Take-Up, Use, and Effectiveness of Remote Technologies

Endline Report

REVISED

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Summary

Global school closures due to the COVID-19 pandemic have disrupted the education of roughly 1.6 billion students (Miks and McIlwaine, 2020). While most students returned to hybrid or in-person schooling during 2020 or early 2021, approximately 20 counties have kept schools closed entirely through mid-2021 (UNESCO, 2020). Consistent with initial projections (Azevedo et al., 2020), recent evidence indicates that learning losses have been both pronounced and unequal (Engzell et al., 2021; Lichand et al., 2021), which reflects substantial differences in household responses to schooling closures (Bacher-Hicks et al., 2021) and government resources. Without mitigation, these losses could have substantial impacts on students' eventual lifetime earnings (Azevedo et al., 2020; Psacharopoulos et al., 2020).

In this context, what barriers prevent families from investing in remote education, and what are the impacts of their investment decisions on student learning? In early 2021, we conducted a randomized controlled trial with 7,313 households with secondary-aged children across Bangladesh to measure the impact of interventions designed to alleviate price and information constraints to remote learning. We test the impact of information provision about available TV and online learning resources, specifically about government-broadcast educational lessons on Sangsad TV, an accompanying YouTube channel that posts these lessons, and an interactive online learning platform that pairs videos with quizzes. Additionally, we test the impact of providing a one-month phone internet data subsidy and/or one month of teacher support, in which we paired students with a teacher who reached out weekly by phone to check in, answer questions, and provide general support. Using phone surveys, we measure the impact of these interventions on student and parental engagement while interventions are ongoing, in March 2021, and one month after their conclusion, in May–June 2021. In the final survey wave, we also measure impacts on student learning and engagement.

We find that nearly all secondary students have continued with regular educational activities throughout the pandemic, even more than one year after the school closures began. The most common activities are those that do not require additional technological inputs: nearly all students are reading school books (92 percent); approximately half are meeting in-person with teachers in some capacity, whether through tutoring or school activities; and between 31 and 42 percent are working with exercise books. Few are watching government-provided educational TV lessons, online videos, or using other online tools. Additionally, more than 60 percent of children received private tutoring since the closures began (in December, March, and July 2021). While students from higher socioeconomic backgrounds are more likely to receive tutoring, the majority of students from below-median SES families still receive tutoring.

We find that regular information provision affects parental educational investment, particularly through expenditures on private tutoring. However, the content of this information is also important, with information that highlights an adaptive learning platform driving the increase in private tutoring.

In particular, we find evidence that financial and technological constraints are larger barriers. Even though our sample consists of households that own a smartphone, only around half have access to an active data package, and fewer than two-thirds have access to cable/satellite TV needed to access the government-run educational programming. The significant impacts of the data subsidy on parents' educational investment, specifically the likelihood of receiving tutoring, support the claim regarding barriers to access. Furthermore, the total cost of the data subsidy to each recipient is fairly low relative to the effects on the educational investments that we observe. This suggests that reducing financial barriers can be an effective strategy for encouraging educational investments.

Additionally, we find relatively high take-up of the teacher outreach initiative. Teacher support through weekly phone calls does not affect parental supplemental investment decisions, aside from a suggestive

reduction in the likelihood of receiving private tutoring. However, it does affect which resources students use, particularly in the portfolio of resources that do not rely on technology. Alongside evidence that parental investment in private tutoring and coaching has been high among both higher and lower-SES families, this highlights the demand for one-on-one support with an instructor, even when that connection is done by phone.

As the Government of Bangladesh considers means to return to in-person education, there is considerable scope for a continuation and even expansion of remote learning modalities. Given that there are high barriers to using high-tech learning resources such as internet options, this study highlights the importance of providing methods of learning that are accessible to students with limited access to technology, such as resuming Sangsad TV broadcasts, providing radio instruction, or increasing efforts to connecting regularly with students through assigning and providing feedback on modular workbooks and packets. Additionally, these results point to the important role of individual learning support and establishing connections with educators. Promoting direct, regular outreach from teachers to their own students, along with developing initiatives to connect students to teachers or tutors to provide guidance and support, shows promise in keeping students engaged.

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Abbreviations and Terminology

a2i	Aspire to Innovate
Konnect	Online remote education portal run by Aspire to Innovate (a2i), ICT Division
IVR	Interactive Voice Response
IPA	Innovations for Poverty Action
RDD	Random Digit Dialing
Robi 10-Minute School	Free adaptive learning platform
MoE	Bangladesh Ministry of Education
Sangsad TV	Government-run TV station
SIEF	Strategic Impact Evaluation Fund
SMS	Short Message Service
SSS	Secondary School Stipend

1 Introduction

Global school closures due to the COVID-19 pandemic have disrupted the education of roughly 1.6 billion students (Miks and McIlwaine, 2020). While most students returned to hybrid or in-person schooling during 2020 or early 2021, approximately 20 counties have kept schools closed entirely through mid-2021 (UNESCO, 2020). Consistent with initial projections (Azevedo et al., 2020), recent evidence indicates that learning losses have been both pronounced and unequal (Engzell et al., 2021; Lichand et al., 2021), which has reflected substantial differences in household responses to schooling closures (Bacher-Hicks et al., 2021) and government resources. Without mitigation, these losses could have substantial impacts on students' eventual lifetime earnings (Azevedo et al., 2020; Psacharopoulos et al., 2020). Staying at home may also increase social isolation for children, which may harm their mental health.

Governments and educational organizations worldwide are adapting to the unprecedented circumstances created by the pandemic by developing or scaling up distance education modalities to deliver educational content to students and maintain students' connection to formal education while schools remain closed (Cobo et al., 2021). Whether students and their families can readily access and use these tools, along with their effectiveness, is largely unknown. Remote distance education programs are not limited to the ongoing pandemic, as they have been and will continue to be important means to expand access to education for students with reduced means to access them, whether due to distance, lack of time, lack of financial resources, or ongoing crises.

One important challenge of remote learning is that it can exacerbate disparities between students. Access to the minimal technology infrastructure needed to regularly follow lessons delivered remotely (e.g., access to electricity, radio, TV, computers, or smartphones with data plans) differs widely within a country's population. Children from more disadvantaged households may not know about remote education options, or they may not have the resources and educational inputs to follow the lessons consistently during the school closures. Even among children with basic access to remote lessons, different personal and family situations can generate inequalities in the learning environments and support children receive at home. Since social interactions in school are crucial for learning and psychological and emotional development, facilitating communication among students and between students and teachers might be an important element of successful distance education initiatives.

Taken collectively, this study addresses the following overarching question: What barriers prevent families from investing in remote education, and what are the impacts of their investment decisions on student learning? We subdivide this question into the following research questions:

- (RQ1) How does educational technology adoption affect (parental) economic and time investments?
- (RQ2) How do changes in relative input costs affect households' decisions?
- (RQ3) What are the short-term (take-up and usage) and medium-term (usage, engagement, re-enrollment, learning, and aspirations) impacts of household remote education decisions?

To answer these questions, we conduct a study among families with secondary-level children across Bangladesh that measures the extent to which students and their families have continued to invest education despite ongoing school closures. We implement this study in partnership with Aspire to Innovate (a2i), a pan-government program of the ICT Division, supported by the Cabinet Division and the United Nations Development Programme (UNDP). Specifically, we implemented a randomized controlled experiment in early 2021 to measure ways to reduce the costs of accessing remote learning tools and to test the impact of

using specific remote tools on engagement and learning among secondary-level students. We hypothesize the presence of multiple barriers to remote education, particularly among lower-income families: parents and children may not be aware of remote learning options, the cost of accessing activities that require the internet may be too high, and limited contact with an instructor may reduce student motivation. We test the impact of four interventions—two targeting information constrains and two targeting price constraints—designed to alleviate these constraints and measure their impact on student and parental engagement and learning in the short and medium run.

2 Context and Literature

2.1 Education in Bangladesh during COVID-19

The first known cases of COVID-19 were reported in Bangladesh on March 7, 2020. The Ministry of Education (MoE) announced the closure of all schools on March 17, 2020, which remains in effect as of July 2021. The government announced the cancellation of the primary and secondary exams for grades 5 and 8 in late August. For these and the remaining Grades 6, 7, 9, MoE announced in October that internal evaluations would be used for promotion to the next grade (Alamgir, 2020). On October 7, 2020, Education Minister Dipu Moni announced that the Higher Secondary School Certificate (HSC) for Grade 12 and equivalent examinations would not be held; instead, students would be evaluated based on their JSC (grade 8) and SSC (grade 10) results. The government issued assignments and evaluation guidelines for secondary-level students and decided that students would be automatically promoted to the next grade based on these evaluated assignments. In January 2021, the government planned to reopen the schools in February and so issued guidelines on proper health and safety mechanisms to be ensured by schools before they re-opened. It had also issued and distributed new books to students for the academic year 2021. The decision to reopen schools was withdrawn, however, with a rise in coronavirus cases in the country. According to the most recent directive, schools will remain fully closed until July 31.

Over the past year, the government's main priority has been to minimize the disruption of learning as much as possible. The Ministry of Education and Aspire to Innovate (a2i) are working together to use a combination of mass media broadcasting and an online platform to remotely deliver educational content from the school curriculum. At the end of March 2020, the government-run Sangsad TV channel started broadcasting two 20-minute daily lessons for students in grades 6 through 10, and these lessons were also made available on a YouTube channel. Weekly broadcast schedules were disseminated widely: schools asked teachers to share schedules with parents and students and encourage them to watch, and schedules were also posted online and broadcast over radio. However, Sangsad TV is broadcast via satellite, so non-subscribing households, as well as those without televisions, are not able to access materials. Additionally, as discussed in Section 11, the Sangsad TV channel only telecast lessons for grades 1 through 5 during the intervention period. The pool of videos posted on YouTube, however, remains available.

Before the pandemic, a2i built a platform, Konnect, to host instructional videos, electronic textbooks, life-skills videos, and other educational materials, and it added both new content and new users after the closures began. Additionally, a2i manages a popular Facebook group, which serves as a meeting point for increasing engagement of students and teachers, and it regularly features educational videos and live video lessons with Q&A capabilities.

Non-governmental organizations are also offering educational resources and initiatives to aid remote

learning during school closures. One popular resource is Robi 10-Minute School, a free website platform with an accompanying mobile application that provides free videos and adaptive quizzes aligned with national curriculum standards. More than 1.5 million students access the platform daily (Berhad, 2020).

2.2 Related Literature

2.2.1 Distance education

Prior to the COVID-19 pandemic, remote education has been implemented to improve student access to education—particularly for youth who face barriers to school attendance—and to improve instruction quality (Caballero Montoya et al., 2021). This is likely to be most important for learners from more disadvantaged backgrounds, who may lack access to an adequate learning environment and quality instruction (Lai et al., 2012; Caballero Montoya et al., 2021). Distance learning programs vary in their target population, modes of delivery, content, and reliance on technology. Correspondence courses can be completely paper-based, while interactive online learning can require consistent, high-speed internet access.

Relatively low-tech solutions have shown promise. For example, Angrist et al. (2020a) find that providing lessons via SMS text messages and phone calls increases learning by 0.12 standard deviations in Botswana during the school closures. Additionally, Navarro-Sola (2019) finds that expanded access to schools using televised lessons to deliver the lectures in Mexico increases educational attainment and adult labor force participation and income.

In the realm of online instruction, Johnston and Ksoll (2017) find that an interactive remote program for Ghanaian elementary school students increases learning without affecting teachers' practice, suggesting that improvements in pedagogy may be particularly important. Within the domain of teacher professional development, virtual delivery of professional development in South Africa led to lower, but still positive gains in students' English proficiency (Cilliers et al., 2021), which contrasts with Kraft et al. (2018)'s meta-analysis that found no difference in the impacts of in-person versus virtual coaching in teacher professional development. A meta-analysis by Caballero Montoya et al. (2021) highlights the importance of interventions that increase instructional time.

2.2.2 Promoting investment in distance learning

Caballero Montoya et al. (2021) highlight that successful remote education initiatives must ensure (1) that students have access to the infrastructure (radio/TV signal, electricity, etc.) and technology; (2) that involved teachers are motivated and comfortable with the technology; (3) and provide support to maintain student motivation, compliance, and engagement.

While meeting these criteria is important to the effectiveness of any distance-learning program, it is especially challenging when students lack access to in-person schooling that enables schools to support students and teachers, and that can help students stay connected to formal education. Even with access to requisite technology and infrastructure, maintaining students' motivation and engagement in distance learning programs can be difficult. In U.S. undergraduate institutions, for example, replacing in-person with virtual instruction reduced student learning in large part because of lower student engagement and interaction (Brown and Liedholm, 2002; Figlio et al., 2013)

During the pandemic, school closures have meant a general net loss in learning time, and not all students return upon re-opening. In Germany, for example, school closures have led to substantial reductions in learning time, particularly among lower-achieving learners (Grewenig et al., 2020). In Brazil, a six-month

school closure during the pandemic, during which remote instruction consisted primarily of video lessons on broadcast TV, led to dramatic increases in drop-out rates and substantial learning losses (Lichand et al., 2021). During the 2014 Ebola pandemic, major drops in enrollment among adolescent girls in Sierra Leone persisted after schools reopened, in large part due to pregnancy. (Bandiera et al., 2020).

Consequently, maintaining student engagement and motivation is critical not only to promote utilization of remote learning options, but also to help students maintain a connection to the formal education system and maximize the likelihood of return to in-person schooling. Ganimian et al. (2020) highlight the importance of creating opportunities for practice and feedback to promote student engagement, particularly through gamification. A series of papers highlight the utility of behavioral nudges to encourage continuous investment among students enrolled in MOOC courses, in which student drop-out is high (see Yeomans and Reich (2017); Martinez (2014); Patterson (2018); Baker et al. (2016), among others).

This study tests whether light-touch informational messages and reminders about resources delivered to parents can increase student engagement with distance learning technologies. Additionally, we test the impact of reducing the costs of accessing internet-based tools, and of facilitating a connection with a teacher, through a one-month teacher-outreach program. The latter intervention is in some ways similar to Carlana and La Ferrara (2021), in which the authors find that matching volunteer university student tutors with middle school students during the pandemic improved their learning and mental health.

3 Intervention and Research Hypotheses

3.1 Interventions

We test the impact of two information treatments and two treatments that reduce the price of educational inputs.

Information treatments:

- **Treatment 1** – Remote learning information: Information and reminders about government remote learning initiatives that follow the national curriculum. We split the information salience treatment into two sub-treatments:

  1A – **TV**: Information/reminders about Sangsad TV lessons

  1B – **TV + Internet**: Information/reminders about Sangsad TV lessons and internet lessons (Sangsad TV YouTube)

- **Treatment 2** – **Adaptive learning**: Information about an adaptive learning internet resource, Robi 10-Minute School.

Cost-reduction treatments:

- **Treatment 3** – **Data subsidy**: Reduced costs of using internet-based remote learning technologies through a free 1-month data package for 10 GB.

- **Treatment 4** – **Teacher support**: Pair students with a teacher who provides weekly check-ins and support, for up to 4 weeks.

Households assigned to the informational intervention treatments were randomly assigned with equal probability to receive messages through automated voice calls (IVR) or by SMS messaging twice weekly for six weeks. Respondents were asked to reply ("Press 1" for IVR recipients and "Text 1 via SMS" for SMS recipients) to acknowledge the receipt of the messaging treatment(s).

Individuals selected for the data subsidy treatment received an SMS message informing them that they would receive a 10GB data package with 30-day validity, allowing them to opt out if they did not wish to participate. We coordinated with a large mobile provider to activate the package (or enable the package on the respondent's mobile phone through a different vendor).

Individuals selected for the teacher support intervention were matched with an a2i partner teacher from a pool of 71 teachers recruited for the study. These recruited teachers provided a weekly, 30-minute phone check-in with 7 assigned students, and filled out a short weekly log. Teachers received a modest stipend to cover their associated phone charges.

3.2 Extended list of treatments (12 arms)

Figure 1 shows the full distribution of treatment arms, which reflects the following set of individual treatment arms:

0 Control

1a TV

1b TV + internet

2a Adaptive learning

2b Adaptive learning + TV

2c Adaptive learning + TV + internet

3a Data subsidy + TV + internet

3b Data subsidy + Adaptive learning

3c Data subsidy + Adaptive learning + TV

3d Data subsidy + Adaptive learning + TV + internet

4a Teacher support + TV

4b Teacher support + TV + internet

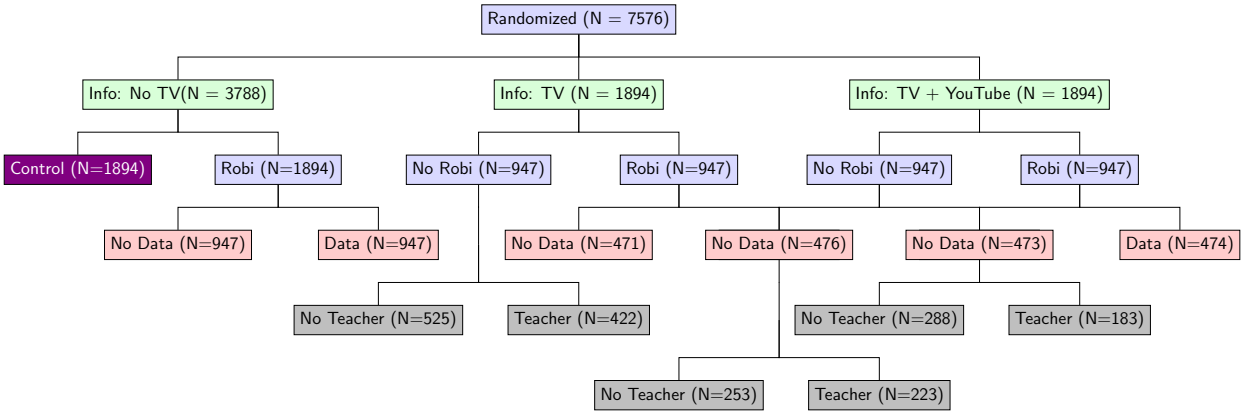
4c Teacher support + Data subsidy + TV + internet

4 Evaluation: Design, Methods, and Implementation

4.1 Study timeline

Figure 2 outlines key events in Bangladesh affecting children's education alongside the study timeline. Bangladesh initiated a general holiday on March 18, 2020, closing schools and all non-essential businesses and

Figure 1: Assignment to individual treatment arms



closing most public transport. The government began broadcasting daily televisions lessons for secondary-level students on March 29, which was later expanded to all levels. We conducted a qualitative scoping survey from August 30 until September 02, and we launched the baseline survey on November 18. Shortly after completing the baseline survey, we launched the three sets of interventions. We delivered informational interventions weekly for six weeks, beginning February 24. On March 1, we sent out the initial invitation for the data subsidy, which would last for one month. We launched the teacher intervention simultaneously with the informational interventions, which lasted four weeks for each student. We conducted the endline beginning in early May, and we conducted a second qualitative interview with a selected set of endline respondents in mid-June.

