before the pandemic considering both income and expenditure of all heads. Before the pandemic, 1% of the households rated them as *always in deficit, 10% sometimes in deficit, 50.9% breakeven, and 38.1% surplus* (Annex 3.11). The proportions of households *always in deficit and sometimes in deficit* have increased during the pandemic and reached 10.9% and 55.9%, respectively (Annex 3.12). On the other hand, the proportion of *breakeven and surplus* households decreased to 28.5% and 4.7%, respectively. Such a change was observed in each type of school. Overall, an increase in household food security status was observed in 1.4% of the households; it was stable in 22.2%, one-step decreased in 53.7%, and two-step decreased in 22.7% of the households. Therefore, the food security status deteriorated in

more than three-quarters of the households (Annex 3.13 and Table 3.5). The yearly food security status decreased in 85.3% of NFE-Marma households, 78.8% in SCE-OOSC households, 77.6% in Bridge school households, 73.9% in NFE-IDP households, 73.4% in multi-classroom Shishu Niketan households, and 71% in single classroom Shishu Niketan households (Table 3.5). Deterioration in food security status was more among urban households than in rural areas – 80.8% versus 74.1% (Annex 3.14). Therefore, an opposite scenario was observed in having a stable status.

BRAC schools were not the first school for the majority of the students under study. Overall, 73.7% of the students attended the other schools before admitting to BRAC schools (Table 3.6). They were 75.3% among the boys and 72.2% among the girls ($p<0.05$). Of these students, half attended government primary schools and 15.2% in private kindergartens. School type-wise analysis shows that it was highest in Bridge school (91.2%), followed by multi-classroom Shishu Niketan (73.8%), SCE-OOSC (59.4%), NFE-IDP (46.8%), single classroom Shishu Niketan (46.3%) and NFE-Marma (17.3%), respectively. More such students were admitted to rural schools than urban schools (75.8% versus 69.4%; $p<0.001$). The rural-urban gap was observed by school type but in different dimensions. Whereas the figure was higher in urban than rural areas for SCE-OOSC, an opposite scenario was observed in Bridge school and both Shishu Niketan. Over 98% of the students of rural Bridge schools and 77.2% of those in urban areas were of this kind.

Of the above sample, 93.2% were admitted to BRAC schools before the pandemic and 4.1% during the pandemic; both continued there till the fieldwork of this study. The remaining students were admitted to the other schools (1.3%) or dropped out of the education system (1.3%) during the pandemic. This shows that the dropout rate among BRAC school students was very small during school closure. Therefore, the remaining analysis with the student sample (Chapters 4, 5 and 6) would be with the former two groups, who are 97.4% of the sample. We considered this because these students were about to complete primary education (Grade V) from the BRAC schools. Note that no difference was observed in the background of the whole sample and this partial sample.

School type	Gender		Area		All
	Boys	Girls	Rural	Urban	
NFE-IDP	55.7	40.9	46.8	-	46.8
SCE-OOSC	61.4	58.0	53.1	64.5	59.4
NFE-Marma	16.7	17.9	17.3	-	17.3
Bridge school	92.2	90.4	98.3	77.2	91.2
Shishu Niketan (single)	50.2	41.9	47.2	39.8	46.3
Shishu Niketan (multi)	76.5	70.6	78.0	67.3	73.8
Level of significance	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001
Total	75.3	72.2	75.8	69.8	73.7

Table 3.6. Percentage of students who attended the other school before admitting to BRAC schools by school type, gender and area

The teachers

All teachers of NFE-IDP, SCE-OOSC, NFE-Marma, Bridge school and single classroom Shishu Niketan and 93.5% of multi-classroom Shishu Niketan were females (Table 3.7). Overall, 99.3% of the teachers were females. Their age varied from 19–53 years, with a mean of 31.8 years. Over 27% of the teachers were below 26 years, 26.2% were 26–30 years, 31.4% were 31–40 years, and the remaining were 40 years or more (15.2%). The mean age of the teachers varied by school type. It was over 33 years in SCE-OOSC and single classroom Shishu Niketan, 31.5 years in multi-classroom Shishu Niketan, 30.7 years in Bridge school,28.2 years in NFE-IDP, and 26.6 years in NFE-Marma. No statistically significant difference was observed in teachers' age by area; however, the urban school teachers had a higher mean age than theirrural counterparts (32.7 years versus 31.2 years).

with a third of them having a Bachelor's degree and 36.5% having a Master's degree. The SCE-OOSC teachers followed them, with 20% having at least a Bachelor's degree. Among others, 15% of Bridge school, 10% of single classroom Shishu Niketan, 8% of NFE-IDP and none of NFE-Marma had a Bachelor's degree. On average, the urban school teachers were more educated than the rural school teachers. Over a fifth of rural and 28.1% of urban school teachers had at least a Bachelor's degree (Annex 3.15). Various scenarios were observed by school type. For instance, whereas the rural teachers of SCE-OOSC were more educated than their urban counterparts, an opposite scenario was observed in Bridge school, and no urban-rural difference was observed in multi -classroom Shishu Niketan.

The majority of the teachers studied Humanities at the secondary level (59.9%), followed by Science (27.1%) and Business (13%) (Annex

School type	% of females	Age (Years)			
		Range	Mean	SD	Median
NFE-IDP	100.0	19–50	28.2	9.0	24.0
SCE-OOSC	100.0	21–52	33.4	8.4	35.0
NFE-Marma	100.0	22–33	26.6	4.4	27.0
Bridge school	100.0	21–48	30.7	7.5	29.0
Shishu Niketan (single)	100.0	19–47	33.2	7.8	32.5
Shishu Niketan (multi)	93.5	20–53	31.5	6.4	30.0
Total	99.3	19–53	31.8	7.6	30.0

Table 3.7. Gender and age distribution of teachers by school type

Nearly 32% of the teachers completed secondary education, 45.3% completed higher secondary education, 17.2% had a Bachelor's degree, and 5.6% had a Master's degree (Table 3.8). The teachers of multi-classroom Shishu Niketan were much ahead of the others in education,

3.16). Eighty-four per cent of the teachers of NFE-IDP, around two- thirds of those of each type of Shishu Niketan, three-fifths of those of SCE-OOSC and NFE-Marma, and 55% of those of Bridge school studied Humanities at the secondary education level. Business studies

School type	Educational qualification				Total
	Secondary	Higher secondary	Bachelor's	Master's	
NFE-IDP	36.0	56.0	8.0	0.0	100.0
SCE-OOSC	32.5	45.0	20.0	2.5	100.0
NFE-Marma	60.0	40.0	0.0	0.0	100.0
Bridge school	37.5	47.5	15.0	0.0	100.0
Shishu Niketan (single)	35.0	52.5	10.0	2.5	100.0
Shishu Niketan (multi)	5.4	25.0	33.1	36.5	100.0
Total	31.9	45.3	17.2	5.6	100.0

Table 3.8. Percentage distribution of teachers by educational qualification and school type

was the second dominating stream of education for the teachers of NFE-IDP and NFE-Marma but it was science for the remaining four types.

Sixty-nine per cent of the teachers joined in the respective BRAC schools when this cohort of students started their education in these schools or before, 24.8% joined afterwards but before the pandemic, and 6.4% joined during the pandemic (Table 3.9). Replacement of teachers was much higher in NFE-IDP and NFE-Marma (56% and 60%), followed by SCE-OOSC (35%). A quarter of the teachers were replaced in Bridge school and single classroom Shishu Niketan. It is not clear in the case of multi-classroom Shishu Niketan because new teacher-scould join there at any time. However, 43.1% of the teachers of these schools joined before the pandemic but not at the beginning, and 11.5% joined during the pandemic. The proportion of teachers who joined during the pandemic was 16% in NFE-IDP, 10% in SCE-OOSC, 5% in Bridge school, and 2.5% in single classroom Shishu Niketan. Teacher replacement occurred more in urban schools than rural schools (Annex 3.17).

About 85% of the teachers reported having basic training. They were 90% in single classroom Shishu Niketan, 87.5% in SCE-OOSC,

School type	Joining time			Total
	On or before starting of this student cohort	After starting but before the pandemic	During the pandemic	
NFE-IDP	44.0	40.0	16.0	100.0
SCE-OOSC	65.0	25.0	10.0	100.0
NFE-Marma	40.0	60.0	0.0	100.0
Bridge school	75.0	20.0	5.0	100.0
Shishu Niketan (single)	75.0	22.5	2.5	100.0
Shishu Niketan (multi)	45.4	43.1	11.5	100.0
Total	69.0	24.8	6.4	100.0

Table 3.9. Percentage distribution of teachers by school type and joining time

around 82% in Bridge school and multi-classroom Shishu Niketan, 52% in NFE-IDP, and 40% in NFE-Marma. This was 79.8% in rural and 92.8% in urban schools. All teachers received refresher training.

The length of experience of the teachers ranged from less than one year to 30 years, with a mean of 9.6 years (Table 3.10). Over 35% of the teachers had 0–5 years of experience, over a quarter had 6–10 years of experience, and about two-fifths had 11 or more years of experience. The mean length of experience varied by school type – 4.2 years in NFE-Marma to 12.2 years in single classroom Shishu Niketan. This was over nine years in SCE-OOSC and Bridge school, 7.2 years in multi-classroom Shishu Niketan, and 4.8 years in NFE-IDP. An equal mean was observed among rural and urban school teachers.

School type	Length of experience (years)			Total	Some basic statistics		
	0-5	6-10	≥11		Range	Mean	Median
NFE-IDP	60.0	36.0	4.0	100.0	0–12	4.8	5.0
SCE-OOSC	37.5	27.5	35.0	100.0	2–27	9.5	7.5
NFE-Marma	60.0	40.0	0.0	100.0	0–6	4.2	5.0
Bridge school	32.5	27.5	40.0	100.0	1–23	9.3	8.0
Shishu Niketan (single)	27.5	17.5	55.0	100.0	1–28	12.2	13.0
Shishu Niketan (multi)	54.6	24.6	20.8	100.0	0–30	7.2	5.0
Level of significance						p<0.05	
Total	35.5	25.2	39.2	100.0	0–30	9.6	8.0

Table 3.10. Percentage distribution of teachers by length of experience and school type

CHAPTER

4

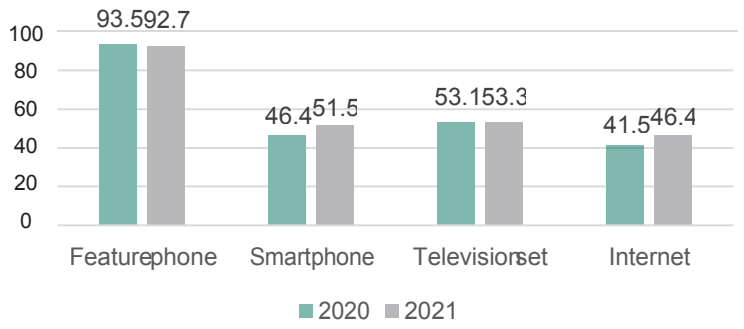
Education during School Closure

This chapter starts with analysing data on availability of Information and Communications Technologies (ICTs) at home of the students followed by use of those in continuing education during school closure. The state of students' engagement in education at home in different ways are also presented afterwards.

Availability of ICT gadgets at home

Considering Information and Communication Technologies (ICTs) as important means of communication during the pandemic, data on the availability of ICT gadgets in the students' homes were collected. The selected ICT gadgets were feature phones, smartphones, desktop computers, laptop computers, radio sets, television sets and the Internet. Less than 1% of the households had a desktop, laptop or radio set. Of the remaining, feature phones were the most available gadgets followed by television sets, smartphones, and the Internet. In both 2020 and 2021, around 93% of the households had feature phones and over 53% had television sets (Figure 4.1). No significant difference was observed by year in the availability of these two gadgets. The availability of smartphones increased from 46.4% in 2020 to 51.5% in 2021 ($p<0.001$) and that of the Internet from 41.5% in 2020 to 46.4% in 2021 ($p<0.001$).

Figure 4.1. Percentage of BRAC school students' households having some selected ICT gadgets by year



School type-wise analysis noticed a significant difference in the availability of ICT gadgets in the households. Feature phones were available in 90.8–97.5% of the households, smartphones from 14.9– 59.2%, television sets from 9–73.9%, and the Internet from 14.9–55.8% (Table 4.1). In both years, NFE- IDP households were at the top in the availability of feature phones, followed by SCE-OOSC, NFE-Marma and Bridge school, respectively. The position of multi classroom Shishu Niketan was the fifth in 2020 followed by single classroom Shishu Niketan; however, they have exchanged their places in 2021. The multi-classroom Shishu Niketan households were far ahead of the others in the availability of the remaining three devices. The position of the single classroom Shishu Niketan households was the third in each. The Bridge school households secured the second position in the cases of smartphones and the Internet, and it was SCE-OOSC households for television sets. The NFE-Marma households had the bottom position in each. The NFE-IDP and SCE-OOSC households were close to each other in securing the fourth and the fifth positions in the availability of smartphones and the Internet. In the availability of television sets, NFE-IDP households had the fifth and Bridge school house holds had the fourth positions.