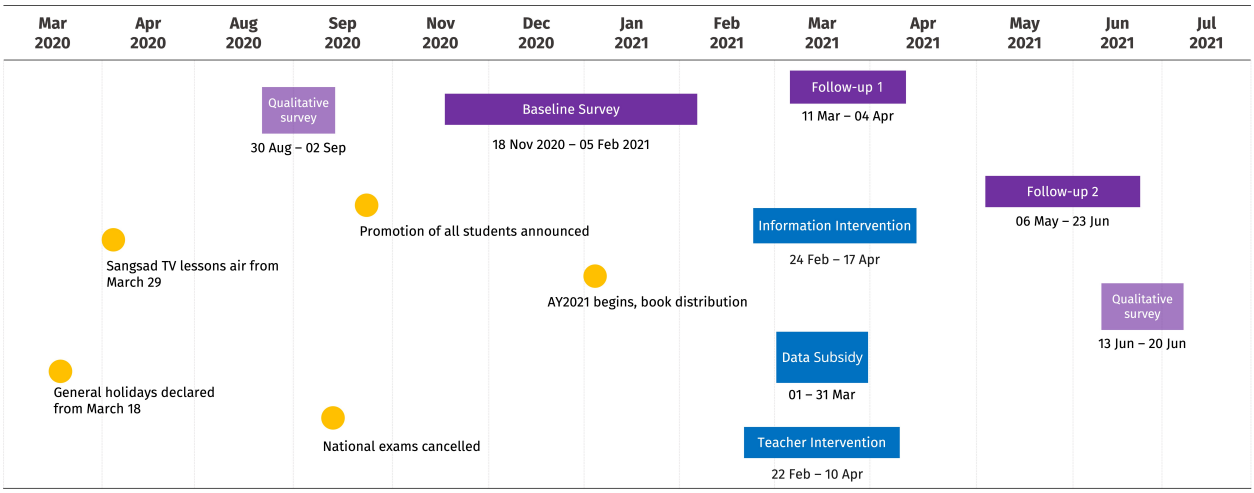


Figure 2: Project timeline

4.2 Initial sample selection

Because the interventions are useful only to those who have access to the requisite technology, our phone sample consists of 7,576 respondents that have (a) at least one child in grades 6-10 (grades 7-11 in January 2021) and (b) have at least one smartphone in the house.

The study sample was drawn from three sources: (1) the database of Konnect users who had registered

before the COVID-19 pandemic; (2) the database of recipients of the Secondary School Stipend (SSS) Programme, who tend to be from lower-income households; (3) a list of 30,000 randomly generated phone numbers (Random Digit Dialing) prefixed with "17" and "13" to generate a random list of GrameenPhone users. We first vetted all numbers by sending a test SMS message in advance of contact, and we removed from the frame any numbers that could not receive the message. Respondents who answered the phone were eligible for the study if (1) they had at least one child enrolled in grades 6-10 prior to school closures and (2) their household owned at least one smartphone. As Table 1 shows, 7,576 respondents completed a baseline survey, about 19 percent of numbers attempted, or 29 percent of those who answered the phone. All baseline respondents were randomized into treatment, although 97 percent agreed to be recontacted. This group of 7,313 households forms the potential sample for the midline and endline surveys, and hence our study sample.

Table 1: Study eligibility by data source

	Konnect		**SSS Sample**		**RDD Sample**		**Total**	
	N	%	N	%	N	%	N	%
Attempted	14678		12569		11720		38967	
Answered	10563	72%	8573	68%	6772	58%	25908	66%
Children in grades 6-10	5681	54%	5528	64%	2163	32%	13372	52%
Smartphones in household	3962	70%	3152	57%	1321	61%	8435	63%
Eligible and consented	3653	92%	2983	95%	1240	94%	7876	93%
Completed Baseline	3506	96%	2896	97%	1174	95%	7576	96%
Baseline / Attempted		24%		23%		10%		19%

4.3 Data collection

We summarize the broad domains collected during the baseline, midline, and endline survey waves below. Appendix B includes the full sets of questionnaires for each wave.

4.3.1 Baseline data collection

During the baseline survey, we conducted 25-minute phone surveys with the eligible study sample to collect the following baseline information:

- Student demographics (age, gender, and number of siblings)
- Measures related to the family socioeconomic status (parent's occupation/earnings, self-reported opportunity costs)
- Parental perceptions of the student's ability and academic standing
- Parent assessment of student baseline ability
- Current student educational activities
    - o Number of days/hours engaged in learning activities
    - o Type of learning activities
    - o Support received from family, teachers, tutors
- Educational expectations and aspirations

4.3.2 Midline sampling and data collection

The potential midline sampling frame consisted of all 7,313 baseline households that agreed to be re-contacted. Because of timing and budget constraints, we attempted to contact a 94.5% randomly selected sample of these respondents, and we contacted them in random order. At midline, we collected the following set of midline outcomes:

- Parental behaviors:
    - o Time investment in children's education
    - o Economic investment in children's education
- Parental beliefs and expectations:
    - o Expectations on school completion
    - o Beliefs on children's learning/achievement
- Student behavior:
    - o Use of learning resources
    - o Effort/engagement in learning activities
    - o Outside options – time spent working for pay by students

4.3.3 Endline sampling and data collection

Like the midline survey, the potential sampling frame for endline included all 7,313 baseline households that agreed to be recontacted. Due to budget constraints, however, we did not attempt to survey all households. Instead, we included all households that were in any of the following categories (1) were not in midline sampling frame; (2) assigned to data subsidy; (3) assigned to teacher subsidy. We randomly selected a subset of respondents in other treatment arms for endline, specifically a 25 percent set of those assigned to receive Sangsad TV information only, and a 65–75 percent set of those assigned to other information treatments that were not cross-randomized with the data or teacher interventions. The order in which we contacted households was randomized, and we did not fully exhaust the entire selected frame.[1]

At endline, we contacted parents to collect the same set of midline outcomes listed above. We also separately interviewed children to measure their engagement and aspirations and also to assess their learning.[2] We administered a short series of adaptive questions in Bangla and math: two subjects that are part of the high-stakes SSC exams and are taught in all secondary grade levels. For each subject, all students answered a base set of questions that were targeted at or below their 2020 grade level. Based on the share of questions they answered correctly, they completed a second set of questions at higher or lower grade levels. Secondary teachers wrote the assessment questions in consultation with the national curriculum, which we piloted and revised prior to implementation. We also ask students about their own educational aspirations. We completed child interviews in 86.9% of households who completed the endline survey.

[1] Midway through the survey process, households that had been contacted at midline but explicitly refused to participate in the midline survey were moved to the end of the contact list.

[2] In households with multiple children, we selected one at random to complete the assessment.

4.3.4 Qualitative data collection

We conducted in-depth qualitative surveys in mid-June 2021 to provide a more nuanced understanding of educational activities in our sample, during the pandemic. For this survey, we randomly sampled 62 households that completed the endline survey, stratified by the treatment arms, with a target of 30 interviews. Half of the targeted survey respondents were parents and half were children.

Of the 30 surveys completed, 14 surveys were done with a parent, and 16 surveys were done with a student. The target students were relatively equally divided between boys and girls (16 with boys and 14 with girls). Among parent surveys, 64 percent (9 out of 14) were with fathers, and all but one of the remainder were with mothers. We inquired in detail about the students' recent study activities, types of educational inputs, the nature of private tutoring, the nature of engagement with school teachers and assignments, and their views on (the challenges of) education during the pandemic. Parents shared challenges that they specifically faced in facilitating education during the pandemic.

4.4 Outcome measurement

We sort our key outcomes into 7 domains. Domains 1 through 5 are measured at midline and endline. The final two domains, student learning and student engagement, are measured only at endline.

4.4.1 Domain 1: Parental time investment in education

We measure parents' time and effort invested in helping their child with educational activities during the month of March (midline) or May/June (endline), using the variables below:

- Number of days reminded student to study in the past week
- Number of hours parent helped in a typical week
- Number of hours other family helped the student to study in a typical week

Related to this domain is the various types of help that parents provided, asked only at midline:

- Explain or clarify materials and concepts
- Help with assignments or specific problems
- Watch videos or TV with student
- Help find additional resources
- Provide encouragement and support
- Provide supervision to help the student stay on task

4.4.2 Domain 2: Parental monetary investment in education

We measure parents' financial investment in educational activities using the variables below:

- Whether the student received private tutoring in the past 30 days
- Money spent on tutoring, unconditional on any tutoring
- Money spent on any learning activities, unconditional on any educational activities

4.4.3 Domain 3: Take-up and utilization of technology-dependent learning resources

To capture the extent to which students utilize the various technology-dependent learning resources that might be available to them, we measure how much students used any of the following resources at both the extensive and intensive margins in a typical week in the month of March or May/June (midline/endline). We classify the following activities as those that require technology use:

- Watched Sangsad TV lessons
- Watched video lessons on a smartphone or other device
- Used Robi platform
- Used other internet resources
- Met with a teacher remotely: by phone or internet
- Attended remote school classes

Within this domain, we also ask whether students used any of the following devices for learning that may rely on the internet, and we ask about and data/internet usage for learning activities during the month of March (midline) and May/June (endline):

- Used smart phone for educational activities
- Used pre-paid internet package for learning activities
- Amount used in GB in month of March (midline) or May (endline)

4.4.4 Domain 4: Take-up and utilization of non technology-dependent learning resources

To capture the extent to which students utilize non technology-dependent learning resources, we measure how much students used any of the following resources at both the extensive and intensive margins in a typical week in the month of March/May (midline/endline). We classify the following activities as those that do *not* require technology use:

- Read textbooks/school books
- Worked in exercise books
- Met with a teacher in person (including tutoring)
- Attended in-person school classes (while closures persist)

4.4.5 Domain 5: Student time investment

- Days per week any schoolwork was done by the student in the month of March/May (midline/endline)
- Hours per week that schoolwork was done by the student in March/May (midline/endline)

4.4.6 Domain 6: Student learning (endline only)

- Math achievement based on assessment
- Bangla achievement based on assessment

4.4.7 Domain 7: Student engagement, motivation, and re-enrollment (endline only)

- Student engagement index: We will create an index from a subset of questions of the RAPS questionnaire on the "Ongoing Engagement" subdomain.
- Student educational aspirations and expectations
- Student enrollment, expectations of re-enrollment once schools reopen, and parents' and children's educational aspirations
- Student currently attending in-person classes

5 Randomization

Randomization and assignment to treatment occurred at the household level among the set of 7,576 baseline respondents. We cross-randomized the entire baseline sample evenly across Treatment 1 (information and reminders about remote TV lessons and online platforms) and across Treatment 2 (information about adaptive learning).

Table 2: Treatment arm distribution, information and adaptive learning

	Control	2. Adaptive learning
Control	1/4	1/4
1a: TV	1/8	1/8
1b: TV + internet	1/8	1/8

Treatment arm 3 (data subsidy) was cross randomized equally across Treatments 2 and 1b. Treatment arm 4 was initially cross-randomized to 1/4 of students (teacher support) across Treatments 1a and 1b (TV only and TV + internet only), though we increased the share assigned to treatment in response to substantial treatment attrition, described in more detail below.

Randomization was done in office by a computer and was conducted at the household level. We stratified by the following factors:

- Household income (5 categories).
- Sample source: whether sample was drawn from Konnect, Secondary School Stipend or RDD databases (3 categories).
- Child gender: Whether households had only male, only female, or both male and female children in grades 6-10 (3 categories).
- Internet: Whether the household had access to at least one smartphone with an active internet connection (2 categories).

For the teacher support intervention, we initially assigned 473 students to 71 teachers in groups of approximately 6-7 students per teacher, roughly matched in terms of grade levels. During the first week of the intervention, teachers were not able to reach all students, primarily because some had discontinued their studies (marriage), parents refused to consent, or because female students were not comfortable speaking with male teachers over the phone. To address these issues, we re-sampled 355 more students, of which teachers were able to reach about 80%. In the second round of sampling, we tried to loosely match teachers and students in terms of their gender as well as grade levels.

5.1 Balance

Table 3 shows the mean, standard error, and number of observations for pre-specificed baseline covariates separately by treatment arm. Column 11 reports the p-values from a F-test for joint orthogonality of the treatment variables, including stratification-cell fixed effects and clustering at the household level. [3] With the exception of mothers' income ($p < 0.01$), we do not see evidence of imbalance on individual means across the treatment assignment.

5.2 Attrition

Table 4 response rates by treatment assignment at the midline and endline waves. We include eight mutually exclusive treatment indicators (rather than interaction terms,) as well as the covariates listed in the balance tables above and stratification-cell fixed effects. We do not find evidence of differential response rates by treatment arm at midline ($p = 0.17$), from which we derive our key results.[4]

We do find, however, that those assigned to the Sangsad TV treatment arm are 7.6 percentage points less likely to respond at endline, and those assigned to the Robi treatment arm are 6.2 percentage points less likely to respond. Therefore, we can reject the joint null hypothesis that treatment arms do not predict response rates at the 1% level. Based on conversations with field staff, we believe these reduced response rates reflect uneven effort to contact respondents when we reduced the recontact rate for those treatment arms (see column 2 of Appendix Table A2). Prior to imposing Lee bounds on these estimates, results using this data, which include our discussion of student learning and engagement, along with the persistence of results, should be interpreted with caution.

[3] We will later include tests for the joint significance of these treatment arms using randomization inference, following our PAP.

[4] Appendix Table A2 shows that the results are comparable using fully disaggregated specification.

Table 3: Balance tests by pooled treatment assignment

	(1) Pure control		(2) Sangsad TV info. (Info)		(3) Info + teacher		(4) Info + data		(5) Info + data + teacher		(6) Robi info. (Robi)		(7) Data + Robi		(8) Info + Robi		(9) Info + data + Robi		(10) Total		F-test for joint
Variable	N/[Clusters]	Mean/SE	N/[Clusters]	Mean/SE	N/[Clusters]	Mean/SE	N/[Clusters]	Mean/SE	N/[Clusters]	Mean/SE	N/[Clusters]	Mean/SE	N/[Clusters]	Mean/SE	N/[Clusters]	Mean/SE	N/[Clusters]	Mean/SE	N/[Clusters]	Mean/SE	orthogonality
Number of children	2167	1.92	896	1.92	748	1.91	334	1.96	206	1.98	1110	1.95	1089	1.91	1107	1.97	1096	1.91	8753	1.93	0.48
	[1887]	(0.03)	[775]	(0.04)	[645]	(0.05)	[287]	(0.06)	[183]	(0.08)	[946]	(0.04)	[944]	(0.04)	[943]	(0.04)	[949]	(0.03)	[7559]	(0.01)	
Number of children grades 6-10	2175	1.27	899	1.29	748	1.31	335	1.30	206	1.25	1111	1.32	1092	1.29	1108	1.32	1097	1.28	8771	1.30	0.95
	[1894]	(0.02)	[778]	(0.02)	[645]	(0.04)	[288]	(0.04)	[183]	(0.06)	[947]	(0.03)	[947]	(0.03)	[944]	(0.02)	[950]	(0.02)	[7576]	(0.01)	
HH has TV with cable/satellite	2175	0.65	899	0.64	748	0.67	335	0.69	206	0.66	1111	0.63	1092	0.62	1108	0.63	1097	0.68	8771	0.65	1.26
	[1894]	(0.01)	[778]	(0.02)	[645]	(0.02)	[288]	(0.03)	[183]	(0.04)	[947]	(0.02)	[947]	(0.02)	[944]	(0.02)	[950]	(0.02)	[7576]	(0.01)	
Respondent is mother	2167	0.50	895	0.48	746	0.49	334	0.51	204	0.47	1103	0.50	1087	0.52	1105	0.47	1095	0.50	8736	0.50	0.59
	[1886]	(0.01)	[774]	(0.02)	[643]	(0.02)	[287]	(0.03)	[181]	(0.04)	[940]	(0.02)	[942]	(0.02)	[941]	(0.02)	[948]	(0.02)	[7542]	(0.01)	
Respondent is father	2167	0.49	895	0.51	746	0.51	334	0.49	204	0.53	1103	0.50	1087	0.48	1105	0.52	1095	0.49	8736	0.50	0.64
	[1886]	(0.01)	[774]	(0.02)	[643]	(0.02)	[287]	(0.03)	[181]	(0.04)	[940]	(0.02)	[942]	(0.02)	[941]	(0.02)	[948]	(0.02)	[7542]	(0.01)	
Mother completed primary	2016	0.39	816	0.37	694	0.39	295	0.38	185	0.32	1009	0.38	1010	0.37	981	0.36	1013	0.38	8019	0.38	0.57
	[1753]	(0.01)	[705]	(0.02)	[598]	(0.02)	[254]	(0.03)	[167]	(0.04)	[858]	(0.02)	[873]	(0.02)	[833]	(0.02)	[876]	(0.02)	[6917]	(0.01)	
Mother completed secondary	2016	0.18	816	0.19	694	0.21	295	0.20	185	0.16	1009	0.22	1010	0.20	981	0.19	1013	0.21	8019	0.20	0.93
	[1753]	(0.01)	[705]	(0.02)	[598]	(0.02)	[254]	(0.03)	[167]	(0.03)	[858]	(0.01)	[873]	(0.01)	[833]	(0.01)	[876]	(0.01)	[6917]	(0.01)	
Mother completed post-secondary	2016	0.20	816	0.20	694	0.18	295	0.21	185	0.23	1009	0.17	1010	0.20	981	0.20	1013	0.19	8019	0.19	0.87
	[1753]	(0.01)	[705]	(0.02)	[598]	(0.02)	[254]	(0.03)	[167]	(0.03)	[858]	(0.01)	[873]	(0.01)	[833]	(0.01)	[876]	(0.01)	[6917]	(0.00)	
Father completed primary	2028	0.27	839	0.26	709	0.26	313	0.27	191	0.27	1026	0.29	1015	0.28	1033	0.27	1016	0.30	8170	0.27	0.80
	[1764]	(0.01)	[729]	(0.02)	[610]	(0.02)	[270]	(0.03)	[169]	(0.04)	[876]	(0.02)	[883]	(0.02)	[880]	(0.02)	[881]	(0.02)	[7062]	(0.01)	
Father completed secondary	2028	0.17	839	0.18	709	0.21	313	0.18	191	0.14	1026	0.18	1015	0.17	1033	0.17	1016	0.19	8170	0.18	0.97
	[1764]	(0.01)	[729]	(0.01)	[610]	(0.02)	[270]	(0.03)	[169]	(0.03)	[876]	(0.01)	[883]	(0.01)	[880]	(0.01)	[881]	(0.01)	[7062]	(0.00)	
Father completed post-secondary	2028	0.27	839	0.29	709	0.25	313	0.28	191	0.28	1026	0.26	1015	0.27	1033	0.29	1016	0.27	8170	0.27	0.67
	[1764]	(0.01)	[729]	(0.02)	[610]	(0.02)	[270]	(0.03)	[169]	(0.04)	[876]	(0.02)	[883]	(0.02)	[880]	(0.02)	[881]	(0.02)	[7062]	(0.01)	
Mother's income, past 30 days	2022	4892.25	817	6426.72	696	4141.37	296	4558.39	186	1913.39	1013	5362.43	1011	7118.12	985	4485.69	1014	5685.98	8040	5291.40	3.67***
	[1758]	(621.56)	[706]	(1296.88)	[600]	(1088.43)	[255]	(1190.35)	[168]	(531.20)	[862]	(984.64)	[874]	(1124.71)	[837]	(877.85)	[877]	(924.42)	[6937]	(336.75)	
Fathers's income, past 30 days	2034	54298.41	842	55917.70	710	47900.46	313	46313.32	191	73621.95	1035	57878.54	1018	57048.01	1040	55055.62	1021	52491.60	8204	54730.11	0.66
	[1770]	(3448.94)	[731]	(5353.32)	[611]	(5350.80)	[270]	(7773.66)	[169]	(12679.44)	[884]	(5730.91)	[885]	(4961.51)	[884]	(4984.37)	[884]	(4503.47)	[7088]	(1743.29)	
Days of school work, last week	2158	5.81	897	5.71	742	5.66	334	5.60	205	5.79	1103	5.70	1088	5.73	1100	5.73	1095	5.71	8722	5.73	0.52
	[1882]	(0.05)	[776]	(0.08)	[640]	(0.09)	[288]	(0.14)	[182]	(0.15)	[942]	(0.07)	[943]	(0.07)	[937]	(0.07)	[949]	(0.07)	[7539]	(0.02)	
Weekly days of school work, April 2020	2080	5.63	851	5.62	714	5.65	321	5.64	201	5.70	1053	5.70	1043	5.66	1053	5.62	1049	5.57	8365	5.64	0.34
	[1815]	(0.05)	[743]	(0.07)	[621]	(0.07)	[277]	(0.12)	[178]	(0.13)	[904]	(0.06)	[901]	(0.06)	[902]	(0.06)	[918]	(0.06)	[7259]	(0.02)	
Received private tutoring since closures	2175	0.58	899	0.56	748	0.61	335	0.59	206	0.58	1111	0.60	1092	0.59	1108	0.60	1097	0.60	8771	0.59	0.55
	[1894]	(0.01)	[778]	(0.02)	[645]	(0.02)	[288]	(0.03)	[183]	(0.04)	[947]	(0.02)	[947]	(0.02)	[944]	(0.02)	[950]	(0.02)	[7576]	(0.01)	
Child did work for pay, past 30 days	2175	0.03	899	0.04	748	0.02	335	0.04	206	0.03	1111	0.03	1092	0.03	1108	0.03	1097	0.02	8771	0.03	0.78
	[1894]	(0.00)	[778]	(0.01)	[645]	(0.01)	[288]	(0.01)	[183]	(0.01)	[947]	(0.01)	[947]	(0.01)	[944]	(0.01)	[950]	(0.00)	[7576]	(0.00)	
$p-value$, joint test vs. control				0.680		0.000		0.0668		0.001		0.0861		0.7885		0.1440		0.0970			