School type	ICT gadgets							
	Feature phone		Smartphone		Television set		Internet	
	2020	2021	2020	2021	2020	2021	2020	2021
NFE-IDP	97.3	97.5	35.7	40.8	21.4	22.3	34.2	39.0
SCE-OOSC	96.6	95.5	38.8	43.0	57.4	55.5	32.4	37.3
NFE-Marma	95.5	94.0	14.9	16.4	9.0	9.0	14.9	14.9
Bridge school	93.0	92.4	49.5	55.8	50.3	51.8	45.4	51.3
Shishu Niketan (single)	91.4	90.8	45.8	48.9	55.5	54.2	40.1	42.8
Shishu Niketan (multi)	92.1	91.7	56.1	59.2	73.8	73.9	52.7	55.8

Table 4.1. Percentage of BRAC school students' households having some selected ICT gadgets by school type, gadget type and year

No significant difference was observed between rural and urban households in having feature phones (Table 4.2). The availability of the other devices was significantly more in urban households than the rural households (at p<0.001 level). The urban-rural gap in the availability of television sets was much higher than others. A statistically significant increase in the availability of smartphones and Internet was also noticed in both areas (at p<0.01 level). More feature phones were available in the rural than the urban households of SCE-OOSC (Table 4.3). No urban-rural difference was observed in the availability of feature phones in

ICT gadgets	2020		2021		Rural vs. Urban		2020 vs. 2021	
	Rural	Urban	Rural	Urban	2020	2021	Rural	Urban
Feature phone	93.2	94.2	92.5	93.2	ns	ns	ns	ns
Smartphone	43.7	51.9	48.3	58.0	p<0.001	p<0.001	p<0.01	p<0.01
Television set	43.9	72.5	44.0	72.8	p<0.001	p<0.001	ns	ns
Internet	38.2	48.2	42.3	54.9	p<0.001	p<0.001	p<0.01	p<0.01

Note: ns = not significant at p = 0.05

Table 4.2. Percentage of BRAC school students' households having some selected ICT gadgets by gadget type, year and area

School type	Area	ICT gadgets							
		Feature phone		Smartphone		Television set		Internet	
		2020	2021	2020	2021	2020	2021	2020	2021
SCE-OOSC	Rural	98.1	97.8	28.7	30.4	39.8	38.7	20.3	22.0
	Urban	95.4	93.5	47.6	53.8	72.6	70.0	42.8	50.5
Bridge school	Rural	93.0	92.2	46.7	52.9	40.5	41.8	42.0	47.3
	Urban	93.1	92.7	55.2	61.7	70.6	72.6	52.4	59.7
Shishu Niketan (single)	Rural	90.9	90.1	45.4	48.5	51.8	49.9	39.6	42.7
	Urban	95.6	95.6	48.9	52.2	83.3	86.7	43.3	43.3
Shishu Niketan (multi)	Rural	91.7	91.3	59.2	62.4	72.2	73.6	55.0	58.5
	Urban	92.8	92.4	51.3	54.2	76.2	74.4	49.1	51.6

Table 4.3. Percentage of BRAC school students' households having some selected ICT gadgets by school type, area, gadget type and year

the households of Bridge school and multi-classroom Shishu Niketan. The rural households of SCE-OOSC and Bridge school were much behind their counterparts in urban areas in the availability of the remaining three devices. In the case of multi-classroom Shishu Niketan, the rural households were ahead of the urban households in the availability of smartphones and the Internet but an opposite scenario was observed in the availability of television sets.

The BRAC school students' households, on average, had an equal proportion of feature phones in both years (Table 4.4). The same was also observed in the case of the television set. No significant difference was observed in any of them with the national sample of Grade V. But the national sample households were ahead of the BRAC school sample households devices in both years. Although an increase in the availability of each of them from 2020 to

observed in four school types. These are NFE-IDP, SCE-OOSC, Bridge school, and Multi-classroom Shishu Niketan. The households of the single classroom Shishu Niketan were one and NFE-Marma were 4–5 percentage points behind the others.

The students of Grade V are not supposed to have personal devices considering their ages. This study observed that 2.1% of the students of BRAC schools had personal devices (any of the above) in 2020 and 2.8% had this in 2021. These figures were 3% and 4.2%, respectively in the corresponding national sampleof Grade V. A statistically significant gender difference was observed in the BRAC school sample in both years where the girls lagged behind the boys. In 2020, 2.8% of the boys and 1.4% of the girls had personal devices ($p<0.01$). These figures were 4% and 1.7%, respectively in 2021 ($p<0.001$). Although no gender difference was observed in the national sample in 2020 (3.8%

ICT gadgets	2020		2021		BRAC vs. National		2020 vs. 2021	
	BRAC	National	BRAC	National	2020	2021	BRAC	National
Feature phone	93.5	93.2	92.7	92.5	ns	ns	ns	ns
Smartphone	46.4	53.8	51.5	59.5	p<0.001	p<0.01	p<0.001	p<0.05
Television set	53.1	56.8	53.3	54.5	ns	ns	ns	ns
Internet	41.5	46.6	46.4	55.1	p<0.05	p<0.001	p<0.001	p<0.01

Note: ns = not significant at p = 0.05

Table 4.4. Percentage of households having some selected ICT gadgets by gadget type and year: BRAC versus National

terms of the availability of the remaining two 2021 was observed in both samples. Only the multi-classroom Shishu Niketan households were ahead of the national sample households in the availability of these two devices (Tables 4.1 and 4.4).

More than 99% of the households in both samples (BRAC and national) had a feature phone or a smartphone with no difference by area. In the case of BRAC schools, no difference was

vs. 2.4%; ns), the boys were ahead of the girls in 2021 (6.7% vs. 2.2%; $p<0.01$). The BRAC school parents discriminated against their girls in providing personal ICT devices. The urban-rural difference was also observed in the BRAC school sample, where more urban students had their own devices than the rural students. In 2020, 2.7% of urban and 1.7% of rural students had their own devices ($p<0.05$); and in 2021, 4% of urban and 2.2% of rural students had this ($p<0.01$). School type-wise

analysis shows the urban-rural difference only in Bridge school.

Use of ICT gadgets for educational purposes

A high proportion of BRAC school students used ICT gadgets for educational purposes in both years. Over 91% of the BRAC school students used any ICT gadgets for educational purposes in 2020 which significantly decreased to 83.6% in 2021 ($p<0.001$) (Table 4.5). A decrease in the use of ICT gadgets was noticed for the students of both genders and in both areas. Although no gender difference was observed in any year, rural students were ahead of the urban students in 2020 (91.8% vs. 89.7%, $p<0.05$).

A statistically significant variation was observed in the use of ICT gadgets for educational purposes by school type (Table 4.6). The students of NFE-Marma were at the bottom with those of SEC-OOSC slightly ahead of them. The students of the other four types had much better use of ICT gadgets. A significant decrease in the use of ICT gadgets was noticed in the cases of NFE-IDP, SCE-OOSC and Bridge school. No change was observed in the remaining three types.

Gender/Area		Components of literacy		Level of significance
		2020	2021	
Gender	Boys	90.3	83.5	p<0.001
	Girls	91.8	83.6	p<0.001
Level of significance		ns	ns	
Area	Rural	91.8	84.2	p<0.001
	Urban	89.7	82.1	p<0.001
Level of significance		p<0.05	ns	
All		91.1	83.6	p<0.001

Note: ns = not significant at p = 0.05

Table 4.5. Percentage of BRAC school students who used any ICT gadgets for educational purposes by gender, area and year

Gender/Area	Year		Level of significance
	2020	2021	
NFE-IDP	89.3	76.8	p<0.001
SCE-OOSC	77.3	64.5	p<0.001
NFE-Marma	70.1	62.7	ns
Bridge school	97.2	89.2	p<0.001
Shishu Niketan (single)	89.3	87.6	ns
Shishu Niketan (multi)	94.5	94.4	ns
Level of significance	p<0.001	p<0.001	

Note: ns = not significant at p = 0.05

Table 4.6. Percentage of BRAC school students who used any ICT gadgets for educational purposes by school type and year

A good proportion of the students used multiple gadgets. In 2020, 76.5% of the students used feature phones, 24.5% used smartphones, 33.7% used television sets, and 11% used the Internet (Table 4.7). These figures were 69.9%, 23.3%, 24.1% and 10.5%, respectively in 2021. A statistically significant decrease in the use of feature phones and television sets was noticed.

the national sample (although not statistically significant). Except for the use of the Internet, the students in the national sample had much less use of the other devices than the BRAC school students. Use of the Internet increased among the students in the national sample.

More analysis on the use of ICT gadgets for educational purposes is done for the BRAC

ICT gadgets	2020		2021		BRAC vs. National		2020 vs. 2021	
	BRAC	National	BRAC	National	2020	2021	BRAC	National
Feature phone	76.5	8.7	69.9	7.1	p<0.001	p<0.001	p<0.001	ns
Smartphone	24.5	11.6	23.3	19.3	p<0.001	p<0.05	ns	p<0.001
Television set	33.7	13.9	24.1	8.8	p<0.001	p<0.001	p<0.001	p<0.01
Internet	11.0	10.1	10.5	17.8	ns	p<0.001	ns	p<0.001
Any	91.1	25.4	83.6	27.9	p<0.001	p<0.001	p<0.001	ns

Note: ns = not significant at p = 0.05

Table 4.7. Percentage of students who used ICT gadgets for educational purposes by gadget type, school type and year: BRAC versus national

The use of ICT gadgets for educational purposes was far less among the Grade V students in the national sample. Only 25.4% in 2020 and 27.9% in 2021 used them. Note that whereas it significantly decreased in the case of BRAC schools an increasing trend was observed in

school sample (Table 4.8). The students of NFE-Marma did not use any other devices except feature phones. The use of feature phones decreased from 2020 to 2021 in three school types. They are NFE-IDP, SCE-OOSC, and Bridge school. This was obvious, as the

Gender/Area	Feature phone		Smartphone		Television set		Internet	
	2020	2021	2020	2021	2020	2021	2020	2021
NFE-IDP	84.7	73.3	7.1	5.3	5.5	2.5	1.1	0.9
SCE-OOSC	64.8	53.5	12.3	10.5	38.6	28.1	4.5	4.3
NFE-Marma	70.1	62.7	0.0	0.0	0.0	0.0	0.0	0.0
Bridge school	82.9	75.9	29.7	27.3	33.3	22.0	14.3	13.1
Shishu Niketan (single)	72.4	71.0	23.5	25.4	29.9	24.6	8.8	9.4
Shishu Niketan (multi)	70.3	69.6	35.5	39.7	47.0	38.8	19.8	25.1
Level of significance	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001

Notes: Statistically significant differences by year: Feature phone (NFE-IDP, SCE-OOSC, Bridge school); Television set (NFE-IDP, SCE-OOSC,Bridge school, both Shishu Niketan); Internet (multi-classroom Shishu Niketan)

Table 4.8. Percentage of students who used any ICT gadgets for educational purposes by school type and year

number of phone classes decreased in 2021 due to reduced COVID- 19 protocol restrictions. The use of television sets also decreased among the students of these three types along with both Shishu Niketan. The use of the Internet remained the same in both years among the students of four school types. The Internet use significantly increased only among the students of multi-classroom Shishu Niketan – from 19.8% in 2020 to 25.1% in 2021.

Use of both feature phones and television sets for educational purposes significantly decreased among the students of both genders. The use of feature phones decreased from 74.2% in 2020 to 68.5% in 2021 (p<0.001) for the boys and from 78.5% in 2020 to 71.1% in 2021 for the girls (p<0.001). On the other hand, a third of the students of each gender used television sets for educational purposes in 2020 which decreased to 23.1% for the boys and 24.9% for the girls (p<0.001). A gender difference was observed only in the use of feature phones in 2020. Proportionately more girls used this than the boys (78.5% vs. 74.2%; p<0.01). The use of cell phones decreased may be because of a decrease in phone classes.

A statistically significant decrease in the use of feature phones and television sets was observed in both areas. The use of feature phones decreased from 77.4% in 2020 to 69.9% in 2021 in rural areas (p<0.001) and from 74.6% in 2020 to 69.7% in 2021 in urban areas p<0.01). The use of television decreased from 26.1% in 2020 to 21% in 2021 in rural areas (p<0.001) and from 49.7% in 2020 to 30.5% in 2021 in urban areas (p<0.001). More urban students used smartphones, television sets and the Internet than the rural students in both years.

School type	Year	Gender		Level of Significance	Area		Level of Significance
		Boys	Girls		Rural	Urban	
Feature phone	2020	74.2	78.5	p<0.01	77.4	74.6	ns
	2021	68.5	71.1	ns	69.9	69.7	ns
Level of significance		p<0.001	p<0.001		p<0.001	p<0.01	
Smartphone	2020	25.3	23.8	ns	22.5	28.2	p<0.001
	2021	23.8	22.9	ns	21.2	27.7	p<0.001
Level of significance		ns	ns		ns	ns	
Television	2020	33.5	33.6	ns	26.1	49.7	p<0.001
	2021	23.1	24.9	ns	21.0	30.5	p<0.001
Level of significance		p<0.001	p<0.001		p<0.001	p<0.001	
Internet	2020	11.9	10.2	ns	6.7	20.0	p<0.001
	2021	11.0	10.2	ns	6.5	19.1	p<0.001
Level of significance		ns	ns		ns	ns	

Note: ns = not significant at p = 0.05

Table 4.9. Percentage of students who used any ICT gadgets for educational purposes by gadget type, year, gender and area

Engagement in education at home

Around 99% of the students of BRAC schools reported engaging in educational activities during school closure. The figure was so high that there was no way to have a difference in this concerning school type, area or gender. The students followed many different ways arranged by their parents and school teachers to continue their education. The household members tutored some students and some received private tutoring. The former was free and the latter was on a payment basis. The school teachers gave them assignments and arranged phone and home classes. Alongside, the students watched television classes organised by the Ministry of Primary and Mass Education.

The students reported their engagement in studies in a three-point scale dividing the whole duration of school closure into six time periods. These are mid-March–May 2020, June–August 2020, September– December 2020, January–February 2021, March–May 2021, and June–August 2021. The points in the scale were scored as often = 2, sometimes = 1, and never = 0. Addition of the scores of six time periods provided a total score separately for each mode of studies. These were then categorised in the following way: Never (0), Rarely (1–2), Sometimes (3–5), Often (6–7), Usually (8–11), and Always (12). This represents level of engagement.

Household members' support and private tutoring

Nearly two-thirds of the students of BRAC schools were tutored by their household members and 29.7% were privately tutored. No gender difference was observed in any of them. More rural students received each of them than the urban students – 68.5% of rural and 58.7% of urban students were tutored by the household members ($p<0.001$) and 31.5% of rural and 26% of urban students were privately tutored ($p<0.001$).

A statistically significant variation was observed by school type in each (Tables 4.10 and 4.11). The proportion of students tutored by household members varied from 33.3% in NFE-Marma to 72.3% in Bridge school. This was from 16.7% in NFE-Marma to 51.2% in NFE-IDP in the case of private tutoring. Mostly an equal proportion of students (over half) of NFE-IDP availed of each of them. For other school types, the proportion of students availing household members tutoring was higher than that of private tutoring. In receiving household members' tutoring, the students of Bridge school and both Shishu Niketan were closer to each other and far ahead of the students of the other three school types. Otherwise, NFE- IDP students were far ahead of those of the other types in availing of private tutoring, where the students of SCE-OOSC and both Shishu Niketan were close to each other keeping them substantially distance from the top.

No gender difference was observed in any of the school types in any of the issues. In receiving support from the household members, the rural students of Bridge school surpassed their rural counterparts. It was the other way around for the students of multi-classroom Shishu Niketan. The urban students of SCE- OOSC and multi-classroom Shishu Niketan availed of more private tutoring than their rural counterparts. An opposite scenario was observed in the case of Bridge school students' private tutoring.

Of the students, 34.7% never received household members tutoring, 1% received rarely, 6.5% sometimes, 29.7% often, 13.8% usually and 14.9% always (Annex 4.1). Otherwise, 70.3% of the students never received private tutoring, 7.7% received rarely, 7.6% sometimes, 4.4% often, 5.6% usually, and 4.4% always (Annex 4.2). More analyses on this by

School type	Gender		Level of Significance	Area		Level of Significance	All
	Boys	Girls		Rural	Urban		
NFE-IDP	49.8	54.0	ns	52.3	-	-	52.3
SCE-OOSC	42.5	44.7	ns	44.8	42.9	ns	43.8
NFE-Marma	22.9	43.2	ns	33.3	-	-	33.3
Bridge school	73.3	71.5	ns	74.8	67.2	p<0.05	72.3
Shishu Niketan (single)	69.2	69.3	ns	69.7	65.9	ns	69.3
Shishu Niketan (multi)	70.2	71.8	ns	66.9	77.1	p<0.01	70.9
Level of significance	p<0.001	p<0.001		p<0.001	p<0.001		p<0.001
Total	**66.2**	**64.5**	**ns**	**68.5**	**58.7**	**p<0.001**	**65.3**

Note: ns = not significant at p = 0.05

Table 4.10. Percentage of students who were tutored by household members by school type, gender and area

school type, area and gender are provided in Annexes 4.1 to 4.4.

Television classes

Nearly two-fifths of the students claimed to watch television classes – 37.6% of the boys (44.1%), Bridge school (39.5%) and single classroom Shishu Niketan (35.7%), respectively. Only 8.6% of the students of NFE-IDP and none of the NFE-Marma had a chance to watch television classes. A statistically significant proportion of girls than boys of each type of Shishu Niketan attended television classes. No

School type	Gender		Level of Significance	Area		Level of Significance	All
	Boys	Girls		Rural	Urban		
NFE-IDP	53.2	49.9	ns	51.2	-	-	51.2
SCE-OOSC	33.4	33.5	ns	29.2	37.0	p<0.05	33.5
NFE-Marma	14.3	18.9	ns	16.7	-	-	16.7
Bridge school	26.5	24.9	ns	30.2	16.2	p<0.001	25.6
Shishu Niketan (single)	31.5	37.8	ns	34.1	38.5	ns	34.6
Shishu Niketan (multi)	35.8	37.6	ns	32.9	42.4	p<0.01	36.7
Level of significance	p<0.001	p<0.001		p<0.001	p<0.001		p<0.001
Total	**29.4**	**29.9**	**ns**	**31.5**	**26.0**	**p<0.001**	**29.7**

Table 4.11. Percentage of students who were privately tutored by school type, gender and area

and 41.5% of the girls (p<0.05) (Table 4.12). About a third of the urban and 53.8% of the rural students also claimed the same (p<0.001). Participation in television classes was highest in the multi-classroom Shishu Niketan (54.7%), followed by SCE-OOSC gender difference was observed in other types. The area-wise difference was observed in two types: SCE-OOSC and Bridge school. More urban students than their rural counterparts of these two types participated in television classes.

School type	Gender		Level of Significance	Area		Level of Significance	All
	Boys	Girls		Rural	Urban		
NFE-IDP	7.6	9.3	ns	8.6	-	-	8.6
SCE-OOSC	41.3	46.0	ns	26.2	59.2	p<0.001	44.1
NFE-Marma	0.0	0.0	-	0.0	-	-	0.0
Bridge school	39.8	39.3	ns	33.5	51.8	p<0.001	39.5
Shishu Niketan (single)	29.8	42.1	p<0.001	34.8	42.9	ns	35.7
Shishu Niketan (multi)	48.1	62.1	p<0.001	54.6	54.6	ns	54.7
Level of significance	p<0.001	p<0.001		p<0.001	p<0.001		p<0.001
Total	**37.6**	**41.5**	**p<0.05**	**32.9**	**53.8**	**p<0.001**	**39.7**

Note: ns = not significant at p = 0.05

Table 4.12. Percentage of students who attended television classes by school type, gender and area

Over 60% of the students of BRAC schools never watched television classes, 10.5% watched rarely, 16.5% sometimes, 9.1% often, 2.2% usually, and 1.4% always (Annex 4.5). The students who watched television classes were concentrated in the three categories only, viz., rarely, sometimes or often. This was observed irrespective of school type (Annex 4.6).

Assignments submission

On average, 69.7% of the students claimed to submit assignments (Table 4.13). The girls were significantly ahead of the boys in submitting assignments (71.9% vs. 67.1%; p<0.001). The urban-rural difference was much bigger than this – 89.2% of urban and 60.2% of rural students submitted assignments (p<0.001). The students of multi-classroom Shishu Niketan and SCE-OOSC were very close to each other with a submission rate of 90.7% and 89.1%, respectively. This was 83.7% among the students of single classroom Shishu Niketan, followed by those in NFE-Marma (75%), Bridge school (55.9%) and NFE-IDP (34.2%), respectively. The girls were ahead of the boys in submitting assignments in two who

School type	Gender		Level of Significance	Area		Level of Significance	All
	Boys	Girls		Rural	Urban		
NFE-IDP	37.1	32.3	ns	34.2	-	-	34.2
SCE-OOSC	85.6	91.6	p<0.01	83.3	94.1	p<0.001	89.1
NFE-Marma	68.6	81.1	ns	75.0	-	-	75.0
Bridge school	52.1	59.3	p<0.05	41.7	85.0	p<0.001	55.9
Shishu Niketan (single)	84.6	82.8	ns	82.3	94.5	p<0.001	83.7
Shishu Niketan (multi)	89.5	92.1	ns	87.9	94.9	p<0.001	90.7
Level of significance	p<0.001	p<0.001		p<0.001	p<0.001		p<0.001
Total	**67.1**	**71.9**	**p<0.001**	**60.2**	**89.2**	**p<0.001**	**69.7**

Note: ns = not significant at p = 0.05

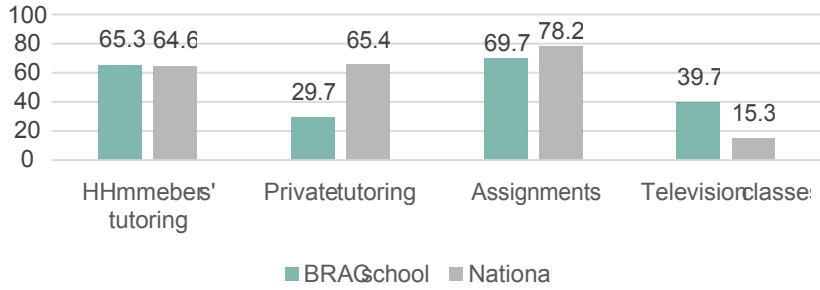
Table 4.13. Percentage of students who submitted assignments by school type, gender and area

school types: SCE-OOSC and Bridge school. On the other hand, the urban students of each of the four school types surpassed their rural counterparts in doing assignments.

Although a high proportion of students submitted assignments, the majority of them submitted rarely (24.7% of all students) or sometimes (22.2 of all students) (Annex 4.7). Therefore, less than a quarter of the students submitted the assignments often, usually or always. Separately, the rates were 11.3%, 9% and 2.5%, respectively. All the students of NFE-Marma submitted assignments did so rarely (Annex 4.8). The majority of the students of Bridge school and two types of Shishu Niketan submitted the assignments rarely or sometimes. A relatively better situation was observed in SCE-OOSC. Of them, 21.3% submitted often, 15.1% usually, and 11% always. SCE-OOSC students were far ahead of the others in submitting assignments always.

Figure 4.2 provides a comparison between BRAC school students and the national sample of Grade V. The proportion of students receiving household members' tutoring was close to each other. The tendency of taking private tutoring and doing assignments was more among the students in the national sample. Otherwise, BRAC school students watched more television classes than those in the national sample. The other related observations include: the students of Bridge school and two types of Shishu Niketan received more support from the household members than the average of BRAC schools and the national sample; none of the BRAC schools could reach the estimate of the national sample in private tutoring; SCE-OOSC and two types of Shishu Niketan surpassed the national sample in submitting assignments; and except NFE-IDP and NFE-Marma, all others were ahead of the national sample in watching television classes.

Figure 4.2. Percentage of students engaged in various activities to pursue education during school closure: BRAC vs. National



Home and phone classes

The teachers of BRAC schools, on average, offered 38.7 phone and 38.2 home classes during school closure; totalling 76.9 (Table 4.14). The number of such classes varied from one school to another and by school type. School type-wise, the multi-classroom Shishu Niketan offered 107.9 classes, NFE-Marma offered 84.5 classes, single classroom Shishu Niketan offered 78.8 classes, Bridge school offered 76.9 classes, NFE-IDP offered 75 classes, and SCE-OOSC offered 72.1 classes. The

mean number of home classes was more than that of phone classes in three school types: NFE-IDP, SCE-OOSC and NFE-Marma. It was the other way around in two: Bridge school and single classroom Shishu Niketan. Mostly an equal number of phone and home classes were offered in multi-classroom Shishu Niketan.