Notes: Sample includes all randomized baseline respondents at the child level. Value displayed for F-tests are the differences in the means across the groups. Standard errors are clustered at the household level. Stratification-cell fixed effects are included in all estimation regressions. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

Table 4: Response rates by treatment assignment

	(1)	(2)
	Midline	Endline
Sangsad TV information	0.022	-0.076**
	(0.021)	(0.034)
Robi info. (adaptive)	0.018	-0.062**
	(0.020)	(0.025)
Sangsad TV X Adaptive	-0.029	0.072
	(0.031)	(0.045)
Sangsad TV X Data	-0.028	-0.007
	(0.035)	(0.045)
Adaptive X Data	0.007	0.059**
	(0.023)	(0.027)
SangsadTV X Adaptive X Data	-0.001	0.002
	(0.047)	(0.060)
Sangsad TV X Teacher	-0.031	0.052
	(0.027)	(0.038)
Sangsad TV X Teacher X Data	-0.056	0.081
	(0.056)	(0.063)
Observations	8397	6981
Response rate, control	0.68	0.58
P-val, joint significance	0.1724	0.0043

Notes: Child-level data includes all respondents contacted at first and second follow-up surveys, respectively. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Household-level controls are those listed in Table 3, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

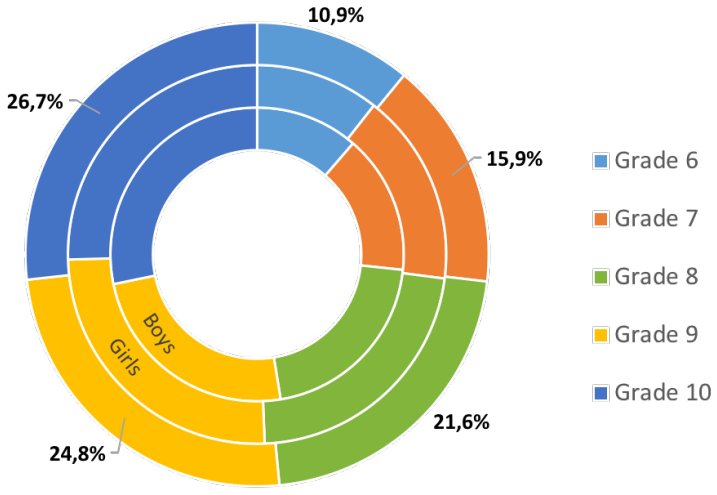
6 Descriptive Evidence

Table 5 presents summary statistics of children in our baseline sample, and we discuss these in more detail below.

Table 5: Descriptive statistics

	Mean	Std.Dev.	Obs
Number of children	1.93	0.99	9027
Number of children grades 6-10	1.30	0.54	8908
HH has TV with cable/satellite	0.65	0.48	9038
Respondent is mother	0.50	0.50	9044
Respondent is father	0.50	0.50	9044
Mother completed primary	0.38	0.48	8227
Mother completed secondary	0.20	0.40	8227
Mother completed post-secondary	0.19	0.40	8227
Father completed primary	0.27	0.45	8397
Father completed secondary	0.18	0.38	8397
Father completed post-secondary	0.27	0.45	8397
Days of school work, last week	5.73	2.20	8758
Weekly days of school work, April 2020	5.63	1.85	8397
Received private tutoring since closures	0.59	0.49	8807
Child did work for pay, past 30 days	0.03	0.17	8802

Figure 3: Children's grade composition



Age and socioeconomic status. Households in our sample have on average 1.3 children in grades between 6 through 10. Figure 3 reports the children's grade composition, in total and separated by gender. The average age of boys and girls was about 15 years and 14 years, respectively. Half of children in our sample of

households (51.5 percent) are in grades 9 and 10, 10.9 percent in grade 6, 15.9 percent in grade 7 and 21.6 percent in grade 8.

Despite conditioning on smartphone ownership during study recruitment, the households in our study come from various socioeconomic backgrounds: around 23 percent of mothers have completed less than primary education, 38 percent are primary graduates, 20 percent are secondary graduates, and 19 percent are post-primary graduates. Although fathers are more educated than mothers on average, there is a similar spread of educational levels among fathers.

Access to internet and satellite/cable TV. To access government-broadcast programming on Sangsad TV, students need access to a TV with cable/satellite connection, which 65 percent of our baseline sample has. Additionally, internet access, obtained primarily through smartphones, is necessary to access any online remote learning tools. By design, all households included in the study have at least one smartphone with the potential to have internet connection. Hence, they can all from phone teacher support and tech-related learning resources. However, at baseline only 53 percent have an active internet data package subscription, suggesting that financial constraints may pose a barrier to accessing tech-based educational resources.

Student educational and labor market activities. The majority of students regularly engaged in educational activities throughout several months: 64 percent of students in the study did some schoolwork all 7 days of the week, whereas 6 percent and 7 percent did schoolwork 5 or 6 days a week, respectively (Figure 4a). We asked this question in December 2020, March 2021, and May–June 2021, and there is remarkable persistence across these months. Regarding the duration of their educational activities, students engaged in schoolwork an average of 19 hours in a typical week. However, the weekly number of hours spent doing schoolwork has a wider distribution, as seen in Figure 4b, with around 14 percent not doing any schoolwork at all, around 22 percent doing between 10 and 14 hours a week and 23 percent doing between 20 and 30 hours of work per week. These results suggest that, during the school closures, most students had a persistent rhythm of engaging with educational activities that involved some hours of schoolwork a day, although the total amount of time devoted to it was substantially different across individuals and much less, in general, that what students would do during a week of in-person schooling.

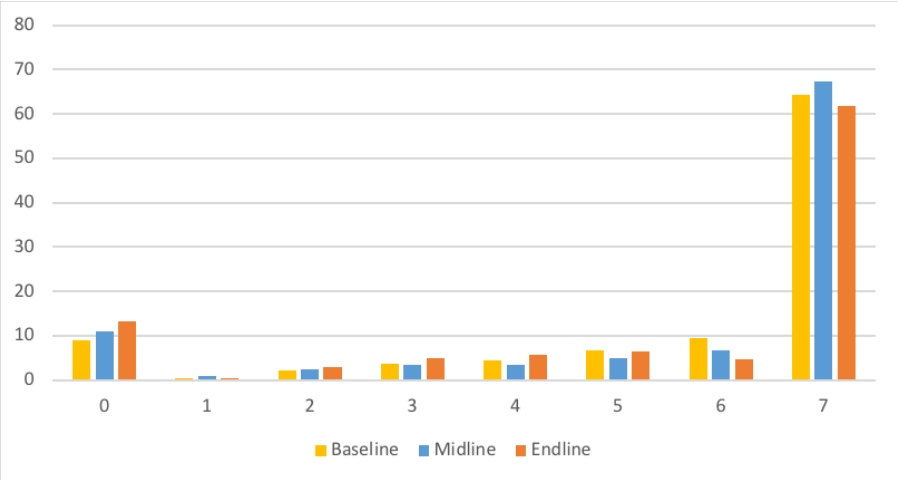
Table 6: Time children spent working and helping the household

	Baseline	**Midline**	**Endline**
Share worked in the past month (%)	2,0	11,1	9,7
Average days worked conditional on work	–	20,6	21,2
Average hours worked, conditional on work	4,4	4,0	4,3
Share did any care work in the past month	–	64,9	74,1
Average hours, conditional on care work	–	11,1	10,6
Total children	8772,0	5651,0	4277,0

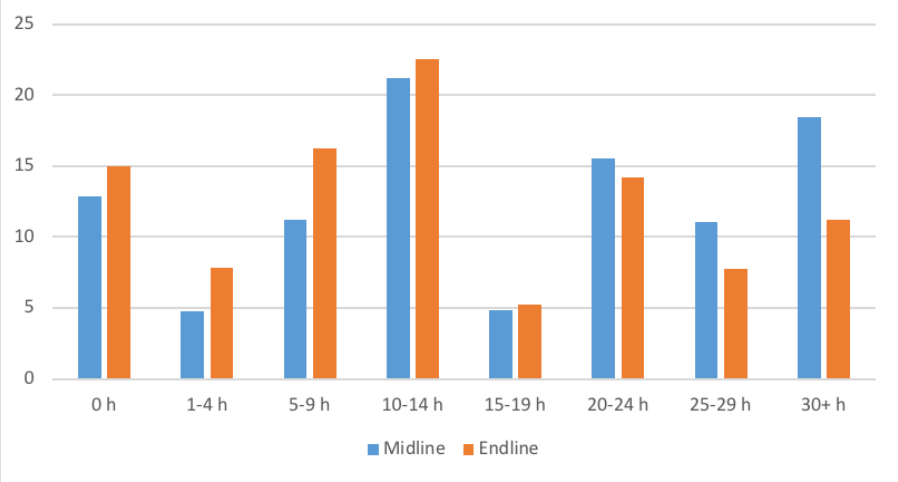
While rates of work are low among students, the share of children that spend time working in the past month increases from December 2020 (2 percent) to March through June 2021 (10–11 percent) (Table 6). Conditional on working, children spend around 21 days a month working, with an average of 4 hours a day. Sixty-five percent did any care work or helped in the household in March 2021, and this number increased to 74 percent in May–June 2021. Conditional on helping the household, students did that on average 11 hours a week.

Figure 4: SCHOOLWORK IN THE PAST WEEK

(a) DAYS DID ANY SCHOOLWORK



(b) NUMBER OF HOURS SPENT DOING SCHOOLWORK



Learning resources used. In the absence of the usual access to schooling, students used a variety of learning options to engage in educational activities, shown in Figure 6. Nearly all read textbooks (94 percent among all students in the sample), and between 31 and 42 percent also worked with exercise books, depending on the month of survey. Additionally, more than half of all students met with a teacher in person in the past month, including both private tutors and teachers. Students also used tech-related resources, though at lower rates. Around 23 percent watched video lessons, 16 percent watched Sangsad TV videos, 12 percent met with a teacher remotely, and 6 percent used other internet resources. Comparing the use of learning resources across months, students met with teacher or tutors in person more in in March 2021 than in May–June 2021, and they tended to use more remote learning resources, whereas in May–June 2021 they were more likely to work in exercise books.

Access to remote learning resources. More than half of the students did not use any device to access remote learning resources, even though the students in the sample were selected to have the technical

Figure 5: Learning resources child used in the past month

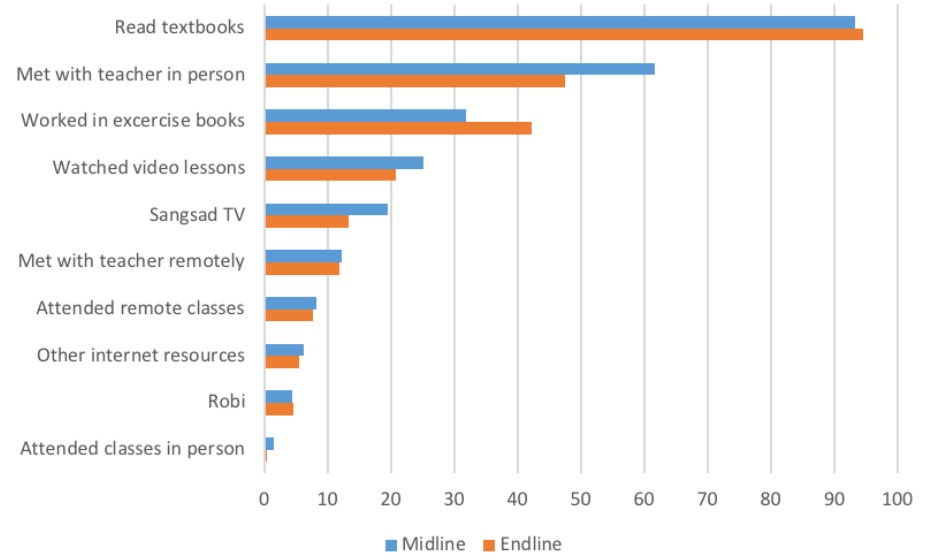
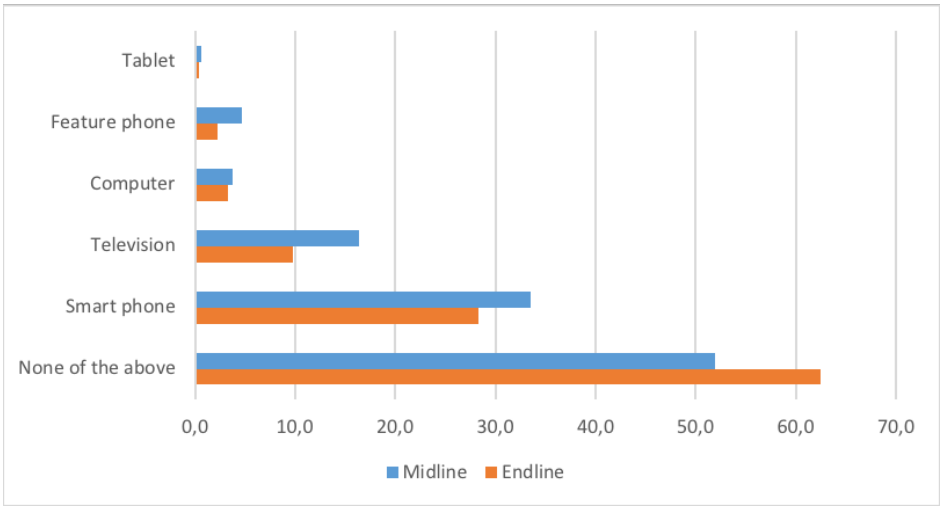


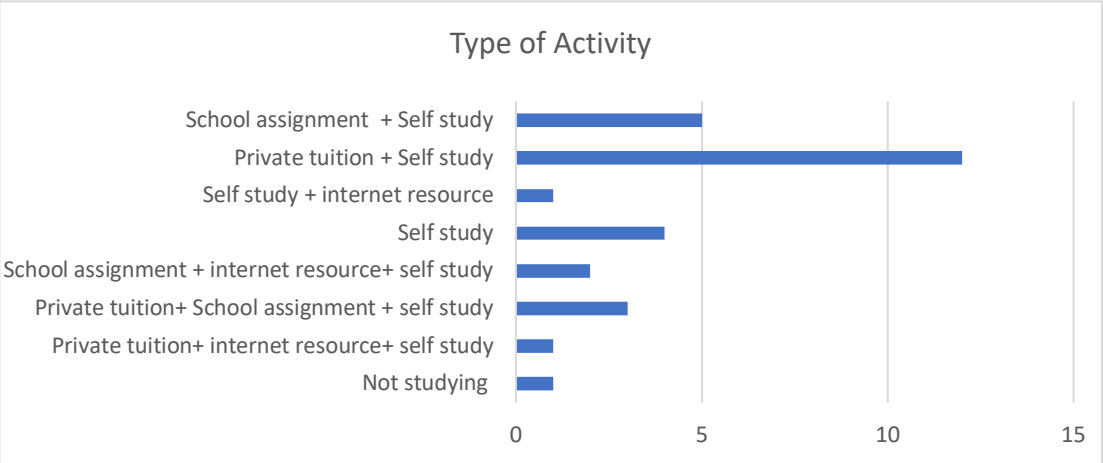
Figure 6: Devices used by children to access remote learning resources



requirements to access them. Around 30 percent of all students in the sample used a smartphone to access remote learning resources, 13 percent used the television, 3.5 percent a computer and 3.5 percent a feature phone. There are differences across survey waves: During March 2021, 34 percent used a smartphone and 16 percent used a television, whereas the numbers decrease to 28 percent and 10 percent at endline, during May–June 2021.

Between 53 and 67 percent of all students in the sample did not use any internet plan to access remote learning activities. However, 19 percent of all students used a pre-paid data package to access internet, and 11 percent used Wi-Fi. The numbers were slightly higher in March than in May–June 2021, but the difference is not significant.

Figure 7: Qualitative Survey: Educational Activities



7 Qualitative Findings

We conducted more detailed, qualitative surveys in mid-June 2021, which help shed valuable insights and provide a more nuanced understanding of educational activities in our sample, during the pandemic.

7.1 Time spent on educational activities

Student activities, whether reported by parents or students, reflected our quantitative findings. Nearly all students (29 of 30) are actively engaged in educational activities: in particular, as shown in Figure 7, all students are doing some work on their own. Half of them (16 of 30) were receiving private tutoring, 7 out of 30 were engaged in learning activities through their school (receiving assignments from schools and submitting them), while only 4 out of 30 were using remote resources via the Internet.

As with the quantitative findings, Figure 8 shows that almost all students report reading schoolbooks while roughly a third report using remote learning resources via the Internet, and a similar fraction report watching TV lessons. Far smaller fractions report attending online classes or using the adaptive online platform Robi.

Among the fairly large fraction (77 percent) that met with a teacher at least once in person, roughly half 11 of them met with a teacher from their school, while 5 had met with their private tutors, and 7 students had met both. When students met with their school teacher, it was primarily to collect assignments from school, conducting registration work for board exams, collecting secondary student stipends, for study-related questions, or for private tutoring. Respondents reported that students spend about 6.27 hours on average for these physical meetings each week.

Figure 8: Qualitative survey: use of learning resources

Learning Resources		Usage in last month		Usage in last week		
		N	%	N	%	Duration (hour)
	Read textbooks/school books	29	96.67%	29	96.67%	18.75
	Met with a teacher in person	23	76.67%	18	60.00%	6.27
	Worked in exercise books	13	43.33%	12	40.00%	6.25
	Watched Sangsad TV	11	36.67%	4	13.33%	2.25
	Watched video lessons on a smartphone or other device	10	33.33%	8	26.67%	4.62
	Met with a teacher remotely	7	23.33%	5	16.67%	5.4
	Attended remote school classes	4	13.33%	2	6.67%	8
	Used Robi platform	2	6.67%	1	3.33%	5

7.2 Private tuition

Twelve of the 16 students that reported taking tuition did so with privately hired teachers who were from their school. Two students were taking private tuition from school teachers, and the remaining two received tutoring from both school teachers and another private tutor. 10 out of 16 were continuing to work with the same teacher who provided tutoring prior to the lockdown in March 2020.