SCE-OOSC (60.3%). This was around 74% in NFE-IDP and Bridge school; and around 69% in two types of Shishu Niketan. Not much variation was observed in the phone class participation rates of different school types except SCE-OOSC, which had dramatically a low participation rate. Overall, the home class

School type	Mean number of classes offered			Students participation rate		
	Phone	Home	Both	Phone	Home	Both
NFE-IDP	30.8	44.2	75.0	71.2	76.5	74.2
SCE-OOSC	28.0	44.1	72.1	49.1	67.6	60.3
NFE-Marma	8.4	76.1	84.5	74.6	83.3	82.4
Bridge school	41.6	35.3	76.9	73.5	74.1	73.7
Shishu Niketan (single)	41.2	37.6	78.8	68.8	68.6	68.6
Shishu Niketan (multi)	53.8	54.1	107.9	70.6	68.3	69.3
Total	**38.7**	**38.2**	**76.9**	**68.5**	**71.2**	**69.8**

Table 4.14. Mean number of classes offered by teachers and students participation rate by school and class types

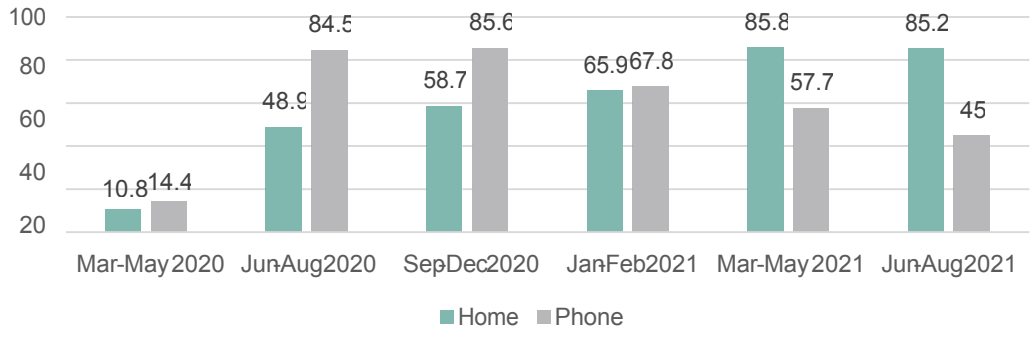
On average, 85.3% of the students participated in both phone and home classes, 4.1% in phone classes only, 9.4% in home classes only, and 1.2% none. The participating students were distributed according to the quintiles of the number of classes participated. The lowest quintile of students participated in <10 phone classes, the second quintile participated in 11–23 classes, the third quintile participated in 24–31 classes, the fourth quintile participated in 32–41 classes, and the highest quintile participated in 42 or more classes. These quintile categories for the home classes were <10, 11–21, 22–31, 32–42, and 43 or more, respectively.

The students, on average, attended 69.8% of the classes; 68.5% of phone and 71.2% of home (Table 4.14). The participation rate was highest in NFE-Marma (82.4%) and lowest in

participation rate was higher than the phone class participation rate. Participation rates of phone and home classes were close to each other among the students of Bridge school and single classroom Shishu Niketan. The phone class participation rate was a bit higher than the home class participation rate among the students of multi-classroom Shishu Niketan. The students' home and phone class participation rates in different periods are provided in Figure 4.3. Both rates gradually increased from March-May to September-December 2020. Afterwards, the home class participation rate continued its increasing trend but the phone

class participation rate gradually decreased. The parents were asked to score each face-to-face class before the pandemic and home and phone classes during the pandemic on an 11-point scale, where a score of zero was

Figure 4.3. Students' participation rate in home and phone classes by month and year



worst and 10 were the best. The means of the scores were calculated. On average, the parents provided 9.5 for face-to-face classes, 7.1 for home classes, and 5.1 for phone classes. No difference was observed by school type.

No gender difference was observed in the participation rates of home or phone classes – at the aggregated level or by school type. On the other hand, the participation rate, at the aggregated level, was higher among rural school students than their urban counterparts in both classes (Table 4.15). The rural students participated in 69.6% of phone and 72.4% of home classes, which were 66.4% and 68.1%, respectively among the urban students. Together, the rural students participated in 70.8% of the classes and the urban students in 67%.

School type	Phone class		Home class		Both	
	Rural	Urban	Rural	Urban	Rural	Urban
SCE-OOSC	42.3	55.1	66.3	69.1	57.5	63.1
Bridge school	74.9	70.8	75.6	69.4	75.2	70.3
Shishu Niketan (single)	68.9	68.1	70.2	53.8	69.5	61.6
Shishu Niketan (multi)	71.6	68.7	67.4	69.6	69.4	69.1
Total	**69.6**	**66.4**	**72.4**	**68.1**	**70.8**	**67.0**

Table 4.15. Students' participation rate in phone and home classes by school type and area


brac

CHAPTER

5

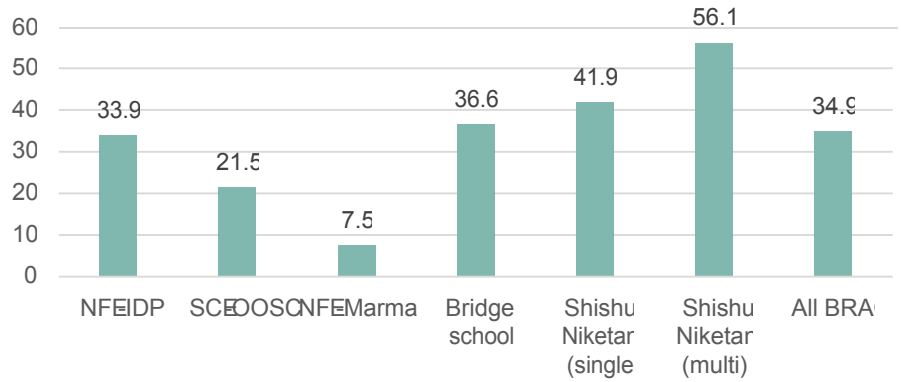
Assessment of Literacy Skills

This chapter is divided into four sections. After providing literacy levels of different types of BRAC schools, a comparison of them was made with the similar national statistic. These were followed by the relationship of participation in phone and home classes with the literacy rate. Finally, a logistic regression analysis was performed to identify the factors predicting literacy skills of students and the roles of various initiatives in achieving literacy skills.

Literacy status of students

On average, 34.9% of the students of BRAC schools were literate (Figure 5.1). The literacy rate was the highest among the students of multi-classroom Shishu Niketan (56.1%) and the lowest among those of NFE-Marma (7.5%). The rate was 41.9% in single classroom Shishu Niketan, 36.6% in Bridge school, 33.9% in NFE-IDP, and 21.5% in SCE-OOSC. Therefore, the literacy rate of the multi-classroom Shishu Niketan was 21.2 percentage points, single classroom Shishu Niketan was seven percentage points and Bridge school was 1.7 percentage points higher than the average literacy rate of BRAC schools. On the other hand, the literacy rate of NFE-IDP was one percentage point, SCE-OOSC was 13.4 percentage points and NFE-Marma was 27.4 percentage points below the average literacy rate of BRAC schools.

Figure 5.1. Literacy rate of BRAC school students by school type



Component-wise analysis shows that the students did best in reading and worst in the application (Table 5.1). Whereas 92% of the students achieved reading skills, 41% achieved application skills. The performance in numeracy and writing were very close to each other. Three-quarters of the students achieved each skill. The gender difference was not observed in any component except in writing skills, where the girls outperformed the boys (77.5% vs. 72.9%; $p<0.001$). Area-wise analysis shows that the students of rural schools performed significantly better than those of urban schools in each component. For instance, 94.5% of rural and 86.9% of urban students achieved reading skills ($p<0.001$), 81.2% of rural and 63.1% of urban students achieved writing skills ($p<0.001$), 78.6% of rural and 70% of urban students achieved numeracy skills, and 42.9% of rural and 37.2% of urban students achieved the application skills ($p<0.001$). No gender difference was also observed in the literacy rate. However, the rural students significantly outperformed the urban students in literacy skills (36.7% vs. 30.9%; $p<0.001$).

Gender/Area		Components of literacy				Literacy
		Reading	Writing	Numeracy	Application	
Gender	Boys	91.6	72.9	75.7	42.5	35.4
	Girls	92.5	77.5	75.9	39.8	34.4
Level of significance		ns	p<0.001	ns	ns	ns
Area	Rural	94.5	81.2	78.6	42.9	36.7
	Urban	86.9	63.1	70.0	37.2	30.9
Level of significance		p<0.001	p<0.001	p<0.001	p<0.001	p<0.001
All		**92.0**	**75.4**	**75.8**	**41.0**	**34.9**

Note: ns = not significant at p = 0.05

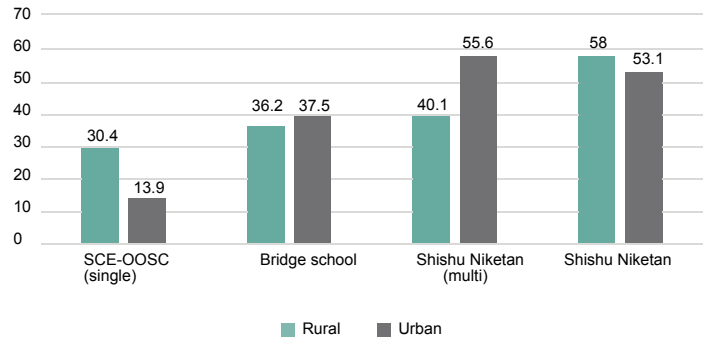
Table 5.1. Percentage of students achieving various components of literacy by gender and area

No gender difference in literacy rate was observed in any of the school types (Annex 5.1). The girls did significantly better than the boys in the following cases: reading skills among NFE-IDP students, writing skills among Bridge school, and both types of Shishu Niketan, and numeracy skills in NFE-Marma (Annexes5.2 to 5.4). Otherwise, the boys of single classroom Shishu Niketan did significantly better than the same school girls in the application (Annex 5.5). The urban-rural difference in literacy rate persisted in SCE-OOSC and single classroom Shishu Niketan but in two different directions (Figure 5.2 and Annex 5.1). In SCE-OOSC, the rural students significantly outperformed the urban students (30.4% vs. 13.9%; p<0.001) but in single classroom Shishu Niketan, the urban students surpassed their rural counterparts (55.6% vs. 44.1%; p<0.01). In the case of SCE-OOSC, a statistically significant difference in favour of the rural students was observed in each component of literacy (Annexes 5.2 to 5.5). Elaborately, 88% of rural and 72.4% of urban students had reading skills (p<0.001), 79.1% of rural and 35.3% of urban students had writing skills (p<0.001), 76.9% of rural and 51% of urban students had numeracy skills (p<0.001), and 35.9% of rural and 19.5% of urban students had the application skills (p<0.001). On the other hand, the urban students of single classroom Shishu Niketan surpassed their rural counterparts only in the application skills (62.2 vs. 44.2; p<0.001) (Annex 5.5). Besides, the rural students of multi-classroom Shishu Niketan showed better performance in writing and numeracy skills than their counterparts in urban schools (Annexes 5.3 and 5.4). Here, 95% of rural and 89.9% of urban students had writing skills (p<0.05) and 91.7% of rural and 85.9% of urban students had numeracy skills (p<0.05)

Literacy skills: National versus BRAC

The national study carried out prior to this study projected that the literacy rate of the students of Grade V would reach 34.5% in 2021 if it maintains the same rate of progress that was from 2002 to 2016 (Nath et al. 2022). However, the estimated rate for the year was 27.2%. Comparing the finding of this study with the above two it can be said that whereas the national literacy rate for the students of Grade V was 7.3 percentage points behind the projected rate, the BRAC school students were 0.4 percentage points ahead of the projected rate. In other words, the BRAC school students were 7.7 percentage points ahead of the national average for Grade V.

Figure 5.2. Literacy rate by school type and area



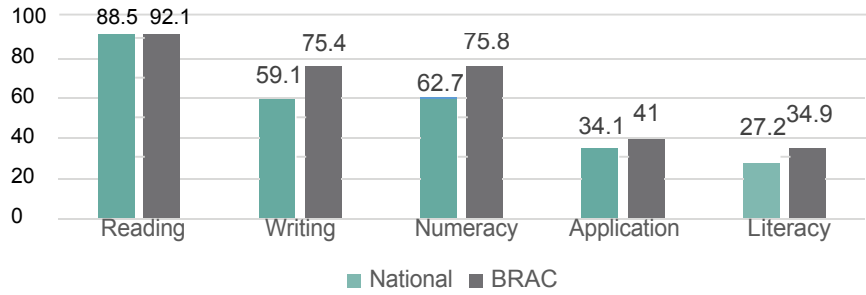
BRAC school students performed better than the national average in each component of literacy (Figure 5.3). In reading, 88.5% of the national and 92.1% of the BRAC sample had the minimum skills. This was 59.1% and 75.4%, respectively in wiring, 62.7% and 75.8%, respectively in numeracy, and 34.1% and 41%, respectively in the application. Therefore, the BRAC school students were 16.3 percentage points ahead of the national average in writing skills, which was 13.1 percentage points in numeracy skills, 6.9 percentage points in the application, and 3.6 percentage points in reading skills.

As the literacy rate substantially varied by school type their deviations from the national average also varied to a great extent (Figure 5.4). The literacy rates of four school types were higher than the national average. Of them, the multi-classroom Shishu Niketan was at the top with 28.9 percentage points ahead of the national average. It was 14.7 percentage points for single classroom Shishu Niketan, 9.4 percentage points for Bridge school, and 6.7 percentage points for NFE-IDP. The SCE-OOSC was 5.7 percentage points and NFE-Marma was 19.7 percentage points behind the national average. Note that the literacy rates of the students of Bridge school, and both Shishu Niketan were higher than the projected national literacy rate.

Phone/home classes and literacy

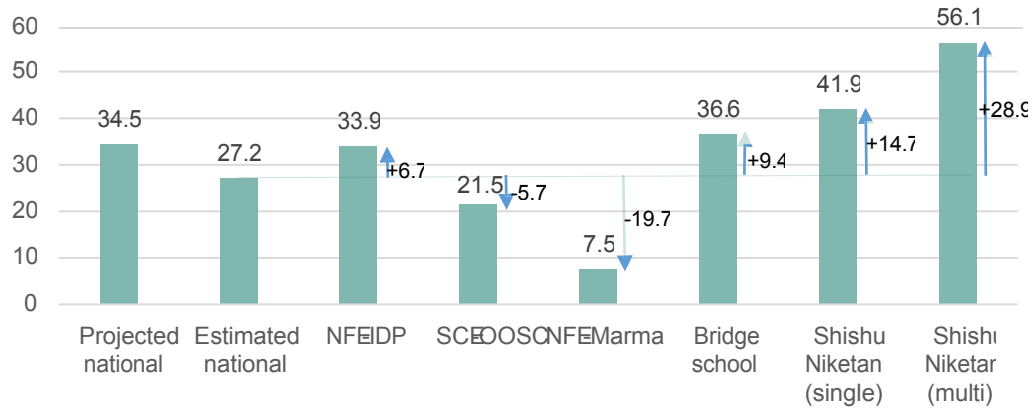
The literacy rate of the students significantly increased with the increase in the quintiles of the number of phone and home classes attend-

Figure 5.3. Percentage of students achieving various components of literacy: National vs. BRAC



by the students. The literacy rate was 20.6% for those who belonged to the first quintile regarding attendance in phone classes, which increased to 43.6% for those belonging to the fifth quintile (Annex 5.6). These rates were 29.5% and 46% for the first and the fifth quintiles regarding attendance in the home classes (Annex 5.7). Combining the both, the literacy rate was 21.9% among those who belonged to the first quintile, 30.4% among those who belonged to the second quintile, 36.6% among those who belonged to the third quintile, 38% among those who belonged to the fourth quintile, and 47.9% among those who belonged to the fifth quintile (Figure 5.5). A separate analysis by gender and area also produced similar findings (Annexes 5.6 to 5.8).

Figure 5.4. Comparison of literacy rate of different BRAC schools with the national average

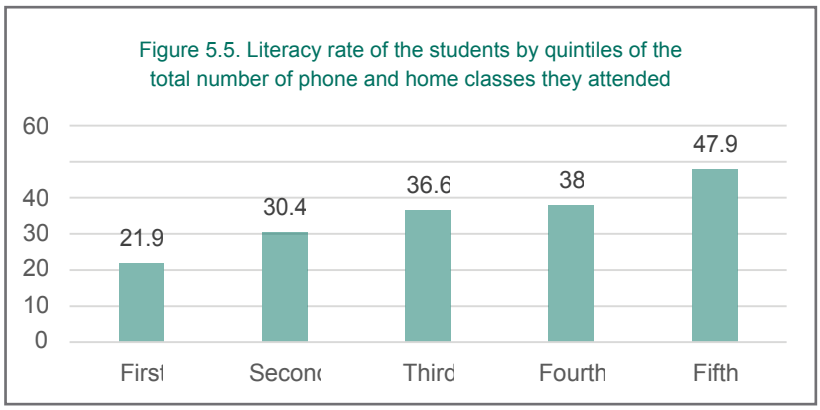


Multiple regression analysis predicting literacy

The aims of this section are two. First, to identify the factors predicting the literacy skills of BRAC school students; and second, to explore the predicting capability of the educational activities carried out during school closure controlling the effects of the student and teacher-related characteristics.

The dependent variable was the literacy skills of the students, which is dichotomously measured (literate and non-literate). Therefore, a logistic regression analysis was considered to be the most suitable method. Three sets of explanatory variables were considered: students' background, school and teacher characteristics, and educational activities during school closure. The students' background includes age, gender, area, mothers' education, fathers' education, and pre-primary participation. The school and teacher characteristics include distance from school to branch office, teachers' education, basic training and length of experience, and joining time in school. The educational activities include participation in the phone, home and television classes, household members and private tutoring, and assignment submission. The number of explanatory variables was six in the first and the third sets each and five in the second set; totalling 17. The measurement of the variables used in the analysis is provided in Annex 5.9. Low-level correlation among most of the variables and moderate-level correlation among a few others confirmed the absence of multicollinearity among the explanatory variables. Statistical Package for Social Sciences (SPSS version 21) was used to analyse data. The first set of variables was put in Block 1, the second set in Block 2, and the third set in Block 3.

Results from the analysis considering the full set of data are provided in Table 5.2. Three



models are presented. The first model contains only the first set of variables, the second model contains the first and the second sets, and the third model contains all three sets. The findings reveal that age and mothers' education significantly predicted students' literacy skills in all three models. Although the area of residence of the students appeared as a significant predictor in the first two models, it did not appear as a significant predictor in the third model. Distance between school and branch office, teachers' education and experience, and joining at the beginning contributed significantly and positively to the models. Of the third set of variables, participation in phone and home classes, and assignment submission came out as significantly positive predictors of the literacy skills of the students. Of these three, the role of participation in phone classes was the most in explaining the variability in the dependent variable, followed by home classes and assignment submission. No role of household members or private tutoring or television classes was observed. The explanatory variables collectively explained 11% of the variation in the dependent variable, indicating most of it was unexplained. In the total contribution of the variables, students' background had 3%, school and teacher characteristics 4%, and educational activities 4%.

A similar exercise for each school type, except NFE-Marma due to the small sample size, was carried out. Three regression models were produced for each but the third one is provided in Annex 5.10. A summary of the analysis containing information on the educational activities significantly predicting literacy skills is presented in Table 5.3. The findings reveal that home classes and assignments significantly predicted the literacy skills of NFE-IDP students. These were phone classes, private tutoring, assignment and television classes for SCE-OOSC students and phone and home classes for Bridge school students. Home classes, assignments and television classes predicted the literacy skills of both Shishu Niketan. Household members' tutoring did not appear in any of the models as a significant predictor.

The explanatory variables collectively explained 14% of the variation in the literacy skills of NFE-IDP students. This was 20% in SCE-OOSC, 9% in Bridge school, 19% in single classroom Shishu Niketan, and 17% in multi-classroom Shishu Niketan. Compared to the other school types, the students' background had a higher contribution in explaining the variations in literacy skills in SCE-OOSC and multi-classroom Shishu Niketan (Annex 5.11). The school and teacher factors contributed most in the single classroom Shishu Niketan. The highest contribution of educational activities was observed in SCE-OOSC, followed by multi-classroom Shishu Niketan and NFE-IDP, respectively.

Explanatory variables	Step 01		Step 02		Step 03	
	Regression coefficient	Wald statistics	Regression coefficient	Wald statistics	Regression coefficient	Wald statistics
Age	0.08	9.51**	0.09	11.51***	0.11	19.29***
Gender	0.01	0.01	-0.01	0.03	-0.01	0.03
Area	0.19	5.88*	0.18	4.87*	0.12	1.75
Fathers' education	0.02	1.81	0.01	0.42	0.01	0.33
Mothers' education	0.07	29.87***	0.07	25.34***	0.06	17.89***
Pre-primary participation	0.04	0.30	0.07	0.88	0.14	3.22
Distance: school to office			0.02	14.34***	0.02	11.11***
Teachers' education			0.17	49.61***	0.13	27.42***
Teachers' experience			0.03	23.60***	0.03	15.43***
Teachers' basic training			0.06	0.20	0.10	0.54
Teachers' joining			0.44	15.71***	0.41	12.63***
Phone class					0.02	63.71***
Home class					0.01	22.50***
HH members' tutoring					0.01	1.54
Private tutoring					0.01	1.21
Assignment					0.03	5.54*
Television class					0.02	1.26
Constant	-2.02	42.93***	-4.92	113.78***	-5.79	140.60***
-2 Log-Likelihood	4619.37		4508.85		4400.66	
Cox & Snell R2	0.02		0.05		0.08	
Nagelkerke R2	0.03		0.07		0.11	
Model Chi-square	70.39***		180.91***		289.10***	

*p<0.05, **p<0.01, ***p<0.001

Table 5.2. Logistic regression analysis predicting literacy of BRAC school students

School type	Educational activities during school closure					
	Phone class	Home class	HH members tutoring	Private tutoring	Assignment submission	Television classes
SCE-OOSC	ns	p<0.05	ns	ns	p<0.05	ns
Bridge school	p<0.05	ns	ns	p<0.05	p<0.01	p<0.001
Shishu Niketan (single)	p<0.05	p<0.01	ns	ns	ns	ns
Shishu Niketan (multi)	p<0.001	ns	ns	ns	p<0.01	p<0.05
Total	**p<0.001**	**ns**	**ns**	**ns**	**p<0.01**	**p<0.05**

Table 5.3. Summary of school type-wise regression analysis showing the level of significance of the educational activities in predicting literacy skills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CHAPTER

6

Discussion and Conclusions

This study primarily compares the educational activities and literacy skills of various BRAC primary education initiatives amid the coronavirus (COVID-19) pandemic. The second level of comparison was made between BRAC schools and the overall national scenario. Although BRAC is famous for its non-formal education programme, some modifications were made to its programme design over the period. Six different types of BRAC schools are compared in this study which vary in terms of context and the mode of operation. These commonly supplement the national primary education initiative of the government. Therefore, the national curriculum is followed across the BRAC school types. However, the use of supplementary materials is BRAC's tradition. This study is unique in the sense that no other study considered so many types of BRAC schools along with a comparison of them with the national system. This study also discloses the facts about the educational activities and learning achievements of the NGO sector education programmes in Bangladesh during the COVID-19 pandemic, taking BRAC as a case.

The findings reveal that BRAC schools were heterogeneous regarding students' and teachers' background characteristics. The students varied with regard to parental education and household economy. The teachers also varied with regard to their level of education, basic training, dropout and replacement, and length of experience. However, no common chronology was observed by school type except the multi-classroom Shishu Niketan, which was found to place the top in most indicators. For instance, regarding parental education, multi-classroom Shishu Niketan was at the top, followed by single classroom Shishu Niketan, Bridge school, SCE-OOSC, NFE-IDP and NFE-Marma, respectively. Although multi-classroom Shishu Niketan was able to hold the top position regarding a stable source of household income, it was SCE-OOSC that secured the second position keeping single classroom Shishu Niketan and Bridge school away with an equal distance. A different chronology was observed in terms of household members' being unemployed during the pandemic or the food security status of households. Whereas multi-classroom Shishu Niketan topped in teachers' education and single classroom Shishu Niketan in the length of experience of the teachers, SCE-OOSC and Bridge school secured the following two positions in both. Better socioeconomic background of the students may be linked to the fee-charging status of the schools. The aforementioned variations by school type are the potential in creating variations in students getting educational opportunities during the pandemic. Compared with the previous studies on BRAC schools, it can be said that the educational qualifications of the teachers and the parents of BRAC schools have increased tremendously. However, they were still below the mainstream primary schools.

The findings demonstrated that the BRAC schools, in general, were creating a second chance education provision for the children in Bangladesh. But these were the first and only schools for over a quarter of the students. SCE-OOSC and Bridge schools were supposed to be the second chance for all of their students, but it was not! For two-fifths of the students of SCE-OOSC and 8.8% of those of Bridge schools did not admit to anywhere before admitting to these schools. The multi-classroom Shishu Niketan although charges fees and as they operate like any mainstream formal school, the parents may shift their children from other schools to these schools if they think these are better for their children. But what about the single classroom Shishu Niketan? The majority of the students of this type were directly admitted to these schools and were now completing their primary education. It was interesting to observe that some children were admitted to BRAC schools during the pandemic and the and

dropout from BRAC schools was tiny. This may be because of close contact between the students and teachers at that time. The teachers performed several activities (phone and home classes and assignments) to carry out education when classroom doors were closed due to the pandemic.