Tutoring took place both online as well as in person. Two students reported going to a center hired by the tutor, 8 out of 16 went to the tutor's residence, 2 out of 16 had the tutor come over to their residence, and 3 out of 16 students attended tutoring over Zoom.

When it comes to the frequency of tuition classes each week, all 16 students attended one tuition class at least every other day. The classes varied between 1 hour and 2 hours, and many students studied with multiple teachers, depending on the number of subjects they needed help with.

The families we talked to said they hired to improve test scores, because household members could not help students with specific topics, and because they wanted their students to work together with friends that are also taking the same private tuition.

Quote from a father: "One of the parents of my son's classmate one day called me and asked me if I want to have a private tutor for my son. He proposed that he will hire a private tutor for his child and some other child from the same class and arrange the tuition at his house; in this way the cost will be minimized for all the parents. I thought as I was not capable of hiring a tutor solely for my kid, I should engage my child in this group tuition so that the expanse will also be less and he will be engaged with studies."

Quote from a student: "I recently joined a group of students from private tuition. I heard about the teacher from my classmates; he comes from a nearby village and some of my classmates take tuition under him. I also go for private to one my school teachers as my friends go to him in his house for tuition"

7.3 Engagement with teachers and school assignments

Only 13 students were in contact with a teacher from school. Half of the parent respondents reported that here had been no communication from schools, and half of the student respondents also reported the same.

According to one father: "I am in close contact with my child's schoolteacher and as far as I remember, the school asked for assignment two times during the pandemic and my child submitted them. But we never received feedback from the teacher."

Parents were less likely to know about school assignments, but all the student respondents were able to provide information on these. Five students mentioned that their schools are taking assignments weekly (a mix of in-person and online submissions), while four of them reported that they submitted assignments months ago and that there had been no assignment due of late. Finally, only five students and two parents reported that their school had shared learning resources with the students, which included the syllabus, lecture notes, suggestions for final exams and exercise books for assignments, which to be collected physically from the school. Finally, respondents reported not knowing of any clear process for progression to the next grade.

7.4 Views on education during the pandemic

Both parents and students mentioned several challenges in remote learning, which included the inability to access a smartphone, computer, or the Internet, which are essential for watching video lessons and for

connecting with school's remote classes (if any). Second, they mentioned that adjusting to this new method of learning using different online resources and the Internet had been a major challenge for students. Third, understanding topics from a new teacher's lecture on the Internet had also been a challenge. Some students reported having to request their school teachers to start online classes like some other schools had done.

According to one parent: "Schools should be reopened even if for twice a week by maintaining proper health regulations. As the children are not being able to study at home properly because they don't get access to better education material and proper guidance. Access to internet has made them spend most of their time into mobile games; so, this is high time the government should open the schools"

According to one student: "I was not taught anything at grade 6; now I am promoted to grade 7 but I have no idea how I can cope up with the upgraded topics as I have no knowledge from the earlier grade! Though I am taking private tuition after being promoted to cope up but everything seems too hard to me!"

7.5 Challenges faced by parents

The most difficult challenge parents faced was maintaining continued access to an internet connection and providing a device for the students so that they could engage in online learning activities. It was very difficult to spend an extra monthly cost for internet in for some parents, particularly those whose income had decreased due to the pandemic. Getting their children access to private tuition was also challenging task for them because of the extra expense. Some parents also mentioned that they could neither manage access to internet nor arranged private tuition for their children due to poverty.

7.6 Views and suggestions from parents and children on remote education

Most of the respondents we spoke to, both parents and students, shared positive feedback about the government's activities regarding education during the pandemic. They said that the government had handled the situation well by arranging online/remote classes on their public TV channel, by promoting students to the next grade unconditionally, and by keeping the schools closed so that children would be safe from COVID-19. However, some reported being dissatisfied and thought the government should have opened the schools at least partially by providing health and safety guidelines.

According to one student: "The government has opened all the other institutions but schools. They could have opened the schools; we would have maintained proper distance and health regulations. Studying without the regular class is not possible for me. All the steps the government has taken like telecasting remote classes, issuing assignments- they are okay but I did not do any of them because I did not think it could help me; I needed a proper and regular guidance and monitoring for studying."

Both parents and students reported that they had no good guesses for when schools would reopen.

According to one parent: "Based on the current situation I don't see the schools reopening anytime soon. It may take up to 2 years to get rid of the pandemic and vaccinate all the children; and they should not open before vaccinating all the students"

Lastly, Figure 9 provides a summary of specific suggestions about how to improve remote learning from parents and students that we interviewed.

Figure 9: Qualitative survey: educational activities

Parent	Student
Schools should make attending online classes mandatory for students who have internet connection	Schools should offer scholarships to students so that they can buy a device and internet connection to attend the remote classes
Schools should help the parents financially so that they can buy their children a device and get internet connection	Schools should only help practical classes for science group students
Schools shall start regular classes (could be for important subjects only) with small group of students at intervals (2 days a week)	Schools should reopen in small scale
Schools should arrange online classes where they will assess a smaller group of students, brief them on assignments and take small quizzes, share materials etc.	Online classes from schools are enough. They don't need to offer anymore
Government should increase the amount of secondary school stipend	Government should increase the amount of secondary school stipend
Government should issue the health regulations for all schools and reopen the schools	Government should issue the health regulations for all schools and reopen the schools
Government may help the families financially to support the children's' education. They would like to buy television/ computer/ take internet connection with the financial help.	Government should launch a new system so that the students won't get addicted to mobile games while engaging with internet

8 Empirical Strategy

We estimate intention-to-treat effects, reflecting the causal impact of assignment to each treatment arm on our outcomes of interest. Our main outcomes are estimated at the child level, while treatment assignment is randomized at the household level. Because some households have more than one child in grades 6–10, we estimate our models at the child level and cluster our standard errors at the household level to reflect the level of randomization (Abadie et al., 2017).

We estimate equations of the following general form:

$$\begin{aligned} y_{hc} = \alpha &+ \beta_1 Sangsad_h + \beta_2 Robi_h + \beta_3 Sangsad_h * Robi_h + \\ &\beta_4 Data_h * Sangsad_h + \beta_5 Data_h * Robi_h + \beta_6 Data_h * Sangsad_h * Robi_h + \\ &\beta_7 Teacher_h * Sangsad_h + \beta_8 Teacher_h * Data_h * Sangsad_h + X'_{hc}\gamma + f_s + g_w + h_j \epsilon_{hc} \end{aligned}$$

where y_{hc} is our outcome variable of interest measured at the *household-child* level. $Sangsad_h$ is a binary variable equal to 1 if the household receives information about TV or TV + internet (Treatments 1a and 1b); $Robi_h$ is a binary variable equal to 1 if the household receives information about adaptive learning platforms (Treatment 2); $Data_h$ is assignment to the data subsidy treatment (Treatment 3), and $Teacher_h$

is assignment to the teacher support intervention (Treatment 4).[5]

We also include a vector of pre-specified household- and child-level covariates, X, as well as stratification-cell fixed effects (f_s), survey-week fixed effects (g_w) and enumerator fixed effects (h_j).

The outcome variables of interest draw from seven pre-specified domains. Domains 1–5 are measured in both follow-up waves, and Domains 6 and 7 are measured in the second wave only. We have multiple indicators within each domain, and we adjust for multiple hypothesis testing within each domain by reporting sharpened q-values alongside the p-values from these joint tests (Anderson, 2008). Additionally, we also create domain-level indexes generated by taking an equally weighted average of the standardized component outcomes (Kling et al., 2007).

For domains with more than two outcomes, we also generate an index based on an unweighted average of the component outcomes normalized to the control-group mean and standard deviation, following Kling et al. (2007).[6] Our secondary analysis includes a discussion of individual coefficients better understand what factors drive these main results. In this discussion, we report unadjusted p-values, reflecting the more exploratory nature of the analysis.

Our primary results draw on three joint hypothesis tests repeated across our pre-identified domains. These coefficients are drawn from the set of testable hypotheses we outline in our PAP. Appendix B contains the full set of hypotheses.

- Impact of information: $\beta_1 = \beta_2 = \beta_3$
- Impact of data: $\beta_4 = \beta_5 = \beta_6 = \beta_8$
- Impact of teacher outreach: $\beta_7 = \beta_8$

8.1 Treatment heterogeneity

In future work, we will test for treatment heterogeneity along the following dimensions: (1) student gender; (2) student age, splitting students at the median age into students ages 10-14 and ages 15-19; and (3) students who live in households categorized as above- versus below-median socioeconomic status. We measure household SES as the first principal component of the following household measures collected at baseline: home ownership, whether members have bank account, household asset ownership (20 items), fuel and water sources (binary indicators for each type), electricity, number of rooms for sleeping, latrine type (binary indicators for each type), and room for kitchen.

9 Results on parents' behavioral responses

10 Results

We now discuss the impacts of each of the treatments on our outcomes of interest discussed in Section 4.4. Specifically, we evaluate four interventions (along with their combinations) that were designed to reduce the barriers to remote education: (1) provision of information to the household about standardized lessons

[5] We pool Treatments 1a and 1b throughout our analysis because we do not expect substantial differences in treatment impacts.

[6] In the case of respondents with one or more missing outcome variables, we average the remaining outcomes for which we have data to generate an index.

available on TV or the internet (Sangsad TV); (2) provision of information to the household about adaptive learning platforms available online (Robi) (3) provision of a phone data subsidy (Data); and (4) provision of personal teacher support over the phone (Teacher).

10.1 Impacts on parental time and economic investment in education (Domains 1 and 2)

Our first set of results show treatment effects on parental investments. Table 7 shows the impact of treatment assignment on parental time investments (Panel A) and economic investments (Panel B). Panel C includes estimates of the impacts of the likelihood that parents helped students with a series of specific educational activities. In the final columns of Panels A and C, we report impacts on an index created by averaging each outcome variable in the panel after standardizing them and taking their mean relative to the pure control group.

Table 7 shows the effect of treatment assignment on parental behavior while the interventions were ongoing, using data collected at the midline survey. Across both Sangsad TV and Robi information treatments, we do not find evidence that parents adjust their time investment, though we do see that receiving information about Robi led parents to reduce time spent helping their children with educational activities.

In Panel B of Table 7, we see that in contrast to Panel A, parental economic investment does respond to weekly reminders about the two learning platforms, and the difference remains statistically significant after correcting for multiple hypothesis testing. Specifically, information about the Robi platform leads to a 4.5 percentage-point increase in the likelihood that the child receives private tutoring, and parents' unconditional monthly expenditures on tutoring increase by 200 taka, or 19%. Approximately 15% of this increase in tutoring expenditures may be offset by reducing expenditures on other resources, which falls by 32 BDT.

The differential responses to information about the Sangsad vs Robi platforms highlight that pooling them as a single "information resource" masks considerable variation in their impacts. One key difference in the two messages is that the Robi treatment highlights the importance of adaptive learning resources, similar in spirit to teaching at the right level (TaRL) tools, while Sangsad offered more of a one-size-fits-all approach. One possibility is that the Robi treatment made salient the importance of targeting resources to the level of the student, which tutoring would also provide, particularly if data constraints prevent parents from encouraging their children to use Robi (Section 10.2).

Panel A of Table 7 also shows that there are no statistically significant effects of reducing data costs on parental time investment beyond the measured impacts of information alone.[7]. Considering the set of secondary time investment outcomes in Panel C, we see that the data subsidy only reduced the likelihood that parents spent time explaining concepts to children in the past week. However, we interpret these changes with some caution as the estimates are only marginally statistically significant, and there is no evidence of impacts across other measures of parental time investment in the panel.

With respect to parental economic investment, we do find that the data subsidy increases the likelihood that children receive tutoring by 9.2 percentage points relative to those who received information about Sangsad only, which is statistically significant at the 5% level. This increase is large relative to the control-group rate of 64%, a 14% increase. The data package with information about Robi does not increase the

[7]Because the treatment coefficients are not mutually exclusive, note the coefficients on the data package reflect the additional impact of receiving data beyond receiving just information. The sum of these two values (for example, Sangsad TV plus Data + Sangsad) would reflect the impact of the data treatment relative to the control group.

likelihood of tutoring relative to receiving information only about Robi. Overall, we find evidence that the data subsidy does affect the likelihood students receive private tutoring ($p = 0.039$, $q = 0.098$), as well as unconditional tutoring expenditures ($p = 0.036$, $q = 0.098$).

We might expect that, unlike the previous interventions, teacher outreach would directly substitute for parental time investment. However, we see no evidence that teacher support affected the number of days per week parents reminded students to do schoolwork, nor hours that parents (or other family members) helped (Panel A). Instead, we see that some evidence that parents see this outreach as a substitute for tutoring. In turn, we see that teacher support reduces the likelihood of receiving tutoring by 5 percentage points, though this is imprecisely estimated and significant only at the unadjusted 10% level (Table 7, Panel B, Column 5).

10.2 Impacts on take-up and utilization of education resources (Domains 3 and 4)

We next turn to how the interventions affected the extent to which students used technological and non-technological-based resources. Panel A of Table 8 shows the impacts on whether students used a set of technology-based education resources: government lessons by TV (Sangsad TV), video lessons on a smartphone or other device, the recommended adaptive learning platform (Robi), other internet resources, meeting with a teacher remotely by phone or internet, or attending remote school classes. Panel B shows impacts on non-technology based resources: textbooks, exercise books, meeting with a teacher in-person, or joining an in-person class.

We find that regular information provision does affect what resources students use, particularly the likelihood that students watch lessons on Sangsad TV (column 1). Information about Sangsad TV increases the likelihood of using it by 3.5 percentage points, significant at the 10% level, while information about the Robi platform reduces the likelihood of watching by 4.8 percentage points, significant at the 1% level. This latter reduction in Sangsad TV usage suggests that parents may prefer adaptive-style resources over one-size-fits-all products, which is also consistent with the increase in tutoring induced by the adaptive information treatment. We do not see evidence of substitution with other resources, whether tech-based or non-tech-based (Panels A and B). Overall, however, we find statistically-significant evidence that information provision does affect the use of tech-based resources ($p = 0.027$).

We anticipate that the data subsidy will affect students' use of tech-dependent learning resources. While we do not find aggregate evidence that this is the case (Table 8, Panel A, Column 7), we do see impacts on the learning resources targeted by the accompanying information. Specifically, when data is provided alongside information about Sangsad TV, the likelihood students watch video lessons increases by 8.7 percentage points (significant at the unadjusted 5-percent level), a 34% increase relative to the control-group rate. When data is provided alongside information about Robi, the likelihood of usage increases by 2.5 percentage points (significant at the unadjusted 5-percent level), a roughly 50% increase relative to the control group usage rate of 5%. Data also increases the likelihood of attending remote classes by a marginally significant 2.6 percentage points. Taken together, these results suggest that data costs may be a significant barrier to the take-up and use of remote learning resources.

One potential concern regarding these results about resource use is that we rely on parental reports of student behavior. Individuals treated with information may feel inclined to artificially report that their children use the recommended resources. However, given that we see only modest changes in Sangsad TV usage and no change in Robi usage (in the absence of data), we believe that these issues of salience or desirability bias are unlikely to be important factors driving our results.

Table 7: Impact of outreach on parental investment

	Panel A. Time investment				Panel B. Economic investment		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Days reminded student	Hours parent helped	Hours other family helped	Time index	Private tutoring	Money on tutoring	Money on other education
Sangsad TV info. (info)	0.081	-0.293	0.405*	0.037	-0.003	-65.656	0.693
	(0.146)	(0.375)	(0.230)	(0.036)	(0.024)	(80.134)	(13.892)
Robi info. (Robi)	0.066	-0.646**	0.073	-0.016	0.045**	197.394**	-31.153***
	(0.136)	(0.328)	(0.193)	(0.027)	(0.021)	(81.370)	(11.193)
Sangsad + Robi	-0.109	0.998*	-0.367	0.002	-0.066*	-88.900	16.938
	(0.211)	(0.546)	(0.334)	(0.049)	(0.034)	(120.375)	(19.130)
Data + Sangsad	-0.015	0.610	0.069	0.027	0.092**	139.308	7.452
	(0.239)	(0.665)	(0.437)	(0.059)	(0.038)	(124.258)	(21.604)
Data + Robi	-0.022	0.300	0.205	0.034	0.005	-130.610	16.724
	(0.155)	(0.375)	(0.233)	(0.032)	(0.024)	(91.516)	(12.214)
Data + Sangsad + Robi	0.048	-0.511	-0.081	-0.035	-0.072	-64.915	-10.221
	(0.325)	(0.877)	(0.558)	(0.076)	(0.051)	(174.227)	(28.866)
Teacher + Sangsad	0.112	0.521	-0.258	-0.001	-0.050*	93.014	3.442
	(0.182)	(0.464)	(0.298)	(0.043)	(0.030)	(106.821)	(17.247)
Teacher + Data + Sangsad	0.023	-2.112**	-0.536	-0.135	-0.002	95.948	-22.036
	(0.382)	(1.044)	(0.577)	(0.087)	(0.061)	(212.740)	(35.077)
DV mean, control	4.40	6.57	1.91	-0.00	0.64	1027.82	138.56
Observations	5600	5359	5407	5661	5688	5359	5065
Joint test: Information (p-val)	0.938	0.187	0.370	0.479	0.039	0.036	0.028
Sharpened q-value	1.000	0.899	0.899		0.098	0.098	0.098
Joint test: Data (p-val)	1.000	0.210	0.579	0.315	0.031	0.223	0.523
Sharpened q-value	1.000	0.899	0.933		0.098	0.229	0.378
Joint test: Teacher (p-val)	0.759	0.127	0.188	0.194	0.152	0.394	0.813
Sharpened q-value	1.000	0.899	0.899		0.180	0.378	0.504
Panel C. Secondary time investment outcomes: Activities parents helped students							
	Explain concepts	Help with assignments	Watch videos/TV	Find resources	Encourage student	Supervise student	Activities index
Sangsad TV info. (info)	0.001	0.007	0.004	-0.018	-0.039	-0.009	-0.017
	(0.023)	(0.020)	(0.017)	(0.022)	(0.024)	(0.025)	(0.035)
Robi info. (Robi)	0.023	0.011	-0.034**	0.003	-0.031	-0.031	-0.024
	(0.021)	(0.018)	(0.015)	(0.020)	(0.022)	(0.022)	(0.031)
Sangsad + Robi	-0.026	-0.022	0.009	-0.002	0.050	0.045	0.017
	(0.034)	(0.028)	(0.024)	(0.032)	(0.035)	(0.036)	(0.051)
Data + Sangsad	-0.067*	-0.038	-0.037	-0.034	-0.014	-0.013	-0.082
	(0.035)	(0.032)	(0.027)	(0.034)	(0.038)	(0.039)	(0.052)
Data + Robi	-0.041*	-0.024	0.014	-0.001	-0.018	0.033	-0.014
	(0.024)	(0.020)	(0.017)	(0.023)	(0.025)	(0.026)	(0.036)
Data + Sangsad + Robi	0.134***	0.077*	0.054	0.056	0.062	0.009	0.156**
	(0.050)	(0.043)	(0.037)	(0.048)	(0.052)	(0.053)	(0.073)
Teacher + Sangsad	0.001	-0.013	0.009	0.010	0.020	0.031	0.021
	(0.028)	(0.023)	(0.021)	(0.027)	(0.030)	(0.030)	(0.042)
Teacher + Data + Sangsad	-0.033	-0.014	-0.066*	0.019	-0.041	-0.079	-0.086
	(0.058)	(0.048)	(0.038)	(0.056)	(0.062)	(0.064)	(0.085)
DV mean, control	0.27	0.17	0.12	0.33	0.58	0.63	-0.00
Observations	4908	4908	4908	4908	4908	4908	4908
Joint test: Information (p-val)	0.695	0.871	0.068	0.696	0.314	0.485	0.837
Joint test: Data (p-val)	0.014	0.218	0.000	0.751	0.499	0.177	0.016
Joint test: Teacher (p-val)	0.818	0.688	0.187	0.771	0.750	0.413	0.599