The availability of ICT devices at home was important for the students to keep in contact with their school teachers and participate in academic activities during the pandemic. Most of the students' households had one or another ICT gadget at home, although the feature phones were most common. Not much variation was observed in having a feature phone or a smartphone at home by school type. A television set was not available at home like a cell phone (feature or smart). Nearly three-quarters of the students of multi-classroom Shishu Niketan, more than half of them in single classroom Shishu Niketan, Bridge school and SCE-OOSC had a television set. The students of NFE-IDP and NFE-Marma were less likely to have television sets at home. These clearly show that although the BRAC school students irrespective of their school type had an ICT device at home to attend phone classes, they were not equally able to watch television classes. No difference between BRAC school students and the mainstream school students was observed in terms of the availability of feature phones but the latter had more smartphones, television sets or the Internet than the former. The BRAC school students with huge differences among them were much ahead of their national counterparts in using ICT devices for educational purposes. This was because the BRAC school teachers were able to bring most of the students (nearly 90%) under their phone class initiative.

The students of Grade 5 were not supposed to have their own devices but a small proportion of them was reported to have those. Although such a tendency was more among the students of other schools than in BRAC schools. Gender ea-wise differences persisted in this. The girls and the rural students were less likely to have their own devices. Although there was no gender difference in the use of ICT devices for educational purposes more urban households had ICT devices (smartphones, television and Internet) than the rural households and the use of those for educational purposes was also higher in urban areas. But unfortunately, the students of urban schools achieved lower literacy skills than those in rural schools. Such a converse may be explained by more rural students' participation in phone and home classes and getting tutoring support from the household members and privately. Moreover, the parents of urban students were less educated than those in rural areas.

Self-studies at home along with doing assignments and participation in phone and home classes were the principal activities of BRAC school students during school closure. Although the number of classes arranged by the teachers significantly varied from one school to another and by school type, the teachers on average conducted a good number of each type of class for their students. The students' participation rates were also high (70%) with substantial variation by school type. The teachers collectively could not bring 10.6% of their students to phone classes and 5.3% to home classes. A large proportion of the students of two school types (38.4% of SCE-OOSC and 46.3% of NFE-Marma) did not participate in any phone classes when over 99% of the former and 94% of the latter households had a feature or a smartphone. The case of NFE-Marma can be explained by the remoteness of residences of the students (Chattogram Hill-Tracts) and thereby mobile phone connectivity issue but what about SCE-OOSC. The number of phone classes offered to the students of these two school types was much less than the others. Due to budgetary constraints, only a small portion of the SCE-OOSC students received phone classes. BRAC school students also took advantage of

the television classes unparalleled to their counterparts in the mainstream schools; however, they were a bit behind in doing the assignments. Three in every 10 students of BRAC schools did not do any assignments. In addition, like the mainstream school students, the household members' also tutored BRAC school students and some of them had private tutors. Although the BRAC and the mainstream school students equally received household members' support in their studies at home, the mainstream school students were greatly ahead of BRAC school students in availing of private tutoring. Less participation in private tutoring can be treated as good but what about doing the assignments. The teachers had to be more careful in this so that all students be benefitted from this initiative.

The parents seemed to be not convinced about the alternatives such as phone and home classes when they were asked to compare those with the face-to-face classes held before the pandemic. Although they gave very high scores to the face-to-face classes, followed by home classes and phone classes, respectively. The scores for the phone classes were almost half of that in face-to-face classes. Several reasons can be identified for this. First, none of the phone or home classes was familiar to the parents therefore they were unaware of the effectiveness of these initiatives. Second, the duration of classes was too small than the usual face-to-face classes, which they might not be ready to accept as classes. Third, the home classes were held in tiny places of the residences of the students which might not allow doing all kinds of activities that could be done in a classroom setting.

The BRAC school students, in general, performed better in the literacy test compared to the mainstream school students. Their achievements were not only 7.7 percentage points higher than the national average but also 0.4 percentage points higher than the projected achievement for the assessment year. This reminds us of the historic facts about BRAC school students' outperformance over the mainstream government and non-government primary schools observed in various Education Watch studies (Nath & Chowdhury, 2001, 2009; Nath Chowdhury & Ahmed, 2015). However, a declining trend in BRAC schools' performance was observed in a separate study conducted by the BRAC Research and Evaluation Division (Nath, 2018). Substantial variation in the literacy skills by school type was a reality where the students of multi-classroom Shishu Niketan showed an unparalleled performance and single classroom Shishu Niketan showed a generous achievement. The performance of the students of Bridge school and NFE-IDP were close to the average performance of BRAC schools. The performances of the students of SCE-OOSC and NFE-Marma were far behind the average. At least four types can be identified which did better than the national average.

The variation in the performance by school type can mostly be explained by the students' and teachers' background characteristics and the educational activities the students carried out during school closure. The findings presented in the previous chapters reveal a similar chronology of different types of BRAC schools regarding ICT gadgets' availability in the homes of the students and their use for educational purposes; however, it slightly differs regarding students' participation in educational activities. The chronology from the top to bottom for the first two indicators was multi-classroom Shishu Niketan, Bridge school, single classroom Shishu Niketan, SCE-OOSC, NFE-IDP, and NFE-Marma. The Bridge school and single classroom Shishu Niketan interchanged their places in the third indicator. The chronology of the performance in literacy skills of the first three school types (two types of Shishu Niketan and Bridge school) was consistent with their rank in students' participation in educational activities during school closure. The position of NFE-Marma was also consistent. However, a reverse result was observed in NFE-IDP and

SCE-OOSC. Whereas the students of SCE-OOSC participated more in educational activities than those of NFE-IDP, a reverse performance was observed in the literacy test.

A previous study using a national dataset on primary school students revealed that in predicting the students' learning achievement, the contribution of students' background was more than their school, teachers and educational support related factors (Nath, 2012). A reverse result was observed in a separate study on BRAC school students (Nath, 2018). The finding of this study is consistent with the finding of the previous study on BRAC schools. Therefore, school-related factors still contribute more than the background characteristics to the learning achievement of BRAC school students.

With the above discussion, the Research Team places the following two recommendations for BEP's consideration.

1. The findings related to the educational activities amid school closure and other related issues including literacy test results need to be discussed at the management level and disseminated to the field level managers, programme organisers and the teachers. More explanation along with pros and cons and the challenges of the initiatives should be explored aiming to redesign the three specific initiatives – phone and home classes and assignments.

2. An experimental design with at least one school type may be considered with an aim to make phone and home classes and the assignments entangled parts of BRAC education provision along with face-to-face classroom activities. A randomised control trial with various degrees of each of these initiatives may help find out the threshold of the composition of activities and investment for maximising learning achievement.

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Annexes

School type	Number of students		Proportions		Weights (Pi/pi)
	Population	Sample	Population (Pi)	Sample (pi)	
NFE-IDP	696	613	0.008	0.160	0.052
SCE-OOSC	18,969	800	0.215	0.209	1.009
NFE-Marma	75	75	0.001	0.020	0.056
Bridge school	47,630	775	0.543	0.203	2.579
Shishu Niketan (single)	19,172	800	0.217	0.209	1.028
Shishu Niketan (multi)	1,805	759	0.020	0.199	0.102
Total	88,347	3,822	1.000	1.000	-

Annex 2.1. Calculation of weights for student sample

School type	Number of teachers		Proportions		Weights (Pi/pi)
	Population	Sample	Population (Pi)	Sample (pi)	
NFE-IDP	25	25	0.007	0.061	0.115
SCE-OOSC	666	40	0.185	0.098	1.888
NFE-Marma	5	5	0.001	0.012	0.083
Bridge school	1,700	40	0.472	0.098	4.816
Shishu Niketan (single)	741	40	0.206	0.098	2.102
Shishu Niketan (multi)	468	260	0.1030	0.634	0.205
Total	3,605	410	1.000	1.000	-

Annex 2.2. Calculation of weights for teacher sample

School type	Area		All
	Rural	Urban	
NFE-IDP	59.9	-	59.9
SCE-OOSC	58.6	59.1	58.9
NFE-Marma	52.0	-	52.0
Bridge school	53.1	54.4	53.5
Shishu Niketan (single)	47.9	46.9	47.8
Shishu Niketan (multi)	45.8	48.0	46.6
Total	52.3	55.3	53.1

Annex 3.1. Percentage of girls by school type and area

Age (years)	School type						Area		All
	NFE-IDP	SCE- OOSC	NFE-Marma	Bridge school	Shishu Niketan (single)	Shishu Niketan (multi)	Rural	Urban	
9	9.1	6.0	5.3	5.2	6.3	4.7	6.4	3.9	5.6
10	23.2	12.1	21.3	21.7	27.8	27.4	22.7	17.8	21.1
11	26.3	24.1	28.0	27.5	32.3	36.4	27.7	28.5	28.0
12	18.3	23.8	26.7	18.7	18.5	19.9	19.1	21.2	19.8
13	13.7	16.3	10.7	14.8	8.5	7.2	13.0	14.8	13.6
14	5.5	11.5	5.3	8.0	5.3	2.8	7.5	9.1	8.0
15	3.9	6.3	2.7	4.1	1.5	1.6	3.6	4.7	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean	11.4	12.0	11.5	11.6	11.2	11.1	11.5	11.7	11.6
SD	1.6	1.7	1.5	1.6	1.4	1.2	1.5	1.6	1.6
Median	11.0	12.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0

Annex 3.2. Percentage distribution of students by age, school type and area

School type	Mothers' level of education				Total
	Nil	Grades I–IV	Grades V–IX	Classes X+	
NFE-IDP	39.1	34.9	24.9	1.1	100.0
SCE-OOSC	35.8	25.3	35.5	3.4	100.0
NFE-Marma	83.8	6.8	9.5	0.0	100.0
Bridge school	25.2	26.8	45.3	2.7	100.0
Shishu Niketan (single)	17.7	14.3	58.2	9.8	100.0
Shishu Niketan (multi)	7.0	13.4	59.0	20.6	100.0
Total	**25.6**	**23.5**	**46.2**	**4.7**	**100.0**

Annex 3.3. Percentage distribution of students by mothers' level of education and school type

School type	Fathers' level of education				Total
	Nil	Grades I–IV	Grades V–IX	Grades X+	
NFE-IDP	53.7	22.1	21.5	2.6	100.0
SCE-OOSC	43.0	26.0	24.0	6.9	100.0
NFE-Marma	73.0	6.8	20.3	0.0	100.0
Bridge school	38.1	23.5	32.3	6.1	100.0
Shishu Niketan (single)	28.4	15.7	44.7	11.3	100.0
Shishu Niketan (multi)	17.2	12.7	42.2	27.8	100.0
Total	**36.7**	**22.1**	**33.4**	**7.8**	**100.0**

Annex 3.4. Percentage distribution of students by fathers' level of education and school type

School type	Area	Mothers' level of education				Total
		Nil	Grades I–IV	Grades V–IX	Grades X+	
SCE-OOSC	Rural	29.2	19.4	45.8	5.6	100.0
	Urban	41.2	30.1	27.1	1.6	100.0
Bridge school	Rural	22.9	25.2	49.4	2.5	100.0
	Urban	29.7	30.1	37.1	3.1	100.0
Shishu Niketan (single)	Rural	17.7	14.4	57.5	10.3	100.0
	Urban	17.3	13.3	63.3	6.1	100.0
Shishu Niketan (multi)	Rural	6.1	8.8	61.9	23.2	100.0
	Urban	8.4	20.4	54.5	16.7	100.0
Total (All schools)	**Rural**	**22.3**	**21.0**	**51.1**	**5.6**	**100.0**
	Urban	**32.3**	**28.5**	**36.1**	**3.1**	**100.0**

Annex 3.5. Percentage distribution of students by school type, area and mothers' level of education

School type	Area	Fathers' level of education				Total
		Nil	Grades I–IV	Grades V–IX	Grades X+	
SCE-OOSC	Rural	39.6	22.0	29.5	8.9	100.0
	Urban	45.9	29.4	19.5	5.3	100.0
Bridge school	Rural	35.3	23.1	35.0	6.6	100.0
	Urban	43.6	24.3	27.0	5.0	100.0
Shishu Niketan (single)	Rural	28.4	15.3	44.6	11.7	100.0
	Urban	27.8	18.6	45.4	8.2	100.0
Shishu Niketan (multi)	Rural	15.7	11.5	42.1	30.6	100.0
	Urban	19.5	14.5	42.4	23.6	100.0
Total (All schools)	**Rural**	**33.9**	**20.5**	**36.9**	**8.8**	**100.0**
	Urban	**42.6**	**25.4**	**26.2**	**5.8**	**100.0**