Notes: Sample includes all midline survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 3, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 8: Impact of outreach on learning resources

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Tech-dependent learning resources							
	Sangsad TV	Video lessons	Robi platform	Other internet	Teacher remotely	Remote classes	Index
Sangsad TV info. (info)	0.035*	0.016	-0.001	0.015	0.004	0.003	0.034
	(0.020)	(0.022)	(0.010)	(0.013)	(0.016)	(0.013)	(0.026)
Robi info. (Robi)	-0.048***	-0.027	-0.007	-0.005	-0.008	-0.012	-0.051**
	(0.017)	(0.020)	(0.009)	(0.011)	(0.014)	(0.012)	(0.024)
Sangsad + Robi	0.017	0.003	0.001	-0.019	0.008	0.031	0.021
	(0.029)	(0.032)	(0.015)	(0.018)	(0.023)	(0.020)	(0.039)
Data + Sangsad	-0.037	0.087**	-0.011	-0.018	-0.023	-0.021	-0.029
	(0.033)	(0.039)	(0.016)	(0.020)	(0.026)	(0.022)	(0.044)
Data + Robi	0.016	0.002	0.025**	-0.002	0.004	0.026*	0.045
	(0.019)	(0.022)	(0.012)	(0.012)	(0.016)	(0.014)	(0.029)
Data + Sangsad + Robi	0.035	-0.059	-0.009	0.022	0.017	-0.016	-0.001
	(0.044)	(0.051)	(0.023)	(0.027)	(0.036)	(0.030)	(0.061)
Teacher + Sangsad	-0.042	-0.010	-0.010	-0.000	0.003	0.002	-0.027
	(0.026)	(0.027)	(0.012)	(0.016)	(0.021)	(0.017)	(0.034)
Teacher + Data + Sangsad	0.005	-0.107*	0.023	-0.035	0.018	0.011	-0.028
	(0.052)	(0.061)	(0.026)	(0.028)	(0.043)	(0.034)	(0.069)
DV mean, control	0.20	0.25	0.05	0.06	0.12	0.08	-0.00
Observations	5715	5715	5715	5715	5715	5715	5715
Joint test: Information (p-val)	0.001	0.307	0.835	0.383	0.867	0.126	0.027
Sharpened q-value	0.024	1.000	1.000	1.000	1.000	1.000	
Joint test: Data (p-val)	0.544	0.148	0.229	0.084	0.933	0.287	0.392
Sharpened q-value	1.000	1.000	1.000	1.000	1.000	1.000	
Joint test: Teacher (p-val)	0.189	0.095	0.603	0.318	0.857	0.898	0.485
Sharpened q-value	1.000	1.000	1.000	1.000	1.000	1.000	
Panel B. Non tech-dependent learning resources							
	Textbooks	Exercise books	Teacher in-person	Classes in-person	Index (4)		
Sangsad TV info. (info)	-0.002	0.010	0.007	-0.010*	-0.012		
	(0.011)	(0.020)	(0.022)	(0.005)	(0.024)		
Robi info. (Robi)	-0.011	0.004	0.010	-0.004	-0.013		
	(0.011)	(0.019)	(0.021)	(0.006)	(0.024)		
Sangsad + Robi	0.016	-0.043	-0.051	0.013	-0.009		
	(0.017)	(0.030)	(0.033)	(0.009)	(0.037)		
Data + Sangsad	-0.004	0.039	0.001	0.017	0.048		
	(0.020)	(0.033)	(0.035)	(0.013)	(0.046)		
Data + Robi	0.014	0.010	0.012	-0.003	0.020		
	(0.013)	(0.021)	(0.024)	(0.006)	(0.027)		
Data + Sangsad + Robi	-0.008	-0.022	0.015	-0.019	-0.047		
	(0.027)	(0.045)	(0.050)	(0.016)	(0.060)		
Teacher + Sangsad	-0.028*	-0.026	-0.083***	-0.003	-0.090***		
	(0.016)	(0.026)	(0.029)	(0.005)	(0.031)		
Teacher + Data + Sangsad	0.034	-0.020	0.119**	-0.020	0.048		
	(0.030)	(0.051)	(0.058)	(0.014)	(0.063)		
DV mean, control	0.94	0.32	0.62	0.02	-0.00		
Observations	5715	5715	5715	5715	5715		
Joint test: Information (p-val)	0.718	0.304	0.262	0.276	0.568		
Sharpened q-value	1.000	0.842	0.842	0.842			
Joint test: Data (p-val)	0.527	0.504	0.076	0.529	0.122		
Sharpened q-value	0.928	0.928	0.721	0.928			
Joint test: Teacher (p-val)	0.226	0.335	0.013	0.183	0.011		
Sharpened q-value	0.842	0.842	0.185	0.842			

Notes: Sample includes all midline survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 3, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

We find no aggregate evidence that receiving teacher support affected students' use of technology-based resources (Table 8). However, we do see substantial changes in how students use non-technological learning resources, with $p = 0.011$ in the Column 5 index. Specifically, we see that teacher outreach substitutes for in-person meeting with a teacher by 8.3 percentage points relative to a control-group mean of 62%. In sum, we see that the teacher outreach intervention led to a 0.09-SD decrease in the non-tech-dependent learning resource index, which is statistically significant at the 1% level.

10.3 Impacts on student time investment (Domain 5)

We hypothesize that information, data subsidies, and teacher support may influence students' time investments in their education, either directly or indirectly as a result of the impacts documented above. Section 6 shows that the majority of students are regularly completing educational activities. Accordingly, the control-group means in Table 9 demonstrates that in the absence of these interventions, students spend an average of 5.7 days per week doing schoolwork, or 19 hours per week on average.

Table 9 shows that information, data subsidies, or teacher interventions do not yield find any detectable impacts on student effort, measured as days per week students did any work or hours per week students did schoolwork. This absence of impacts could reflect that student investment is not easily influenced if there are other remaining barriers present, or that students are already dedicating their optimal amount of time to learning. The lone exception to these results is that we see evidence that students reduce the number of hours per week spent on schoolwork when they receive both the data package *and* teacher support. One explanation for this result could be that the combination of teacher and data support increases the effectiveness of student effort, reducing the optimal number of hours per week.

Table 9: Impact of outreach on student time investment, midline

	(1)	(2)
	Days/week schoolwork	Hrs/week schoolwork
Sangsad TV info. (info)	0.062	-0.465
	(0.093)	(0.706)
Robi info. (Robi)	0.031	-0.139
	(0.089)	(0.670)
Sangsad + Robi	-0.200	-0.279
	(0.137)	(1.028)
Data + Sangsad	0.009	0.887
	(0.141)	(1.153)
Data + Robi	-0.083	-0.093
	(0.105)	(0.754)
Data + Sangsad + Robi	0.204	-0.259
	(0.199)	(1.565)
Teacher + Sangsad	-0.011	0.138
	(0.116)	(0.889)
Teacher + Data + Sangsad	0.071	-3.666**
	(0.214)	(1.798)
DV mean, control	5.65	19.03
Observations	5619	5168
Joint test: Information (p-val)	0.361	0.558
Joint test: Data (p-val)	0.595	0.262
Joint test: Teacher (p-val)	0.942	0.076

Notes: Sample includes all midline" survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. Anderson q-values for joint hypothesis tests not reported because all exceed 0.85. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

10.4 Impacts on student learning

Given that these interventions reduce barriers to education and in turn affect parental economic investment and student learning research use, we also test for impacts on student learning in the medium run, measured during the May–June 2021 survey. As described above, this survey consisted of a set of adaptive questions in math and Bangla. We construct three measurements of student performance:

1. Basic score: Score on the base set of questions asked to all students in their grade (two questions at their 2020 grade level, one question one level below, and one question two levels below)

2. Score at grade level: Students' score on questions that were targeted at their 2020 grade level in the base set

3. Score below grade level: Students' score on questions that were targeted below their grade level in the base set

The results in Table 10 provide some evidence that these interventions affect student math learning, but we do not see impacts on Bangla learning. The impacts of information appear broadly negative, while the impacts of teacher outreach relative to information are positive, but they are close to zero overall. In the math assessment, we reject at the 5% and 10% levels that information and teacher support had no effect on scores. However, we interpret these results with caution prior to corrections for differential attrition and because the significance of these estimates is not robust to corrections for multiple hypothesis testing.

10.5 Impacts on student engagement (Domain 7)

Our final domain, reflects the impacts on student engagement, which we measure only after the interventions conclude. We pre-specificed three outcomes in this domain: a student-engagement index from a subset of questions of the RAPS questionnaire, whether students report that they hope to complete post-secondary schooling (mean of 89% among the control group members), and whether they report that they are currently attending in-person classes. Similar to the other endline results, we find no statistically significant aggregate impacts on any measures reported in Table 11, or on an unweighted standardized index of the three components.

10.6 Persistence of impacts on educational investment (Domains (1-5)

We also measure the impacts of interventions on Domains 1–5 at endline to test for whether intervention impacts persist after they conclude. Tables 12, 13, and 14 show that we see no evidence of persistent changes in parental investment, student use of learning resources, or student time investment. The lack of persistent impacts of the information treatment suggests that salience may be an important mechanism, while the attenuation of the data impacts indicates that these barriers remain after the support ends.

11 Implementation Fidelity

In this section, we report the results of the variables collected to assess the degree to which the intervention was delivered as intended. We sequentially review and discuss the implementation fidelity of the three main treatment arms (informational interventions, free data packages, and teacher support).

Table 10: Impact of outreach on student learning, endline

	(1)	(2)	(3)
Panel A. Math assessment			
	Basic score	Score at grade level	Score at lower level
Sangsad TV info. (info)	-0.188**	-0.082	-0.187**
	(0.087)	(0.090)	(0.085)
Robi info. (Robi)	0.105*	0.039	0.037
	(0.060)	(0.062)	(0.061)
Sangsad + Robi	0.079	0.070	0.157
	(0.117)	(0.120)	(0.115)
Data + Sangsad	0.145	0.049	0.138
	(0.119)	(0.117)	(0.119)
Data + Robi	-0.098	0.034	-0.088
	(0.066)	(0.070)	(0.067)
Data + Sangsad + Robi	0.014	-0.084	-0.007
	(0.153)	(0.155)	(0.154)
Teacher + Sangsad	0.211**	0.141	0.171*
	(0.097)	(0.100)	(0.095)
Teacher + Data + Sangsad	-0.269*	-0.091	-0.282*
	(0.161)	(0.159)	(0.161)
DV mean, control	0.01	0.00	0.02
Observations	3433	3433	3433
Joint test: Information (p-val)	0.024	0.641	0.110
Joint test: Data (p-val)	0.211	0.967	0.256
Joint test: Teacher (p-val)	0.087	0.341	0.137
Panel B. Bangla assessment			
	Basic score	Score at grade level	Score at lower level
Sangsad TV info. (info)	-0.136	-0.104	-0.016
	(0.085)	(0.092)	(0.089)
Robi info. (Robi)	-0.021	0.016	-0.061
	(0.065)	(0.065)	(0.065)
Sangsad + Robi	0.093	0.065	-0.041
	(0.118)	(0.123)	(0.120)
Data + Sangsad	0.022	-0.111	0.005
	(0.112)	(0.121)	(0.119)
Data + Robi	0.006	-0.061	0.074
	(0.071)	(0.071)	(0.072)
Data + Sangsad + Robi	-0.015	0.090	0.029
	(0.151)	(0.159)	(0.157)
Teacher + Sangsad	0.148	0.129	0.043
	(0.097)	(0.102)	(0.101)
Teacher + Data + Sangsad	-0.067	0.048	-0.035
	(0.153)	(0.168)	(0.164)
DV mean, control	-0.00	0.00	0.00
Observations	3433	3433	3433
Joint test: Information (p-val)	0.387	0.666	0.296
Joint test: Data (p-val)	0.992	0.549	0.495
Joint test: Teacher (p-val)	0.244	0.187	0.910

Notes: Sample includes all Round 1 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. Anderson q-values for joint hypothesis tests not reported because all exceed 0.70. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 11: Impact of outreach on student engagement and motivation, endline

	(1)	(2)	(3)	(4)
	Student engagement index	Hope post-secondary	Attending in-person classes	Index (7)
Sangsad TV info. (info)	0.121	-0.014	-0.005	0.009
	(0.088)	(0.028)	(0.007)	(0.049)
Robi info. (Robi)	0.063	-0.019	0.008	0.028
	(0.057)	(0.021)	(0.007)	(0.036)
Sangsad + Robi	-0.243**	0.021	-0.001	-0.065
	(0.113)	(0.038)	(0.011)	(0.068)
Data + Sangsad	-0.133	-0.005	0.008	-0.017
	(0.116)	(0.039)	(0.012)	(0.070)
Data + Robi	-0.071	0.004	-0.010	-0.054
	(0.063)	(0.023)	(0.008)	(0.039)
Data + Sangsad + Robi	0.268*	0.003	0.001	0.092
	(0.146)	(0.051)	(0.016)	(0.090)
Teacher + Sangsad	-0.129	0.007	0.001	-0.030
	(0.096)	(0.032)	(0.008)	(0.056)
Teacher + Data + Sangsad	0.278*	-0.014	-0.016	0.011
	(0.154)	(0.056)	(0.014)	(0.091)
DV mean, control	-0.01	0.89	0.01	-0.00
Observations	3397	3297	3442	3442
Joint test: Information (p-val)	0.183	0.774	0.525	0.695
Joint test: Data (p-val)	0.226	0.991	0.435	0.680
Joint test: Teacher (p-val)	0.189	0.964	0.388	0.837

Notes: Sample includes all Round 2 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. Anderson q-values for joint hypothesis tests not reported because all equal 1. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Informational interventions. The probability that users were reached by the informational SMS campaign was between 79 and 84 percent, depending on the treatment sub-arm. This was measured as the share of text messages that did not bounce back due to the phone not being operative. We do not have data on whether recipients actually read these messages. We instead planned to estimate the likelihood of reading the informational SMS by computing the share of responses received to an informational SMS that required an answer (e.g., through "press 1 if you read it"). Unfortunately, this variable is unlikely to be a suitable proxy due to the low share of responses received throughout the intervention period (0.9 percent of the numbers sent messages replied).

Regarding the informational voice blast, we determined that between 51 percent and 53 percent of users were reached by the voice blast, depending on the treatment sub-arm. This measure was computed as the share of voice blast calls that lasted at least 25 percent of the voice blast message duration. All people that listened to the informational blast stayed for the entire duration of the voice blast message.

The main difference in the implementation fidelity between the three main sub-treatments of the information interventions (Sangsad TV, Sangsad YouTube, and Robi 10-Minute School) is the content available on these platforms. During the intervention period (February 23–April 17, 2021), the Sangsad TV channel only telecast lessons for grades 1 through 5. No lessons were telecast for grades 6 through 10, which are the targeted grades of this intervention. The channel aired news telecasts, skill development lessons, and Arabic lessons (irrespective of the grade). Because no information about telecast lessons was available for the intervention period, the intervention fidelity report includes a list of the learning content disseminated on Sangsad TV from March 29–December 17, 2020: There were a total of 165 class days, with 1763 lessons telecast during this period. By grade, 288 lessons were broadcast for grade 6, 293 for grade 7, 297 for grade 8, 485 for grade 9, and 400 for grade 10. Since the Sangsad YouTube channel was tied to the one telecast in the TV channel, almost no new videos nor streaming content was uploaded during the intervention period.

Table 12: Persistence of the impact of outreach on learning resources

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Tech-dependent learning resources							
	Sangsad TV	Video lessons	Robi platform	Other internet	Teacher remotely	Remote classes	Index
Sangsad TV info. (info)	0.012	-0.033	-0.001	0.011	-0.016	-0.026	-0.025
	(0.029)	(0.033)	(0.019)	(0.020)	(0.025)	(0.021)	(0.052)
Robi info. (Robi)	-0.023	-0.019	0.007	0.006	-0.008	0.003	-0.011
	(0.019)	(0.023)	(0.013)	(0.014)	(0.017)	(0.016)	(0.031)
Sangsad + Robi	0.011	0.018	-0.009	-0.022	0.027	0.043	0.031
	(0.037)	(0.044)	(0.026)	(0.026)	(0.033)	(0.029)	(0.067)
Data + Sangsad	0.025	0.060	0.013	-0.012	0.047	0.033	0.083
	(0.041)	(0.045)	(0.025)	(0.025)	(0.035)	(0.028)	(0.066)
Data + Robi	0.012	0.004	-0.015	-0.011	0.005	-0.001	-0.011
	(0.020)	(0.026)	(0.014)	(0.014)	(0.020)	(0.017)	(0.032)
Data + Sangsad + Robi	-0.008	-0.028	0.006	0.047	-0.053	-0.053	-0.036
	(0.051)	(0.058)	(0.033)	(0.032)	(0.045)	(0.037)	(0.082)
Teacher + Sangsad	0.005	-0.003	-0.001	-0.006	-0.008	0.025	0.007
	(0.033)	(0.036)	(0.021)	(0.022)	(0.028)	(0.023)	(0.057)
Teacher + Data + Sangsad	-0.072	-0.048	-0.037	-0.031	-0.026	-0.040	-0.146*
	(0.054)	(0.062)	(0.030)	(0.030)	(0.048)	(0.038)	(0.085)
DV mean, control	0.13	0.22	0.05	0.05	0.12	0.08	-0.00
Observations	4326	4326	4326	4326	4326	4326	4326
Joint test: Information (p-val)	0.568	0.417	0.936	0.877	0.877	0.271	0.962
Joint test: Data (p-val)	0.352	0.443	0.444	0.027	0.699	0.555	0.386
Joint test: Teacher (p-val)	0.268	0.600	0.187	0.162	0.647	0.493	0.084
Panel B. Non tech-dependent learning resources							
	Textbooks	Exercise books	Teacher in-person	Classes in-person	Index (4)		
Sangsad TV info. (info)	0.009	-0.009	-0.010	0.004	0.014		
	(0.017)	(0.031)	(0.040)	(0.009)	(0.052)		
Robi info. (Robi)	-0.005	-0.029	-0.013	-0.001	-0.031		
	(0.013)	(0.023)	(0.028)	(0.003)	(0.031)		
Sangsad + Robi	-0.018	0.041	-0.012	-0.008	-0.037		
	(0.025)	(0.042)	(0.052)	(0.009)	(0.065)		
Data + Sangsad	-0.008	0.040	0.001	-0.008	-0.019		
	(0.024)	(0.043)	(0.052)	(0.009)	(0.062)		
Data + Robi	0.009	0.060**	0.032	0.001	0.062*		
	(0.015)	(0.026)	(0.031)	(0.003)	(0.034)		
Data + Sangsad + Robi	0.014	-0.062	0.011	0.019*	0.065		
	(0.032)	(0.057)	(0.068)	(0.010)	(0.078)		
Teacher + Sangsad	-0.003	0.019	-0.015	-0.008	-0.034		
	(0.020)	(0.035)	(0.045)	(0.009)	(0.058)		
Teacher + Data + Sangsad	-0.003	-0.037	0.041	0.016	0.062		
	(0.033)	(0.059)	(0.072)	(0.012)	(0.084)		
DV mean, control	0.95	0.41	0.48	0.00	0.00		
Observations	4326	4326	4326	4326	4326		
Joint test: Information (p-val)	0.692	0.631	0.644	0.032	0.271		
Joint test: Data (p-val)	0.827	0.087	0.454	0.042	0.014		
Joint test: Teacher (p-val)	0.969	0.802	0.850	0.415	0.755		