Annex 3.6. Percentage distribution of students by school type, area and fathers' level of education

Principal source of household income	School type								Area	
	SCE-OOSC		Bridge school		Shishu Niketan (single)		Shishu Niketan (multi)			
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Agriculture	21.9	0.5	24.4	1.2	24.1	7.1	14.6	6.7	24.0	1.5
Day labour	24.2	29.3	23.3	14.3	15.5	17.3	10.7	12.7	21.0	19.9
Salaried job	11.7	28.2	7.2	37.1	8.5	21.4	13.3	19.0	8.3	32.2
Small business	17.2	14.8	14.0	12.7	20.2	19.4	31.2	26.0	16.6	14.3
Driver	2.5	7.0	5.4	9.7	7.0	6.1	6.5	6.3	5.4	8.4
Rickshaw/van puller	9.4	13.0	5.6	12.0	6.6	12.2	4.4	12.3	6.4	12.4
Self-employed	8.3	5.7	9.9	8.9	8.5	11.2	8.5	10.7	9.2	8.0
Remittance	1.7	0.7	7.4	1.9	7.7	0.0	9.2	1.0	6.6	1.3
Others	3.1	0.9	2.9	2.3	1.9	5.3	1.7	5.3	2.6	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Annex 3.7. Percentage distribution of students by principal source of household income, school type and area

School type	Area		Level of significance
	Rural	Urban	
SCE-OOSC	47.5	69.8	p<0.001
NFE-Marma	39.0	57.9	p<0.001
Bridge school	46.3	59.2	p<0.05
Shishu Niketan (single)	41.0	49.0	p<0.05
Shishu Niketan (multi)	p<0.001	p<0.001	
Total	42.2	62.0	p<0.001

Annex 3.8. Percentage of households with at one member being unemployed during the pandemic by school type and area

School type	Changes in household income			Total
	Decreased	Increased	Same as before	
NFE-IDP	79.8	2.0	18.3	100.0
SCE-OOSC	88.0	1.8	10.2	100.0
NFE-Marma	60.0	0.0	40.0	100.0
Bridge school	84.5	0.8	14.7	100.0
Shishu Niketan (single)	79.5	1.2	19.2	100.0
Shishu Niketan (multi)	76.5	3.0	20.4	100.0
Total	83.8	1.1	14.9	100.0

Annex 3.9. Percentage distribution of households by changes in household income during the pandemic and school type

School type	Changes in household expenditure			Total
	Decreased	Increased	Same as before	
NFE-IDP	42.6	17.0	40.5	100.0
SCE-OOSC	37.9	23.5	38.6	100.0
NFE-Marma	30.7	20.0	49.3	100.0
Bridge school	45.8	24.1	30.1	100.0
Shishu Niketan (single)	39.0	21.2	39.8	100.0
Shishu Niketan (multi)	38.7	22.8	38.5	100.0
Total	**42.4**	**23.3**	**34.3**	**100.0**

Annex 3.10. Percentage distribution of households by changes in household expenditure during the pandemic and school type

School type	HH food security status before the pandemic				Total
	Always in deficit	Sometimes in deficit	Breakeven	Surplus	
NFE-IDP	1.1	11.9	49.6	37.4	100.0
SCE-OOSC	2.5	10.5	58.8	28.2	100.0
NFE-Marma	0.0	0.0	44.0	56.0	100.0
Bridge school	0.5	9.5	51.2	38.7	100.0
Shishu Niketan (single)	0.9	10.8	43.5	44.9	100.0
Shishu Niketan (multi)	0.4	6.9	39.3	53.5	100.0
Total	**1.0**	**10.0**	**50.9**	**38.1**	**100.0**

Annex 3.11. Percentage distribution of households by school type and food security status before the pandemic

School type	HH food security status during the pandemic				Total
	Always in deficit	Sometimes in deficit	Breakeven	Surplus	
NFE-IDP	3.4	57.4	33.1	6.0	100.0
SCE-OOSC	14.2	61.1	21.8	2.9	100.0
NFE-Marma	6.7	56.0	34.7	2.7	100.0
Bridge school	11.4	55.7	29.2	3.7	100.0
Shishu Niketan (single)	6.9	52.2	33.0	7.9	100.0
Shishu Niketan (multi)	9.2	47.0	31.8	12.0	100.0
Total	**10.9**	**55.9**	**28.5**	**4.7**	**100.0**

Annex 3.12. Percentage distribution of households by school type and food security status during the pandemic

School type	Changes in food security status				Total
	Increased	Same as before	One step decreased	Two steps decreased	
NFE-IDP	0.8	25.3	65.6	8.3	100.0
SCE-OOSC	0.8	20.5	58.0	20.8	100.0
NFE-Marma	0.0	14.7	48.0	37.3	100.0
Bridge school	1.2	21.2	53.5	24.1	100.0
Shishu Niketan (single)	2.9	26.1	49.6	21.4	100.0
Shishu Niketan (multi)	1.2	25.4	47.8	25.6	100.0
Total	**1.4**	**22.2**	**53.7**	**22.7**	**100.0**

Annex 3.13. Percentage distribution of households by school type and changes in food security status during the pandemic

School type	Area	Changes in food security status				Total
		Increased	Same as before	One step decreased	Two steps decreased	
SCE-OOSC	Rural	0.8	26.7	53.9	18.6	100.0
	Urban	0.7	15.5	61.4	22.5	100.0
Bridge school	Rural	0.6	23.1	55.4	20.9	100.0
	Urban	2.3	17.4	49.8	30.5	100.0
Shishu Niketan (single)	Rural	3.3	25.6	50.1	20.9	100.0
	Urban	0.0	29.6	45.9	24.5	100.0
Shishu Niketan (multi)	Rural	2.0	28.1	50.5	19.4	100.0
	Urban	0.0	21.3	43.7	35.0	100.0
Total (All schools)	**Rural**	**1.4**	**24.4**	**53.7**	**20.4**	**100.0**
	Urban	**1.5**	**17.8**	**53.5**	**27.3**	**100.0**

Annex 3.14. Percentage distribution of households by school type, area and changes in food security status during the pandemic

School type	Area	Educational qualification				Total
		Secondary	Higher secondary	Bachelor	Masters	
SCE-OOSC	Rural	27.8	50.0	16.7	5.6	100.0
	Urban	36.4	40.9	22.7	0.0	100.0
Bridge school	Rural	41.7	45.8	12.5	0.0	100.0
	Urban	31.2	50.0	18.8	0.0	100.0
Shishu Niketan (single)	Rural	37.1	51.4	8.6	2.9	100.0
	Urban	20.0	60.0	20.0	0.0	100.0
Shishu Niketan (multi)	Rural	4.7	27.5	32.9	34.9	100.0
	Urban	6.3	21.6	33.3	38.7	100.0
Total (All schools)	**Rural**	**34.1**	**45.7**	**14.3**	**5.8**	**100.0**
	Urban	**28.1**	**43.8**	**22.2**	**5.9**	**100.0**

Annex 3.15. Percentage distribution of teachers by school type, area and educational qualification

School type	Stream of education at secondary level			Total
	Humanities	Science	Business	
NFE-IDP	84.0	4.0	12.0	100.0
SCE-OOSC	60.0	25.0	15.0	100.0
NFE-Marma	60.0	0.0	40.0	100.0
Bridge school	55.0	32.5	12.5	100.0
Shishu Niketan (single)	67.5	20.0	12.5	100.0
Shishu Niketan (multi)	65.0	22.3	12.7	100.0
Total	**59.9**	**27.1**	**13.0**	**100.0**

Annex 3.16. Percentage distribution of teachers by stream of education at secondary level and school type

School type	Area	Joining type at school			Total
		Joined at the beginning	Joined before pandemic	Joined during pandemic	
SCE-OOSC	Rural	77.8	11.1	11.1	100.0
	Urban	54.5	36.4	9.1	100.0
Bridge school	Rural	75.0	20.8	4.2	100.0
	Urban	75.0	18.8	6.2	100.0
Shishu Niketan (single)	Rural	74.3	22.9	2.9	100.0
	Urban	80.0	20.0	0.0	100.0
Shishu Niketan (multi)	Rural	48.3	46.3	5.4	100.0
	Urban	41.4	38.7	19.8	100.0
Total (All schools)	**Rural**	**71.6**	**23.3**	**5.1**	**100.0**
	Urban	**64.9**	**26.5**	**8.6**	**100.0**

Annex 3.17. Percentage distribution of teachers by school type, area and joining time in BRAC school

Frequency of HH members' tutoring	Gender		Area		All
	Boys	Girls	Rural	Urban	
Never	70.6	70.0	68.5	73.9	70.3
Rarely	6.8	8.6	8.4	6.4	7.7
Sometimes	6.8	8.4	7.6	7.7	7.6
Often	4.8	4.1	4.5	4.1	4.4
Usually	6.2	5.0	5.7	5.2	5.6
Always	4.9	3.9	5.2	2.6	4.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Annex 4.1. Percentage distribution of students by frequency of household members tutoring, gender and area

Frequency of HH members' tutoring	Gender		Area		All
	Boys	Girls	Rural	Urban	
Never	70.6	70.0	68.5	73.9	70.3
Rarely	6.8	8.6	8.4	6.4	7.7
Sometimes	6.8	8.4	7.6	7.7	7.6
Often	4.8	4.1	4.5	4.1	4.4
Usually	6.2	5.0	5.7	5.2	5.6
Always	4.9	3.9	5.2	2.6	4.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Annex 4.2. Percentage distribution of students by frequency of private tutoring, gender and area

Frequency of HH members' tutoring	School type					
	NFE-IDP	SCE-OOSC	NFE-Marma	Bridge school	Shishu Niketan (single)	Shishu Niketan (multi)
Never	47.7	56.2	66.7	27.7	30.7	29.1
Rarely	0.5	0.4	0.0	1.3	0.9	1.7
Sometimes	1.8	3.7	2.8	7.4	6.9	8.1
Often	23.3	21.7	13.9	31.5	31.6	24.8
Usually	6.5	9.1	11.1	15.9	13.0	20.5
Always	20.3	8.9	5.6	16.3	16.9	15.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Annex 4.3. Percentage distribution of students by frequency of household members tutoring and school type

Frequency of HH members' tutoring	School type					
	NFE-IDP	SCE-OOSC	NFE-Marma	Bridge school	Shishu Niketan (single)	Shishu Niketan (multi)
Never	48.8	66.5	83.3	74.4	65.4	63.3
Rarely	9.1	9.3	12.5	7.4	6.7	9.0
Sometimes	12.8	8.4	0.0	7.0	8.0	10.1
Often	8.5	5.7	0.0	2.5	7.6	5.3
Usually	13.3	6.1	4.2	4.8	6.6	5.4
Always	7.5	3.8	0.0	3.9	5.6	6.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Annex 4.4. Percentage distribution of students by frequency of private tutoring and school type

Frequency of watching TV classes	Gender		Area		All
	Boys	Girls	Rural	Urban	
Never	62.4	58.5	67.1	46.2	60.3
Rarely	10.7	10.3	8.6	14.4	10.5
Sometimes	15.5	17.4	12.9	24.0	16.5
Often	8.5	9.6	9.3	8.7	9.1
Usually	1.8	2.6	1.2	4.4	2.2
Always	1.1	1.6	0.9	2.3	1.4
Total	100.0	100.0	100.0	100.0	100.0

Annex 4.5. Percentage distribution of students by frequency of watching television classes, gender and area

Frequency of watching TV classes	School type					
	NFE-IDP	SCE-OOSC	NFE-Marma	Bridge school	Shishu Niketan (single)	Shishu Niketan (multi)
Never	91.4	55.9	100.0	60.5	64.3	45.3
Rarely	5.8	8.7	0.0	12.4	7.8	11.2
Sometimes	2.3	22.1	0.0	15.2	14.2	22.4
Often	0.5	8.9	0.0	8.2	11.2	16.9
Usually	0.0	2.8	0.0	2.2	1.7	3.5
Always	0.0	1.5	0.0	1.6	0.9	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Annex 4.6. Percentage distribution of students by frequency of watching television classes and school type

Frequency of submitting assignments	Gender		Area		All
	Boys	Girls	Rural	Urban	
Never	32.9	28.1	39.8	10.8	30.3
Rarely	24.7	24.6	22.6	28.9	24.7
Sometimes	19.5	24.7	19.5	27.9	22.2
Often	10.8	11.6	5.7	22.7	11.3
Usually	10.1	8.1	8.9	9.4	9.0
Always	2.0	2.9	3.5	0.3	2.5
Total	100.0	100.0	100.0	100.0	100.0

Annex 4.7. Percentage distribution of students by frequency of submitting assignments, gender and area

Frequency of submitting assignments	School type					
	NFE-IDP	SCE-OOSC	NFE-Marma	Bridge school	Shishu Niketan (single)	Shishu Niketan (multi)
Never	65.8	10.9	25.0	44.1	16.3	9.3
Rarely	21.4	11.9	75.0	26.5	30.4	46.3
Sometimes	2.5	29.9	0.0	17.0	28.2	25.9
Often	6.3	21.3	0.0	7.7	10.8	7.2
Usually	4.0	15.1	0.0	4.6	14.1	11.0
Always	0.0	11.0	0.0	0.1	0.3	0.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Annex 4.8. Percentage distribution of students by frequency of submitting assignments tutoring and school type

School type	Phone class		Home class		Both	
	Boys	Girls	Boys	Girls	Boys	Girls
NFE-IDP	69.7	72.0	75.5	77.2	73.0	74.9
SCE-OOSC	47.6	49.9	66.3	68.5	58.9	61.2
NFE-Marma	91.7	58.5	84.9	81.6	85.6	79.3
Bridge school	72.2	74.8	73.8	74.4	72.8	74.4
Shishu Niketan (single)	70.8	66.5	69.1	68.3	70.0	67.3
Shishu Niketan (multi)	69.9	71.4	68.4	68.1	69.0	69.6
Total	**69.3**	**68.0**	**69.7**	**70.8**	**69.8**	**69.7**

Annex 4.9. Students' participation rate in phone and hone classes by school type and gender

School type	Gender		Level of Significance	Area		Level of Significance	All
	Boys	Girls		Rural	Urban		
NFE-IDP	35.6	32.7	ns	-	-	-	33.9
SCE-OOSC	22.6	20.8	ns	30.4	13.9	p<0.001	21.5
NFE-Marma	6.1	8.8	ns	-	-	-	7.5
Bridge school	35.4	37.7	ns	36.2	37.5	ns	36.6
Shishu Niketan (single)	43.7	39.9	ns	40.1	55.6	p<0.01	41.9
Shishu Niketan (multi)	55.1	57.2	ns	58.0	53.1	ns	56.1
Level of significance	p<0.001	p<0.001		p<0.001	p<0.001		p<0.001
Total	**35.4**	**34.4**	**ns**	**36.7**	**30.9**	**p<0.001**	**34.9**

Annex 5.1. Literacy rate by school type, gender and area

School type	Gender		Level of Significance	Area		Level of Significance	All
	Boys	Girls		Rural	Urban		
NFE-IDP	90.0	95.0	p<0.05	-	-	-	93.0
SCE-OOSC	78.0	80.7	ns	88.0	72.4	p<0.001	79.6
NFE-Marma	78.8	94.1	ns	-	-	-	86.6
Bridge school	93.0	95.6	ns	94.4	94.4	ns	94.4
Shishu Niketan (single)	98.5	97.6	ns	97.9	98.9	ns	98.0
Shishu Niketan (multi)	97.6	98.8	ns	98.9	97.1	ns	98.2
Level of significance	p<0.001	p<0.001		p<0.001	p<0.001		p<0.001
Total	91.6	92.5	ns	94.5	86.9	p<0.001	92.1

Annex 5.2. Percentage of students having reading skills by school type, gender and area

School type	Gender		Significance Level	Area		Significance Level	All
	Boys	Girls		Rural	Urban		
NFE-IDP	73.1	78.1	ns	-	-	-	76.1
SCE-OOSC	53.2	57.3	ns	79.1	35.3	p<0.001	55.6
NFE-Marma	27.3	44.1	ns	-	-	-	35.8
Bridge school	75.0	81.3	p<0.05	79.4	76.2	ns	78.3
Shishu Niketan (single)	82.1	90.3	p<0.01	85.4	91.1	ns	86.1
Shishu Niketan (multi)	89.8	96.7	p<0.001	95.0	89.9	p<0.05	93.0
Level of significance	p<0.001	p<0.001		p<0.001	p<0.001		p<0.001
Total	72.9	77.5	p<0.001	81.2	63.1	p<0.001	75.4

Annex 5.3. Percentage of students having writing skills by school type, gender and area

School type	Gender		Significance Level	Area		Significance Level	All
	Boys	Girls		Rural	Urban		
NFE-IDP	77.2	76.0	ns	-	-	-	76.5
SCE-OOSC	66.6	60.5	ns	76.9	51.0	p<0.001	63.0
NFE-Marma	60.6	85.3	p<0.05	-	-	-	73.1
Bridge school	75.0	80.3	ns	77.2	79.0	ns	77.8
Shishu Niketan (single)	83.1	81.2	ns	81.3	89.9	ns	82.2
Shishu Niketan (multi)	89.8	89.2	ns	91.7	85.9	p<0.05	89.5
Level of significance	p<0.001	p<0.001		p<0.001	p<0.001		p<0.001
Total	75.6	75.9	ns	78.6	70.0	p<0.001	75.8

Annex 5.4. Percentage of students having numeracy skills by school type, gender and area

School type	Gender		Significance Level	Area		Significance Level	All
	Boys	Girls		Rural	Urban		
NFE-IDP	42.9	37.4	ns	-	-	-	39.6
SCE-OOSC	30.6	24.7	ns	35.9	19.5	p<0.001	27.1
NFE-Marma	18.2	17.6	ns	-	-	-	17.9
Bridge school	42.7	44.8	ns	43.6	44.4	ns	43.8
Shishu Niketan (single)	49.7	42.6	p<0.05	44.2	62.2	p<0.001	46.3
Shishu Niketan (multi)	59.1	59.0	ns	60.8	56.3	ns	59.0
Level of significance	p<0.001	p<0.001		p<0.001	p<0.001		p<0.001
Total	42.5	39.7	ns	42.9	37.2	p<0.001	41.0

Annex 5.5. Percentage of students having the application skills by school type, gender and area

Quintiles of number of phone classes attended	Gender		Area		All
	Boys	Girls	Rural	Urban	
First	21.7	19.8	27.2	11.4	20.6
Second	35.8	36.0	38.2	32.0	35.9
Third	34.3	32.6	30.8	39.0	33.4
Fourth	40.6	41.1	42.4	27.1	40.9
Fifth	43.9	43.2	42.9	44.5	43.6
Level of significance	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001

Annex 5.6. Literacy rate of students by quintiles of number of phone classes attended, gender and area

Quintiles of number of phone classes attended	Gender		Area		All
	Boys	Girls	Rural	Urban	
First	29.4	29.7	29.8	29.2	29.5
Second	31.6	27.3	29.8	28.3	29.3
Third	31.0	31.9	35.2	23.9	31.5
Fourth	42.2	34.9	41.2	32.6	38.3
Fifth	43.0	48.6	45.0	50.8	46.0
Level of significance	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001

Annex 5.7. Literacy rate of students by quintiles of number of home classes attended, gender and area

Quintiles of number of phone and home classes attended	Gender		Area		All
	Boys	Girls	Rural	Urban	
First	24.2	19.8	23.1	20.7	21.9
Second	32.3	28.9	32.4	26.0	30.4
Third	36.8	36.4	37.5	33.9	36.6
Fourth	35.3	40.6	39.0	36.2	38.0
Fifth	49.1	46.8	47.3	50.0	47.9
Level of significance	p<0.001	p<0.001	p<0.001	p<0.001	p<0.001

Annex 5.8. Literacy rate of students by quintiles of number of phone and home classes attended, gender and area

Variables	Measurement
Dependent variable Literacy rate	1 = literate, 0 = non-literate
Independent variables Age	9–15, age of students in years
Gender	0 = boys, 1 = girls; gender of students
Area	0 = urban, 1 = rural; area of residence of students
Fathers' education	0–16; years of schooling completed by fathers
Mothers' education	0–16; years of schooling completed by mothers
Pre-primary participation	0 = not participated, 1 = participated; students early year's participation in pre- primary education
Distance: school to office	1–50, distance from school to BEP branch office
Teachers' education	10–16, years of schooling completed by teachers
Teachers' experience	0–28, length of experience of teachers in ye
Teachers' basic training	0 = not-trained, 1 = trained
Teachers' joining	0 = joined later, 1 = joined at the beginning of this cohort of students
Phone class	0–65; number of phone classes attended by the students
Home class	0 – 77; number of home classes attended by the students
HH members' tutoring	0–12; score of students' having HH members tutoring
Private tutoring	0–12; score of students' having private tutoring
Assignment	0–12; score of students' submission of assignments
Television class	0–12; score of students' attendance in television classes

Annex 5.9. Measurement of variables used in regression analysis

Explanatory variables	NFE-IDP		SCE-OOSC		Bridge school	
	Regression coefficient	Wald statistic	Regression coefficient	Wald statistic	Regression coefficient	Wald statistic
Age	0.19	7.13**	0.22	10.83***	0.13	5.48*
Gender	0.15	0.61	0.14	0.52	-0.12	0.53
Area	-	-	0.99	15.86***	-0.25	1.16
Fathers' education	0.06	2.86	-0.03	0.73	0.01	0.01
Mothers' education	0.02	0.30	0.07	3.68*	0.05	2.08
Pre-primary participation	0.13	0.27	0.26	1.67	-0.02	0.01
Distance: school to office	0.08	0.80	-0.01	0.14	0.01	0.92
Teachers' education	-0.43	12.62***	0.09	2.12	0.05	0.54
Teachers' experience	-0.01	0.03	0.02	0.79	0.05	7.31**
Teachers' basic training	0.01	0.01	0.51	1.62	0.35	1.00
Teachers' joining	-0.07	0.05	0.16	0.26	0.12	0.15
Phone class	0.02	2.90	0.02	5.82*	0.01	3.72*
Home class	0.02	4.10*	0.01	0.63	0.02	9.51**
HH members' tutoring	0.01	0.13	-0.02	0.46	0.03	1.59
Private tutoring	-0.04	2.29	0.06	4.50*	-0.02	0.33
Assignment	0.12	5.70*	0.12	8.75**	0.02	0.27
Television class	0.12	1.20	0.09	5.92**	-0.02	0.36
Constant	0.57	0.11	-7.92	35.98***	-4.49	15.16***
-2 Log-Likelihood	648.63		695.83		946.27	
Cox & Snell R2	0.10		0.13		0.07	
Nagelkerke R2	0.14		0.20		0.09	
Model Chi-square	57.65***		109.49***		53.88***	

*p<0.05, **p<0.01, ***p<0.001

Annex 5.10. Logistic regression analysis predicting literacy by BRAC school types

Explanatory variables	Shishu Niketan (single)		Shishu Niketan (multi)	
	Regression coefficient	Wald statistic	Regression coefficient	Wald statistic
Age	0.05	0.65	-0.13	3.18
Gender	0.10	0.35	0.05	0.08
Area	-1.11	14.79***	-0.13	0.43
Fathers' education	0.02	0.44	0.06	4.52*
Mothers' education	0.05	2.79	0.04	1.35
Pre-primary participation	0.08	0.21	0.08	0.13
Distance: school to office	0.04	18.65***	-0.01	0.09
Teachers' education	0.40	35.50***	-0.05	0.11
Teachers' experience	0.03	3.12	-0.03	1.36
Teachers' basic training	-0.73	3.64	0.71	6.23**
Teachers' joining	0.69	6.64**	-0.23	1.31
Phone class	0.02	12.41***	0.03	19.15***
Home class	0.00	0.01	0.01	0.58
HH members' tutoring	-0.02	0.83	0.00	0.01
Private tutoring	0.03	1.74	-0.02	0.53
Assignment	-0.09	6.87**	0.11	7.93**
Television class	0.06	4.41*	0.07	5.49*
Constant	-6.03	25.80***	-0.15	0.01
-2 Log-Likelihood	916.36		868.90	
Cox & Snell R2	0.14		0.12	
Nagelkerke R2	0.19		0.17	
Model Chi-square	117.55***		92.80***	

*p<0.05, **p<0.01, ***p<0.001

Cont. Annex 5.10. Logistic regression analysis predicting literacy by BRAC school types

School type	R Squared values			Changes in R Squared values	
	Model 1	Model 2	Model 3	Model 1 to 2	Model 2 to 3
NFE-IDP	0.03	0.07	0.14	0.04	0.07
SCE-OOSC	0.09	0.11	0.20	0.02	0.09
Bridge school	0.02	0.07	0.09	0.05	0.04
Shishu Niketan (single)	0.03	0.15	0.19	0.12	0.04
Shishu Niketan (multi)	0.08	0.09	0.17	0.01	0.08

Notes: Set 1: Students' background; Set 2: School and teacher characteristics; Set 3: Educational activities during school closure. Model 1 contains the variables of Set 1 only, Model 2 contains the variables of Set 1 & 2, and Model 3 contains all three sets.

Annex 5.11. Changes in R Squared values from one regression model to the next for different types of school

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