Notes: Sample includes all Round 1 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 13: Persistence of the impact of outreach on parental investment

	(1)	(2)	(3)	(4)
Panel A. Time investment				
	Days reminded student	Hours parent helped	Hours other family helped	Time index
Sangsad TV info. (info)	0.237	-0.190	0.088	0.027
	(0.230)	(0.519)	(0.224)	(0.053)
Robi info. (Robi)	0.099	-0.083	0.084	0.008
	(0.166)	(0.352)	(0.230)	(0.041)
Sangsad + Robi	-0.400	0.351	-0.225	-0.043
	(0.312)	(0.682)	(0.338)	(0.071)
Data + Sangsad	-0.378	0.268	-0.317	-0.047
	(0.297)	(0.707)	(0.282)	(0.071)
Data + Robi	-0.019	-0.084	-0.121	-0.016
	(0.184)	(0.395)	(0.242)	(0.043)
Data + Sangsad + Robi	0.476	-0.425	0.567	0.073
	(0.401)	(0.903)	(0.423)	(0.092)
Teacher + Sangsad	-0.204	0.651	-0.046	0.015
	(0.258)	(0.602)	(0.260)	(0.061)
Teacher + Data + Sangsad	0.496	-0.780	0.800	0.056
	(0.413)	(0.954)	(0.565)	(0.106)
DV mean, control	4.13	4.61	0.83	0.01
Observations	4236	4185	3068	4268
Joint test: Information (p-val)	0.644	0.965	0.929	0.940
Joint test: Data (p-val)	0.743	0.879	0.566	0.957
Joint test: Teacher (p-val)	0.486	0.548	0.306	0.681
Panel B. Economic investment				
	Private tutoring	Money on tutoring		
Sangsad TV info. (info)	-0.008	-231.934**		
	(0.039)	(94.415)		
Robi info. (Robi)	0.002	-12.749		
	(0.029)	(92.444)		
Sangsad + Robi	-0.013	205.000		
	(0.053)	(149.947)		
Data + Sangsad	0.066	340.610**		
	(0.051)	(141.737)		
Data + Robi	0.033	92.583		
	(0.032)	(102.537)		
Data + Sangsad + Robi	-0.084	-274.754		
	(0.069)	(204.820)		
Teacher + Sangsad	-0.035	242.999**		
	(0.045)	(115.113)		
Teacher + Data + Sangsad	0.008	-273.735		
	(0.074)	(205.428)		
DV mean, control	0.48	743.05		
Observations	4299	4256		
Joint test: Information (p-val)	0.926	0.100		
Joint test: Data (p-val)	0.303	0.053		
Joint test: Teacher (p-val)	0.666	0.107		

Notes: Sample includes all Round 2 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 14: Impact of outreach on student time investment, endline

	(1)	(2)
	Days/week schoolwork	Hrs/week schoolwork
Sangsad TV info. (info)	0.024	-1.428
	(0.181)	(0.956)
Robi info. (Robi)	-0.059	-0.668
	(0.125)	(0.662)
Sangsad + Robi	-0.030	1.651
	(0.239)	(1.247)
Data + Sangsad	-0.064	1.097
	(0.259)	(1.273)
Data + Robi	0.022	0.422
	(0.139)	(0.728)
Data + Sangsad + Robi	0.098	-1.523
	(0.327)	(1.648)
Teacher + Sangsad	-0.013	1.155
	(0.199)	(1.037)
Teacher + Data + Sangsad	-0.169	-1.326
	(0.346)	(1.774)
DV mean, control	5.46	15.35
Observations	4245	4194
Joint test: Information (p-val)	0.923	0.431
Joint test: Data (p-val)	0.866	0.894
Joint test: Teacher (p-val)	0.814	0.534

Notes: Sample includes all endline" survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. Anderson q-values for joint hypothesis tests not reported because all exceed 0.85. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

However, the TV YouTube channel contained the stock of videos that were previously uploaded. As of July 2, 2021, the YouTube channel contained 749 videos: 140 for grade 6, 130 for grade 7, 148 for grade 8, 150 for grade 9, and 150 for grade 10.

The lack of lessons broadcast on the Sangsad TV channel implies that the informational messages for the "Sangsad TV only information" and nested in other treatment arms were not directing participants to useful educational resources during the intervention period. However, they could have still served as a reminder to use other educational resources. Since the YouTube Sangsad TV channel has a stock of lessons permanently uploaded, any informational intervention including the YouTube Sangsad TV channel was potentially more useful to individuals seeking educational resources.

Similarly, the total available content on the Robi 10-Minute School website and app as of July 02, 2021, comprised 7781 lessons: 835 for grade 6, 1074 for grade 7, 1026 for grade 8, and 846 for grade 9 and 10. During the intervention period (25 February 2021 to 17 April 2021) 149 new lessons were uploaded: 12 for grade 6, 36 for grade 7, 13 for grade 8, and 88 for grade 9 and 10. Given the Robi app is set up to access the stock of lessons in an adaptive way depending on the students' current level, it is more important to have a large stock of lessons than to have new uploads during the intervention period.

Discounted data package. The probability that individuals received the discounted data package was 99.7%, measured as the share users that had the data package successfully transferred to them. This data was reported by our telecom partner. Due to confidentiality restrictions, we could not obtain administrative information to measure changes in internet use among those who received the discounted data package.

Teacher support. To measure the implementation fidelity of our teacher intervention, in which teachers called a set of assigned students for weekly check-ins, we relied on weekly teacher surveys. There was a

Table 15: Topics discussed during the teacher-student interactions

	Weeks			
Topic	**Week1**	**Week2**	**Week3**	**Week4**
Math	10,99%	15,40%	14,16%	16,10%
Bangla	10,11%	17,75%	16,52%	17,12%
English	13,85%	19,84%	19,76%	19,18%
Science/Social Science	7,91%	13,32%	10,32%	12,67%
ICT	13,41%	16,71%	15,93%	14,38%
Multiple topics	4,84%	1,83%	3,54%	1,37%
Advance Science (physics, chemistry, biology)	0,66%	3,13%	2,06%	2,74%
Random topic (Future plan, Study routine, Hobby etc.)	8,13%	6,01%	10,32%	9,93%
Motivational discussion	0,22%	0,00%	0,00%	0,34%
Remote education and assignments	1,10%	3,13%	1,47%	2,05%
Health related	0,00%	0,52%	0,29%	0,00%
Mental development	0,88%	0,78%	0,00%	0,00%
Rapport building	0,22%	0,00%	0,00%	0,00%
No lecture	27,47%	1,57%	4,72%	4,11%
Unidentified	0,22%	0,00%	0,88%	0,00%
Total interaction	**455**	**383**	**339**	**292**

Notes: In weekly surveys, teachers reported the topics covered during each student interaction.

total of 455 student-teacher pairs. The total number of interactions between support teachers and assigned students was 1469. Disaggregated by week, there were 455 interactions in week 1 (100%), 383 in week 2 (84.17%), 339 in week 3 (74.51%), and 292 in week 4 (64.18%). Teachers also recorded the duration of the interactions listed above. The stipulated time was 30 minutes for the weekly check-in. For the total duration of the teacher intervention (4 weeks), on average teachers and students interacted for 1:46 hours, with a weekly average of interaction time between 0:21 and 0:32 minutes, depending on the week. Teachers provided various forms of support, such as remedial tutoring in several subjects and encouragement for re-enrollment. The topics discussed are in Table 15. During these interactions, the most prevalent topics of discussion were specific subjects (Math, Bangla, English, Science/Social Sciences, and ICT), with shares ranging from 10 percent to 19 percent. Other discussions included remote education and assignments and random topics (future plans, study routines, hoppies, etc.).

12 Cost Effectiveness

Using the costing model provided by SIEF, which takes into account opportunity costs of all resources for the interventions, the cost per target participant for each of the treatments ranged between 0.54 USD and 46.15 USD, with the per-participant cost for the control group being 0.23 USD. While we found crowding out of educational investments as a result of the treatment arms that included the teacher intervention, we found significant positive effects on outcomes such as spending on private tutoring as a result of the data subsidy treatments, which also included information provision about lessons from Sangsad TV, or information about the adaptive learning platform, Robi. The costs for these ranged between 2.33 and 7.68 USD, and fairly high cost-effectiveness ratios of 42.18 and 82.84, respectively.

This suggests that in contexts such as Bangladesh, reducing financial barriers can be a highly cost effective strategy for inducing investments in education, such as spending on tutoring. We should note here that while it may take a longer, or more intensive intervention to be able to see positive impacts on learning outcomes, we cannot rule out improvements in other outcomes (not measured in this study) as a result of the higher educational investments induced by the data subsidy interventions.

13 Discussion and Conclusions

13.1 Review and discussion of outcomes

In this study, we first document the extent to which adolescent students in Bangladesh have continued educational activities during the prolonged school closures in Bangladesh. We then conduct a randomized controlled trial to evaluate the effects of reducing both informational and monetary costs of accessing learning resources.

We document that nearly all secondary students were continuing with regular educational activities throughout the pandemic, even more than one year after the school closures began. As of March 2021, 89 percent of secondary students reported that they were continuing educational activities, which remained fairly constant into July. The median child studies 14 hours per week. The most common activities are those that do not require additional technological inputs: nearly all students are reading school books (92 percent); approximately half are meeting in-person with teachers in some capacity, whether through tutoring or school activities; and between 31 and 42 percent are working with exercise books. Few are watching government-provided educational TV lessons, online videos, or using other online tools. Additionally, more than 60 percent of children received private tutoring since the closures began (in December, March, and July 2021). While students from higher SES backgrounds are more likely to receive tutoring, the majority of students from below-median SES families still receive tutoring.

While more secondary students are working for pay in March and July relative to December 2020, the number remains relatively low (11 percent and 10 percent, respectively). However, even among those who are working, 88 percent are also doing educational activities as of March, and 85 percent as of July. Consequently, nearly all parents (97 percent in March) expect that their children will return to schools once they are open for in-person learning. Additional work will be needed to assess the true likelihood of return to schooling, as the economic reality of sending children to in-person schooling may lead to larger drops in enrollment, particularly among poorer households, as experienced in Sierra Leone during the aftermath of the Ebola pandemic (Bandiera et al., 2020). Already, students from lower-SES backgrounds are less likely to be continuing with their studies during the closures, to receive support from family members and private tutoring, and to be engaging in specific remote educational activities.

In this context, in which students have a high likelihood of investing in their education despite school closures, but low usage of technology-based tools, the experimental results (discussed in Section 10) provide three key takeaways.

1. Regular information provision affects parental educational investment, particularly through expenditures on private tutoring. However, the content of this information is also important, with information that highlights an adaptive learning platform driving the increase in private tutoring.

2. Economic constraints prevent families from fully investing in remote education. Relieving these constraints even modestly, such as through a temporary reduction in data costs, increases the use of remote technologies. This also demonstrates the importance of data costs in particular, which was also clearly evident in our qualitative interviews, discussed in Section 7.

3. Third, teacher support through weekly phone calls does lead to changes in parental economic investment, aside from a suggestive reduction in the likelihood of receiving private tutoring. However, it does not affect which resources students use, particularly in the portfolio of resources that do not rely on technology.

13.2 Study limitations and next steps

By design, our sample includes students from grades 6 through 10 that have at least one smartphone in their household, reflecting those who potentially could be treated by our intervention Although the analysis excludes students from more underprivileged backgrounds, those likely most in need of remote educational support, our sample draws from three sample sources with a range of educational backgrounds and earnings, including a large sample from the Secondary School Stipend program, who tend to be from lower-income households. Additional work will benchmark income against national standards using household surveys.

In terms of implementation fidelity, we know that approximately 82 percent and 52 percent of users received SMS and voice informational campaigns, respectively. However, these figures do not indicate whether users read or listened to these messages. Consequently, we may be underestimating the true impacts of these informational treatments in a context with full compliance. Additionally, the Sangsad TV channel did not telecast lessons during the intervention period for the targeted grades. This implies that the informational messages for the "Sangsad TV only information" and nested in other treatment arms were not directing participants to useful educational resources during the intervention period. However, these messages may have still served as a reminder to use other educational resources. More information about this limitation is included in the fidelity report in Section 11.

Regarding the discounted internet data package, the probability that individuals received it was nearly 100 percent. However, due to confidentiality restrictions, we could not obtain administrative information to measure changes in usage of the internet among those that received it. This implies that we do not know whether (1) households were aware of the data package transfer, and (2) they knew the intended educational purpose of the discounted data package, which was an unconditional transfer. We plan to examine additional self-reported survey questions on internet consumption that may provide further insights on this.

Another limitation of this study is that all the results come from self-reported measures. This is in large part due to the nature of the intervention—remote learning during the time of school closures with a country-wide focus—where it was extremely difficult to obtain relevant data from administrative sources. One concern with self-reported measures is that the more intensive interventions (data subsidies and teacher support) may have pressured parents and students to report higher engagement with remote education resources. However, close alignment between parent and student activity reports in the qualitative survey suggests that misreporting is likely not a substantial concern. Additionally, rates of educational investment are comparable to Beam and Mukherjee (2021), which included no intervention and was conducted among more economically disadvantaged populations. Another concern is that parents may not have detailed information about what their children's remote education activities might be, what learning resources they are using, how much time they are spending on them, etc. Future work will include robustness tests for parents that were at home while their children did schoolwork compared to those that didn't. Another limitation related to outcome measurement is that the learning assessments should be interpreted with caution, given the inherent challenges and limitations of conducting assessments by phone (Angrist et al., 2020b).

A final limitation of the current version of the report is that while we do not find evidence of differential attrition by treatment arm at the midline survey, which contains our main outcome measures, treatment arm does predict the response rates at endline, as explained in detail in Section 5.2. One possible explanation is that the process of randomly reducing the size of the sampling frame for specific arms midway through the endline survey inadvertently affected outreach effort among certain arms. through the survey. Until we finish investigating this issue, the endline results on engagement and learning should be interpreted with extreme

caution. Future work will address this issue and, if attrition persists, we will adjust all point estimates using Lee bounds. A related minor limitation is that baseline characteristics also predict the likelihood of response. When interpreting overall averages, this means that we may not be capturing the full range of experiences.

Finally, while our findings suggest that interventions that reduce financial barriers can be cost effective in increasing investments in education, we are unable to definitively say whether these translate to improvements in learning. It is plausible that an intervention that lasts for a longer duration, or one that is more intensive, may lead to positive impacts on learning outcomes. We are also not able to rule out improvements in other outcomes (not measured in this study) as a result of the higher educational investments induced by the data subsidy interventions.

14 Specific Findings for Policy and Practice

The results of this study have several implications for education providers in the public and private sector:

- **Students and their families are willing and eager to learn remotely.** We document high compliance with submissions of assignments both throughout and at the end of the year. However, the use of technology-based resources is low, especially among students from poorer families.
- Policymakers and schools should **expect substantial learning losses** upon return to in-person classes. In addition to incoming global evidence of learning losses, this is also is reflected in the median of 2 hours per day studying, far less than what students experience in a typical classroom setting. Additional support to help students catch up will be necessary. Given the anticipated inequality of learning losses as a result of differential investments, particularly along the lines of socioeconomic status, scope to integrate evidence-based methods like Teaching at the Right Level into curricula could benefit students of all levels and help struggling students stay motivated (Banerjee et al., 2016).
- **Private tutors, as well as tutoring and coaching centers, have adapted to provide supplemental and replacement in-person instruction** during the closures, and they are used frequently by students. The effectiveness of these supports is largely unknown, but they could hold promise to help students catch up during a return to full or hybrid in-person schooling.
- **Cost of data is a substantial barrier to technology-based remote learning**. Even among the households with smartphones that comprise our sample, about half do not have an active data package at the time of our surveys, and few students use remote educational tools that rely on internet access. Reducing data costs, even in a way that does not put any limits on *how* families use the subsidy, led to greater investment in both technological and non-technological educational activities. **Partnering with telecommunication companies to develop competitive packages** for students (and teachers) **and/or to waive data charges when using particular educational sites and platforms, such as Konnect,** would increase usage of internet-based learning tools and likely have positive spill-over effects into other areas of educational investment. However, these partnerships would not benefit students that cannot access a smartphone, and lower-tech solutions would be an important complement to facilitate inclusive access to remote education.
- **Students value personal contact with teachers, even when not in person** The high rate of tutoring usage indicates that families and students are willing to spend additional money to access in-person instruction, even among poorer households. However, we also see high rates of take-up of our

teacher outreach intervention, despite students having no prior connection to the assigned teacher and contacting him/her only by mobile phone. This contact does lead to a modest reallocation of family resources, potentially freeing up parents' time for other activities. A scale-up of this sort of initiative could be set up as a separate program outside of individual schools, or it could be administered by schools directly with teachers or assistants, particularly while schools are closed or only partly open. In-person teacher outreach programs could be particularly important in areas where students have had minimal to no communication with their own teachers and/or schools during the closures.

We hesitate to draw conclusions about the impact of these interventions on student learning itself. Assessing student learning by phone proved challenging, as surveys were limited to a handful of questions that could be both delivered and answered orally. Our assessment results do not suggest that any of these interventions were sufficient to promote learning, but the dimensions on which we measure learning are, necessarily, somewhat limited. They suggest that data and teacher support can have sizable impacts on student and family educational investment, but we cannot say either way whether they will translate to learning gains.

As the Government of Bangladesh considers the appropriate timing and means to return to in-person education, there is considerable scope for a continuation and even expansion of remote learning modalities. Given that there are high barriers to using high-tech learning resources such as internet options, this study highlights the importance of providing methods of learning that are accessible to students with limited access to technology, such as resuming Sangsad TV broadcasts, providing radio instruction, or increasing efforts to connecting regularly with students through assigning and providing feedback on modular workbooks and packets. Additionally, these results point to the important role of individual learning support and establishing connections with educators. Promoting direct, regular outreach from teachers to their own students—along with developing initiatives to connect students to teachers or tutors to provide guidance, support, and help—shows promise in keeping students engaged.

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A Details on field work

Field staff recruitment and training

For each quantitative survey wave, IPA recruited enumerators, supervisors, and audio auditors to conduct fieldwork remotely (see Table A1. Enumerators worked in teams and reported to a supervisor, and the supervisors reported to one field manager. In all quantitative survey rounds, female enumerators comprise more than 80 percent of the total team because we found that both parents and students felt more comfortable speaking with female surveyors about their children's education and their own aspirations.

Table A1: Field staff by survey wave

	Baseline		**Midline**		**Endline**	
	N	% Female	N	% Female	N	% Female
Enumerators	29	83%	31	81%	36	72%
Supervisors	4	0%	4	0%	4	0%
Back Checker	2	100%	0	—	0	—
Audio Auditors	1	0%	1	0%	2	0%

Quality control

Across all three survey waves, IPA used three main forms of quality controls.

1. High frequency checks: IPA conducted high frequency checks to identify collection issues in real time. These included measures of enumerators' performance, time taken per survey, enumerator productivity, survey result, outliers, missing values, and other specified values. If any unusual figure appeared, the enumerator was contacted immediately to find out the reason behind the unusual pattern. If any enumerator took longer than the usual survey duration, her survey data was checked, she was contacted, and remedial steps were taken. If any unusual value was noticed in the collected data, the enumerator was contacted to double check. The enumerators also kept notes to support later data cleaning.

2. Backchecks: During baseline, a team of back checkers called 10 percent of households surveyed to ask a few questions from the original survey. A staff member compared these responses to the original responses. However, we did not use backchecks in later waves because audio audits provided reliable real-time data and because we were wary frustrating respondents who had already been contacted multiple times already through survey waves and interventions.

3. Audio audits: Up to five-minutes of survey audio was recorded, and the location of these checks varied by survey. For each date of the survey, one audio auditor listened to 10-12 of the random audio recordings to assess the way individual enumerators asked questions and interpreted responses, and also to understand the respondent's comprehension, comfort, etc.

Additionally, IPA staff built a dashboard for both surveys which pulled real-time data from the server. It mainly included some selective variables to signify the daily outcome, productivity, and response rate. It also provided an overview of the enumerator's performance and basic regional statistics.

B Additional details on methods

Testable hypotheses

These testable hypotheses were described in our pre-analysis plan, and here we explain them in more detail and link them to the specification in Section 8.

Testable hypotheses on Information Provision.[8] Treatment 1 and Treatment 2, which provide information about (1) Sangsad TV, a government-led remote learning initiatives, and (2) Robi, an adaptive learning resource, will increase take-up and use of these specific educational products.

$$H_0 : \beta_1 = \beta_2 = \beta_3 = 0$$

(H1.1) Increase in Sangsad TV usage / Robi usage (certain outcomes in domain 3) *(secondary analysis)*

(H1.2) *Parental investment* (Domain 1 and 2). Increased take-up of these specific educational products induced by Treatment 1 and Treatment 2 will affect parents' investment in their children's education, measured primarily through money spent on tutoring and/or parental time investment. If these educational products are a substitute for parental investment, we would expect a reduction in measured investments across these outcomes. If they are a complement, then we would expect an increase. The impact is negative if parents were previously unaware of these resources.

(H1.3) *Student effort* (Domain 5). Increased take-up of these specific educational products induced by Treatment 1 and Treatment 2 will weakly increase student time spent on educational activities.

(H1.4) *Student learning and motivation* (Domains 6 and 7). These educational interventions will increase student learning and student engagement, motivation, and re-enrollment.

Testable hypotheses on reduction of data cost.[9]

$$H_0 : \beta_4 = \beta_5 = \beta_6 = \beta_8 = 0$$

(H2.1) *Usage of teach-related learning resources.* Treatment 3 (data subsidy) will increase the take-up and use of technology-dependent learning resources for the duration of the intervention. (Increase data usage at midline and endline (secondary analysis), and domain 3 at midline and endline).

(H2.2) *Usage of other learning resources.* If Treatment 3 (data subsidy) increases the take-up and usage of educational resources that rely on the internet, this in turn may affect the usage of non-technology-based learning resources. There will be a decrease in non-technology-based learning resources if they are substitutes to technology-based resources, or there will be an increase if they are complements. (Domain 4).

(H2.3) *Parental investment.* If Treatment 3 increases the take-up and usage of technology-based learning resources, this in turn will impact parental monetary investments and parental time investment. There will be a decrease in monetary investment (time investment) if it is a substitute for technology-based learning resources. There will be an increase if they are complements (Domain 1 and 2 at midline and endline).

[8] H1, H1A, H1B from the PAP for medium-run outcomes, and H4 and H5 for endline outcomes.
[9] H2, H2A and H2B from PAP for midline outcomes, and H4 and H5 for endline outcomes.

(H2.4) *Student effort. (Secondary analysis)*

(H2.5) *Student learning and motivation.* These educational interventions will increase student learning and student engagement, motivation, and re-enrollment. (Domain 6 and 7, measured in second follow-up survey).

Testable hypotheses on teacher support.[10]

$$H_0 : \beta_7 = \beta_8 = 0$$

(H3.1) *Usage of other learning resources.* Regardless of *whether* students increase their time spent on educational activities, Treatment 4 (teacher support) affect what educational learning resources student use. If the other learning resources are a substitute for teacher support, their usage will decrease. There will be an increase if they are complements (Domains 3 and 4).

(H3.2) *Parental investment.* Treatment 4 (teacher support) will impact parental monetary investment and parental time investment. There will be a decrease in tutoring (parental time investment) if it is a substitute of teacher support. There will be an increase if it is a complement (Domains 1 and 2).

(H3.3) *Student effort.* Treatment 4 (teacher support) will increase student time spent on educational activities (Domain 5).

(H3.4) *Student learning and motivation.* These educational interventions will increase student learning and student engagement, motivation, and re-enrollment (Domain 6 and 7, measured in the second follow-up survey).

[10] H3, H3A, H3B from PAP for midline, and H4 and H5 for endline outcomes

A Appendix tables

Table A2: Response rates by treatment assignment, disaggregated

	(1)	(2)
	Follow-up 1	Follow-up 2
T1A: only TV No data No teacher	0.043*	-0.119**
	(0.024)	(0.051)
T1A: only TV No data Teacher	-0.014	-0.009
	(0.028)	(0.029)
T1B: TV + YT No data No teacher	-0.025	-0.044
	(0.035)	(0.042)
T1B: TV + YT No data Teacher	-0.002	-0.050
	(0.036)	(0.038)
T1B: TV + YT Data No teacher	-0.006	-0.083**
	(0.032)	(0.035)
T1B: TV + YT Data Teacher	-0.093**	0.051
	(0.040)	(0.040)
T1A: TV + T2B: Robi No data No teacher	0.016	-0.095***
	(0.026)	(0.032)
T1A: TV + T2B: Robi Data No teacher	-0.017	0.018
	(0.026)	(0.027)
T2B: only Robi No data No teacher	0.018	-0.063**
	(0.020)	(0.025)
T2B: only Robi Data No teacher	0.025	-0.004
	(0.020)	(0.021)
T2B: Robi + TV + YT No data No teacher	0.005	-0.036
	(0.026)	(0.033)
T2B: Robi + TV + YT Data No teacher	-0.007	-0.041
	(0.025)	(0.027)
Observations	8397	6981
Response rate, control	0.68	0.58
P-val, joint significance	0.2331	0.0033

Notes: Child-level data includes all respondents contacted at first and second follow-up surveys, respectively. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Household-level controls are those listed in Table 3, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.1 Results using specification without controls

Table A3: Impact of Outreach on Parental Investment

	Panel A. Time investment				Panel B. Economic investment		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Days reminded student	Hours parent helped	Hours other family helped	Time index	Private tutoring	Money on tutoring	Money on other education
Sangsad TV info. (info)	0.076	-0.414	0.402*	0.032	-0.007	-101.027	-4.482
	(0.147)	(0.383)	(0.232)	(0.036)	(0.025)	(82.934)	(13.981)
Robi info. (Robi)	0.051	-0.747**	0.086	-0.019	0.041*	164.740*	-36.165***
	(0.136)	(0.332)	(0.194)	(0.028)	(0.023)	(86.638)	(11.421)
Sangsad + Robi	-0.101	1.159**	-0.355	0.007	-0.056	-35.209	26.932
	(0.212)	(0.558)	(0.336)	(0.050)	(0.037)	(127.130)	(19.491)
Data + Sangsad	-0.044	0.797	0.056	0.029	0.111***	208.379	14.010
	(0.240)	(0.678)	(0.438)	(0.059)	(0.039)	(128.539)	(21.678)
Data + Robi	0.002	0.376	0.208	0.038	0.000	-124.690	20.105
	(0.154)	(0.379)	(0.234)	(0.032)	(0.026)	(98.090)	(12.690)
Data + Sangsad + Robi	0.072	-0.715	-0.085	-0.037	-0.083	-140.261	-22.984
	(0.325)	(0.896)	(0.560)	(0.076)	(0.054)	(183.169)	(29.392)
Teacher + Sangsad	0.101	0.540	-0.273	-0.003	-0.042	96.526	3.261
	(0.183)	(0.473)	(0.300)	(0.043)	(0.031)	(110.792)	(17.514)
Teacher + Data + Sangsad	0.047	-2.423**	-0.493	-0.137	-0.027	40.308	-20.668
	(0.383)	(1.058)	(0.580)	(0.087)	(0.064)	(231.731)	(35.262)
DV mean, control	4.40	6.57	1.91	-0.00	0.64	1027.82	138.56
Observations	5600	5359	5407	5661	5688	5359	5065
Joint test: Information (p-val)	0.956	0.112	0.381	0.511	0.101	0.067	0.013
Joint test: Data (p-val)	0.999	0.111	0.631	0.272	0.019	0.165	0.474
Joint test: Teacher (p-val)	0.775	0.073	0.199	0.177	0.185	0.536	0.835

Panel C. Secondary time investment outcomes: Activities parents helped students

	Explain concepts	Help with assignments	Watch videos/TV	Find resources	Encourage student	Supervise student	Activities index
Sangsad TV info. (info)	-0.005	0.004	0.002	-0.023	-0.045*	-0.015	-0.028
	(0.024)	(0.021)	(0.018)	(0.022)	(0.025)	(0.025)	(0.037)
Robi info. (Robi)	0.011	0.003	-0.041***	-0.002	-0.036	-0.037	-0.041
	(0.022)	(0.018)	(0.015)	(0.020)	(0.022)	(0.023)	(0.032)
Sangsad + Robi	-0.010	-0.011	0.018	0.010	0.061*	0.057	0.044
	(0.035)	(0.029)	(0.025)	(0.032)	(0.036)	(0.037)	(0.053)
Data + Sangsad	-0.060*	-0.035	-0.029	-0.028	-0.003	-0.002	-0.064
	(0.036)	(0.032)	(0.027)	(0.035)	(0.039)	(0.039)	(0.054)
Data + Robi	-0.032	-0.018	0.018	0.002	-0.014	0.036	-0.003
	(0.025)	(0.020)	(0.017)	(0.023)	(0.025)	(0.026)	(0.037)
Data + Sangsad + Robi	0.112**	0.062	0.042	0.047	0.053	-0.000	0.125*
	(0.051)	(0.044)	(0.037)	(0.048)	(0.053)	(0.054)	(0.076)
Teacher + Sangsad	-0.007	-0.020	0.005	0.010	0.027	0.038	0.017
	(0.030)	(0.024)	(0.021)	(0.027)	(0.031)	(0.031)	(0.043)
Teacher + Data + Sangsad	-0.027	-0.006	-0.067*	0.012	-0.066	-0.102	-0.100
	(0.058)	(0.048)	(0.038)	(0.057)	(0.064)	(0.066)	(0.086)
DV mean, control	0.27	0.17	0.12	0.33	0.58	0.63	-0.00
Observations	4908	4908	4908	4908	4908	4908	4908
Joint test: Information (p-val)	0.928	0.986	0.025	0.686	0.198	0.354	0.612
Joint test: Data (p-val)	0.067	0.472	0.001	0.821	0.380	0.116	0.040
Joint test: Teacher (p-val)	0.757	0.552	0.138	0.840	0.536	0.255	0.491

Notes: Sample includes all Round 1 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Impact of Outreach on Learning Resources

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Tech-dependent learning resources							
	Sangsad TV	Video lessons	Robi platform	Other internet	Teacher remotely	Remote classes	Index
Sangsad TV info. (info)	0.027	0.010	-0.003	0.013	0.003	0.002	0.025
	(0.021)	(0.022)	(0.010)	(0.013)	(0.016)	(0.013)	(0.027)
Robi info. (Robi)	-0.058***	-0.035*	-0.009	-0.008	-0.010	-0.016	-0.065***
	(0.017)	(0.020)	(0.009)	(0.011)	(0.014)	(0.012)	(0.024)
Sangsad + Robi	0.033	0.016	0.007	-0.013	0.009	0.036*	0.044
	(0.030)	(0.032)	(0.015)	(0.018)	(0.023)	(0.020)	(0.040)
Data + Sangsad	-0.016	0.094**	-0.009	-0.016	-0.022	-0.017	-0.011
	(0.034)	(0.038)	(0.016)	(0.020)	(0.027)	(0.022)	(0.045)
Data + Robi	0.017	0.006	0.027**	0.001	0.007	0.029**	0.053*
	(0.020)	(0.022)	(0.012)	(0.012)	(0.016)	(0.014)	(0.030)
Data + Sangsad + Robi	0.019	-0.075	-0.016	0.016	0.014	-0.025	-0.031
	(0.045)	(0.051)	(0.023)	(0.027)	(0.036)	(0.030)	(0.062)
Teacher + Sangsad	-0.035	-0.011	-0.012	-0.001	0.000	0.001	-0.028
	(0.026)	(0.027)	(0.012)	(0.016)	(0.020)	(0.017)	(0.035)
Teacher + Data + Sangsad	-0.019	-0.109*	0.023	-0.035	0.017	0.010	-0.041
	(0.052)	(0.062)	(0.027)	(0.028)	(0.044)	(0.034)	(0.070)
DV mean, control	0.20	0.25	0.05	0.06	0.12	0.08	-0.00
Observations	5715	5715	5715	5715	5715	5715	5715
Joint test: Information (p-val)	0.000	0.223	0.781	0.418	0.851	0.089	0.010
Joint test: Data (p-val)	0.646	0.121	0.195	0.095	0.926	0.236	0.376
Joint test: Teacher (p-val)	0.190	0.086	0.571	0.283	0.905	0.937	0.373
Panel B. Non tech-dependent learning resources							
	Textbooks	Exercise books	Teacher in-person	Classes in-person	Index (4)		
Sangsad TV info. (info)	-0.003	0.012	0.006	-0.011**	-0.014		
	(0.011)	(0.020)	(0.023)	(0.005)	(0.024)		
Robi info. (Robi)	-0.013	0.003	0.009	-0.005	-0.016		
	(0.011)	(0.019)	(0.021)	(0.006)	(0.025)		
Sangsad + Robi	0.018	-0.042	-0.048	0.014	-0.004		
	(0.017)	(0.030)	(0.034)	(0.009)	(0.038)		
Data + Sangsad	-0.000	0.042	0.010	0.018	0.060		
	(0.020)	(0.033)	(0.036)	(0.013)	(0.046)		
Data + Robi	0.015	0.009	0.008	-0.004	0.018		
	(0.013)	(0.022)	(0.024)	(0.006)	(0.027)		
Data + Sangsad + Robi	-0.011	-0.026	0.010	-0.019	-0.056		
	(0.027)	(0.045)	(0.051)	(0.016)	(0.061)		
Teacher + Sangsad	-0.028*	-0.029	-0.079***	-0.002	-0.088***		
	(0.017)	(0.026)	(0.029)	(0.005)	(0.031)		
Teacher + Data + Sangsad	0.030	-0.023	0.102*	-0.022	0.029		
	(0.031)	(0.051)	(0.059)	(0.014)	(0.064)		
DV mean, control	0.94	0.32	0.62	0.02	-0.00		
Observations	5715	5715	5715	5715	5715		
Joint test: Information (p-val)	0.662	0.326	0.314	0.215	0.551		
Joint test: Data (p-val)	0.560	0.487	0.119	0.422	0.140		
Joint test: Teacher (p-val)	0.235	0.255	0.026	0.168	0.011		

Notes: Sample includes all Round 1 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Impact of outreach on student time investment, midline

	(1)	(2)
	Days/week schoolwork	Hrs/week schoolwork
Sangsad TV info. (info)	0.033	-0.772
	(0.094)	(0.736)
Robi info. (Robi)	0.014	-0.245
	(0.090)	(0.686)
Sangsad + Robi	-0.168	0.086
	(0.139)	(1.064)
Data + Sangsad	0.062	1.286
	(0.143)	(1.198)
Data + Robi	-0.090	-0.283
	(0.108)	(0.775)
Data + Sangsad + Robi	0.164	-0.691
	(0.204)	(1.625)
Teacher + Sangsad	-0.002	0.114
	(0.118)	(0.938)
Teacher + Data + Sangsad	-0.004	-4.288**
	(0.216)	(1.888)
DV mean, control	5.65	19.03
Observations	5619	5168
Joint test: Information (p-val)	0.397	0.500
Joint test: Data (p-val)	0.553	0.219
Joint test: Teacher (p-val)	0.999	0.038

Notes: Sample includes all midline" survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Impact of outreach on student learning, endline

	(1)	(2)	(3)
Panel A. Math assessment			
	Basic score	Score at grade level	Score at lower level
Sangsad TV info. (info)	-0.214**	-0.088	-0.214**
	(0.090)	(0.089)	(0.087)
Robi info. (Robi)	0.074	0.024	0.008
	(0.060)	(0.062)	(0.061)
Sangsad + Robi	0.137	0.096	0.212*
	(0.119)	(0.120)	(0.117)
Data + Sangsad	0.172	0.057	0.166
	(0.122)	(0.117)	(0.121)
Data + Robi	-0.074	0.043	-0.064
	(0.067)	(0.070)	(0.067)
Data + Sangsad + Robi	-0.036	-0.104	-0.058
	(0.156)	(0.155)	(0.156)
Teacher + Sangsad	0.219**	0.136	0.181*
	(0.101)	(0.100)	(0.097)
Teacher + Data + Sangsad	-0.315*	-0.111	-0.319*
	(0.166)	(0.160)	(0.164)
DV mean, control	0.01	0.00	0.02
Observations	3433	3433	3433
Joint test: Information (p-val)	0.036	0.656	0.086
Joint test: Data (p-val)	0.226	0.930	0.271
Joint test: Teacher (p-val)	0.072	0.390	0.101
Panel B. Bangla assessment			
	Basic score	Score at grade level	Score at lower level
Sangsad TV info. (info)	-0.141*	-0.107	-0.021
	(0.085)	(0.091)	(0.088)
Robi info. (Robi)	-0.017	0.015	-0.058
	(0.065)	(0.065)	(0.065)
Sangsad + Robi	0.098	0.069	-0.031
	(0.118)	(0.122)	(0.119)
Data + Sangsad	0.030	-0.111	0.013
	(0.113)	(0.120)	(0.119)
Data + Robi	0.008	-0.059	0.075
	(0.071)	(0.071)	(0.072)
Data + Sangsad + Robi	-0.031	0.084	0.012
	(0.151)	(0.158)	(0.156)
Teacher + Sangsad	0.149	0.129	0.043
	(0.097)	(0.101)	(0.100)
Teacher + Data + Sangsad	-0.068	0.043	-0.037
	(0.153)	(0.167)	(0.163)
DV mean, control	-0.00	0.00	0.00
Observations	3433	3433	3433
Joint test: Information (p-val)	0.368	0.649	0.349
Joint test: Data (p-val)	0.994	0.521	0.545
Joint test: Teacher (p-val)	0.242	0.190	0.910

Notes: Sample includes all Round 1 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A7: Impact of outreach on student engagement and motivation, endline

	(1)	(2)	(3)	(4)
	Student engagement index	Hope post-secondary	Attending in-person classes	Index (7)
Sangsad TV info. (info)	0.130	-0.019	-0.004	0.008
	(0.088)	(0.028)	(0.007)	(0.049)
Robi info. (Robi)	0.068	-0.024	0.009	0.026
	(0.056)	(0.021)	(0.008)	(0.036)
Sangsad + Robi	-0.264**	0.031	-0.001	-0.062
	(0.113)	(0.038)	(0.012)	(0.068)
Data + Sangsad	-0.156	-0.001	0.008	-0.020
	(0.116)	(0.038)	(0.012)	(0.070)
Data + Robi	-0.077	0.003	-0.010	-0.057
	(0.062)	(0.023)	(0.008)	(0.039)
Data + Sangsad + Robi	0.298**	0.001	0.000	0.097
	(0.146)	(0.050)	(0.016)	(0.090)
Teacher + Sangsad	-0.136	0.010	0.001	-0.029
	(0.097)	(0.032)	(0.009)	(0.056)
Teacher + Data + Sangsad	0.313**	-0.022	-0.017	0.008
	(0.154)	(0.056)	(0.014)	(0.091)
DV mean, control	-0.01	0.89	0.01	-0.00
Observations	3397	3297	3442	3442
Joint test: Information (p-val)	0.124	0.640	0.520	0.718
Joint test: Data (p-val)	0.150	0.984	0.389	0.634
Joint test: Teacher (p-val)	0.125	0.918	0.350	0.831

Notes: Sample includes all Round 2 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A8: Persistence of the Impact of Outreach on Parental Investment

	(1)	(2)	(3)	(4)
Panel A. Time investment				
	Days reminded student	Hours parent helped	Hours other family helped	Time index
Sangsad TV info. (info)	0.238	-0.238	0.110	0.026
	(0.225)	(0.526)	(0.220)	(0.053)
Robi info. (Robi)	0.100	-0.139	0.093	0.006
	(0.166)	(0.362)	(0.254)	(0.043)
Sangsad + Robi	-0.412	0.485	-0.242	-0.039
	(0.309)	(0.700)	(0.384)	(0.075)
Data + Sangsad	-0.359	0.310	-0.353	-0.046
	(0.292)	(0.719)	(0.275)	(0.071)
Data + Robi	-0.004	-0.069	-0.116	-0.013
	(0.183)	(0.400)	(0.259)	(0.045)
Data + Sangsad + Robi	0.479	-0.479	0.630	0.074
	(0.397)	(0.926)	(0.454)	(0.096)
Teacher + Sangsad	-0.198	0.688	-0.103	0.012
	(0.254)	(0.608)	(0.252)	(0.061)
Teacher + Data + Sangsad	0.459	-0.852	0.819	0.049
	(0.413)	(0.967)	(0.561)	(0.106)
DV mean, control	4.13	4.61	0.83	0.01
Observations	4236	4185	3068	4268
Joint test: Information (p-val)	0.613	0.918	0.936	0.954
Joint test: Data (p-val)	0.739	0.865	0.516	0.962
Joint test: Teacher (p-val)	0.535	0.513	0.324	0.766
Panel B. Economic investment				
	Private tutoring	Money on tutoring		
Sangsad TV info. (info)	-0.028	-294.190***		
	(0.042)	(98.815)		
Robi info. (Robi)	0.006	-41.362		
	(0.030)	(94.402)		
Sangsad + Robi	0.009	304.675**		
	(0.056)	(153.550)		
Data + Sangsad	0.095*	420.932***		
	(0.053)	(143.763)		
Data + Robi	0.030	112.529		
	(0.034)	(105.896)		
Data + Sangsad + Robi	-0.108	-373.088*		
	(0.071)	(208.742)		
Teacher + Sangsad	-0.011	304.601**		
	(0.047)	(119.250)		
Teacher + Data + Sangsad	-0.039	-397.565*		
	(0.077)	(213.084)		
DV mean, control	0.48	743.05		
Observations	4299	4256		
Joint test: Information (p-val)	0.868	0.029		
Joint test: Data (p-val)	0.263	0.017		
Joint test: Teacher (p-val)	0.699	0.034		

Notes: Sample includes all Round 2 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A9: Persistence of the Impact of Outreach on Learning Resources

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Tech-dependent learning resources							
	Sangsad TV	Video lessons	Robi platform	Other internet	Teacher remotely	Remote classes	Index
Sangsad TV info. (info)	0.005	-0.044	-0.006	0.007	-0.022	-0.026	-0.042
	(0.029)	(0.034)	(0.019)	(0.020)	(0.025)	(0.020)	(0.053)
Robi info. (Robi)	-0.028	-0.026	0.002	0.004	-0.013	-0.000	-0.027
	(0.019)	(0.024)	(0.013)	(0.014)	(0.018)	(0.016)	(0.032)
Sangsad + Robi	0.020	0.038	0.001	-0.017	0.037	0.045	0.061
	(0.037)	(0.044)	(0.026)	(0.026)	(0.033)	(0.029)	(0.068)
Data + Sangsad	0.035	0.071	0.019	-0.008	0.053	0.032	0.102
	(0.041)	(0.045)	(0.025)	(0.025)	(0.035)	(0.027)	(0.066)
Data + Robi	0.012	0.007	-0.012	-0.010	0.009	-0.000	-0.004
	(0.020)	(0.026)	(0.014)	(0.014)	(0.020)	(0.017)	(0.034)
Data + Sangsad + Robi	-0.015	-0.045	-0.002	0.043	-0.063	-0.052	-0.061
	(0.052)	(0.058)	(0.033)	(0.032)	(0.045)	(0.037)	(0.083)
Teacher + Sangsad	0.008	0.006	0.001	-0.003	-0.003	0.021	0.016
	(0.033)	(0.037)	(0.021)	(0.022)	(0.028)	(0.023)	(0.058)
Teacher + Data + Sangsad	-0.078	-0.061	-0.042	-0.034	-0.030	-0.038	-0.161*
	(0.054)	(0.062)	(0.030)	(0.030)	(0.048)	(0.038)	(0.086)
DV mean, control	0.13	0.22	0.05	0.05	0.12	0.08	-0.00
Observations	4326	4326	4326	4326	4326	4326	4326
Joint test: Information (p-val)	0.478	0.326	0.982	0.919	0.729	0.295	0.770
Joint test: Data (p-val)	0.325	0.370	0.472	0.032	0.572	0.585	0.328
Joint test: Teacher (p-val)	0.234	0.537	0.144	0.161	0.707	0.566	0.064
Panel B. Non tech-dependent learning resources							
	Textbooks	Exercise books	Teacher in-person	Classes in-person	Index (4)		
Sangsad TV info. (info)	0.006	-0.013	-0.017	0.004	0.009		
	(0.017)	(0.030)	(0.040)	(0.009)	(0.054)		
Robi info. (Robi)	-0.007	-0.028	-0.012	-0.001	-0.033		
	(0.014)	(0.023)	(0.028)	(0.003)	(0.031)		
Sangsad + Robi	-0.013	0.045	-0.005	-0.008	-0.028		
	(0.025)	(0.042)	(0.053)	(0.010)	(0.066)		
Data + Sangsad	-0.004	0.044	0.011	-0.008	-0.010		
	(0.024)	(0.043)	(0.051)	(0.009)	(0.063)		
Data + Robi	0.009	0.058**	0.029	0.001	0.059*		
	(0.015)	(0.026)	(0.031)	(0.003)	(0.035)		
Data + Sangsad + Robi	0.010	-0.064	0.004	0.019*	0.059		
	(0.032)	(0.057)	(0.068)	(0.010)	(0.080)		
Teacher + Sangsad	-0.000	0.023	-0.009	-0.009	-0.029		
	(0.020)	(0.035)	(0.045)	(0.010)	(0.060)		
Teacher + Data + Sangsad	-0.012	-0.047	0.024	0.016	0.038		
	(0.034)	(0.059)	(0.072)	(0.012)	(0.086)		
DV mean, control	0.95	0.41	0.48	0.00	0.00		
Observations	4326	4326	4326	4326	4326		
Joint test: Information (p-val)	0.732	0.627	0.642	0.038	0.310		
Joint test: Data (p-val)	0.789	0.082	0.513	0.041	0.023		
Joint test: Teacher (p-val)	0.904	0.712	0.947	0.433	0.879		

Notes: Sample includes all Round 1 survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A10: Impact of outreach on student time investment, endline

	(1)	(2)
	Days/week schoolwork	Hrs/week schoolwork
Sangsad TV info. (info)	-0.052	-1.896*
	(0.183)	(0.990)
Robi info. (Robi)	-0.090	-0.914
	(0.126)	(0.673)
Sangsad + Robi	0.081	2.415*
	(0.242)	(1.285)
Data + Sangsad	0.012	1.402
	(0.261)	(1.316)
Data + Robi	0.006	0.363
	(0.142)	(0.742)
Data + Sangsad + Robi	0.025	-1.947
	(0.332)	(1.702)
Teacher + Sangsad	0.040	1.409
	(0.202)	(1.070)
Teacher + Data + Sangsad	-0.299	-1.955
	(0.351)	(1.841)
DV mean, control	5.46	15.35
Observations	4245	4194
Joint test: Information (p-val)	0.888	0.206
Joint test: Data (p-val)	0.813	0.808
Joint test: Teacher (p-val)	0.656	0.393

Notes: Sample includes all endline" survey respondents. All regressions include stratification-cell fixed effects, enumerator fixed effects, and survey week fixed effects. Individual controls are those listed in Table 5, plus flags for missing values. Robust standard errors are shown in parentheses and clustered at the household level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

B Questionnaires

Baseline Questionnaire

SECTION TR: TRACKING SHEET : Respondent information for this survey		
Call		
Script	Good day! I'm calling from Innovations for Poverty Action, a U.S.-based research non-profit. We are partnering with a2i in Bangladesh to conduct a study on how the new Coronavirus has affected the school activities of children in your household. The information you provide is important to help policymakers understand how households are coping with the challenges they are experiencing right now. Your number was registered on Konnect/ your family has participated in the Secondary School Stipend Program / you are a GP phone subscriber; and it was selected randomly for the survey. Your participation today will take 20 minutes, and you will receive 20 taka mobile recharge to thank you for your time. Would you like to find out if your household is eligible for this study?	1 Yes 2 No **>> TR4** 3 Call not answered **>> TR4**
SCREEN1	Are there any children who were enrolled in grades 6-10 prior to the school closures living in this household?	1 Yes 2 No **>> Screen out**
SCREEN2	Do you/anyone in your household have a smartphone?	1 Yes 2 No **>> Screen out**
If screening conditions from BH are met >>> TR1; Else END		
TR1	Your household is eligible! I'd like to check, are you a grade 6-10 student or the caregiver of any grade 6-10 students in this household?	1 Female caregiver **>> TR3** 2 Male caregiver **>> TR3** 3 Student >> **TR1.1** 4 Neither **>> TR1.1**
TR1.1	We would like to speak to the parent or guardian of any children in grades 6-10. Could you put him or her on the phone now?	1 Parent now on phone **>> TR3** 2 Relative now on phone **>>TR3** 3 Sibling now on phone **>>TR3** 4 Call back later **>> TR4** 5 Share different number
TR1.2	Please give us the number of the parent/guardian.	_____

TR3 - CONSENT	Participation is completely voluntary, and you can refuse to participate in this discussion, stop the discussion at any time or skip any questions that make you feel uncomfortable without any fear of repercussion. After the phone call, we will send you a SMS with a phone number that you can call if you have any questions or concerns, or if you would like to withdraw from the study. As researchers, we cannot provide direct benefits to you. However we will be compensating you for your time by providing you a mobile recharge of 20 taka. We do not anticipate any risks from participation in this research. If you choose to participate in the study, we will contact your you 4 to 8 times over the next 2 months to complete 5-minute surveys, and you may be contacted one more time for a 30-minute phone interview with a member of our team. We will keep your information confidential to the extent possible, and information that identifies you or your family will be protected to prevent third parties from accessing it. A2i will not have direct access to your personal information or the answers that you give us, and we will only share our findings with them. Would you like to participate in this study? You can take the time you need to decide. Do you agree to participate in this study? YES / NO Do you agree have brief segments of our discussion udio recorded? YES / NO	1 Consent – Participation without audio recording **>>** TR4 2 Consent – participation with audio recording 3 Do not consent **>> TR4** 4 Call back later >> TR4
Screen out	Thank you for your help. I'm afraid you are not eligible for this study. Have a nice day.	**>> TR4**
TR4 - PHONE RESPONSE	Result of tracking: What was the final response?	1A Caregiver consented to be surveyed. 2A Reschedule: respondent available later. 3A Reschedule: offered caregivers number later. 4A Refused: Did not consent 5A Hung up the phone before consent 6 NA No one picked up the phone 7 NA Phone switched off/ out of network/ invalid 8A Household not eligible
SECTION BH: HOUSEHOLD		

BH0	What is your name	
BH1n	I'd like to now ask you some questions about your household	
BH2	Please enter the number of phones in your household.	|__|__| Don't know **>> Enter 99**
BH3.1	Please say whether the current devices you are speaking on has an active data package?	|__|__| Don't know **>> Enter 99**
BH3.2	Please enter the number of OTHER devices in your household that have currently have an active data package.	|__|__| Don't know **>> Enter 99**
BH4	Please enter the number of people in this household between ages 5 and 17 years old.	|__|__|
BH5	Do the members of your household own or have access to a television with a satellite connection?	1 Yes 2 No 99 Don't know
BH6n	I'd now like to ask you a few questions about yourself and your spouse.	
BH6	How old are you?	|__|__| Don't know **>> Enter 99**
BH7	What is the highest level of education you have completed?	1 Less than primary / none 2 Primary graduate 3 Secondary graduate 4 Post-secondary graduate
BH8	What is your marital status?	1. Married **>> BH8.1** 2. Widowed 3. Separated 4. Single
BH8.1	How old is your spouse?	|__|__| Don't know **>> Enter 99**
BH8.2	What is the highest level of education that your spouse has completed?	1 Less than primary / none 2 Primary graduate 3 Secondary graduate 4 Post-secondary graduate
BH9	In the past 30 days, did you do any work for pay? This work could include daily labour, working for wages or in-kind payment, or running a business, including an agricultural business.	1 Yes **>>BH10n** 2 No **>> BH11**
BH10n	[**If BH9 = yes]** Which of the following best describes your **main** job?	1: **I work for wages** or payment (either in cash or in kind) for a company, the government or any other individual) 2: **I do not work for wages**, but rather work on my own account or in a business enterprise or a farm belonging to me or someone else in my household, for example as a farmer, trader, shopkeeper, barber, dressmaker, carpenter or taxi driver

Wage employees only (If BH10n = 1)		
BH10.1	What was your salary/wage or typical earnings from your main occupation in the past 30 days?	[ ] [ ] [ ] BDT 99 Don't Know 97 Refused to answer
BH10.2	[**Enumerator**] Frequency of wage/earnings reported	1 Monthly 2 Weekly 3 Daily
Self employed only (If BH10n = 2)		
BH10.3	Could you tell me what was your profit or loss from this farm/business enterprise in the past 30 days?	[ ] [ ] [ ] BDT 99 Don't Know 97 Refused to answer
BH10.4	How often did you receive this amount in the past 30 days?	1 Monthly 2 Weekly 3 Daily
BH10.5	Please tell me the number of hours you worked in a typical week in the last month.	..... Hours
BH11	In the past week, did your spouse do any work for pay? This work could include daily labour, working for wages or in-kind payment, or running a business, including an agricultural business. .	1 Yes 2 No >> CR
BH11.1	[**If BH11 = yes]** Which of the following best describes your spouse's **main** job?	1: **They work for wages** or payment (either in cash or in kind) for a company, the government or any other individual) 2: **They do not work for wages**, but rather work on my own account or in a business enterprise or a farm belonging to me or someone else in my household, for example as a farmer, trader, shopkeeper, barber, dressmaker, carpenter or taxi driver
Wage employees only (If BH11.1 = 1)		
BH12n	What was their salary/wage or typical earnings from their main occupation in the past 30 days?	[ ] [ ] [ ] BDT 99 Don't Know 97 Refused to answer
BH12.1	[**Enumerator**] Frequency of wage reported	1 Monthly 2 Weekly 3 Daily
Self employed only (If BH11.1 = 2)		
BH12.2	Could you tell me what was their profit or loss from this farm/business enterprise in the past 30 days?	[ ] [ ] [ ] BDT 99 Don't Know 97 Refused to answer
BH12.3	How often did they receive this amount in the past 30 days?	1 Monthly 2 Weekly 3 Daily
BH12.4	Please tell me the number of hours they worked in a typical week in the last month.	..... Hours

SECTION CR: INFORMATION ON CHILDREN		
CR01	How likely do you think it is that schools will re-open for in-person instruction by the new school year begins in 2021? Take a guess if unsure!	1 Very Likely 2 Somewhat Likely 3 Not Likely 4 Very unlikely
CR02	Under which circumstances would you be willing to send your child(ren) to in-person schooling	1 If schools were open today 2 If schools were open today, and daily caseloads were 50% of what they are today, 3 If schools were open, and there were very few reported caseloads 4 If schools were open and a vaccine was available
CR03n	**[Grades 6-10)] {Repeat for each child} "I'd now like to ask you about each of the children in grades 6-10, for whom you are a guardian**	
CR03	Child number	
CR04	Name of the child	
CR05	Grade enrolled as of March 2020	
CR06	Gender	1 Male 2 Female
CR08	Age (if date unknown)	
CR17A	What level of education do you expect [Name] to complete?	1. Primary School Certificate 2. Junior School Certificate 3. Secondary School Certificate 4. Higher School Certificate 5. University Graduate 6. Post Graduate 7. Vocational education 8. Madrasa Hafiz 9. Ebtadayee (grade I-V) Equivalent to primary. 10. Dakhil (grade VI-X) Equivalent to SSC. 11. Alim (grade XI-XII) Equivalent to HSC. 12. Fazil (grade XIII-XIV) Equivalent to degrees. 13. Kamil (grade XV-XVI)

CR18A	You told me that you expect [Name] to complete his/her education up to {previous answer}. Now, tell me what you hope for. What level of education do you hope [Name] will complete?	1. Primary School Certificate 2. Junior School Certificate 3. Secondary School Certificate 4. Higher School Certificate 5. University Graduate 6. Post Graduate 7. Vocational education 8. Madrasa Hafiz 9. Ebtadayee (grade I-V) Equivalent to primary. 10. Dakhil (grade VI-X) Equivalent to SSC. 11. Alim (grade XI-XII) Equivalent to HSC. 12. Fazil (grade XIII-XIV) Equivalent to degrees. 13. Kamil (grade XV-XVI)
CR17B	What level of education do you hope that [Name] will complete?	1. Primary School Certificate 2. Junior School Certificate 3. Secondary School Certificate 4. Higher School Certificate 5. University Graduate 6. Post Graduate 7. Vocational education 8. Madrasa Hafiz 9. Ebtadayee (grade I-V) Equivalent to primary. 10. Dakhil (grade VI-X) Equivalent to SSC. 11. Alim (grade XI-XII) Equivalent to HSC. 12. Fazil (grade XIII-XIV) Equivalent to degrees. 13. Kamil (grade XV-XVI)
CR18B	You told me that you hope [Name] will complete his/her education up to {previous answer}. Now, tell me what you expect. What level of education do you expect [Name] will complete?	1. Primary School Certificate 2. Junior School Certificate 3. Secondary School Certificate 4. Higher School Certificate 5. University Graduate 6. Post Graduate 7. Vocational education 8. Madrasa Hafiz 9. Ebtadayee (grade I-V) Equivalent to primary. 10. Dakhil (grade VI-X) Equivalent to SSC. 11. Alim (grade XI-XII) Equivalent to HSC. 12. Fazil (grade XIII-XIV) Equivalent to degrees. 13. Kamil (grade XV-XVI)
CR09	Think about the requirements for [Name]'s current grade. How much of the material do you think {NAME} has mastered?	1. None, 2. A little, 3. Some, 4. Most, 5. All
CR10	Think about the academic skills [Name] needs to succeed in {grade X + 1} To what degree do you think {NAME} has those skill?	1. None, 2. A little, 3. Some, 4. Most, 5. All
CR11	If [Name] were to take the final exam for grade {X} today, how well do you think he/she would do?	1. A+/A/A- 2. B+/B/B- 3. C+/C/C- 4. D+/D/D- 5. F+/F/F-
CR12	Do you expect [Name] to be ready to start the next grade in January?	1 Very Likely 2 Somewhat Likely 3 Not Likely 4 Very unlikely

CR13	How many times/days per week would you say [Name] typically did school work in the past 7 days?	.... Days
CR14	How many times/days per week would you say [Name] typically did school work soon after the lockdown, that is, in the month of April?	.... Days
CR15	Has [Name] received any private tutoring during the school closure?	1 Yes 2 No **>> CR16**
CR15.1	**[If Yes to CR15]** In the eight months since the school closures, from April until December, in how many months did [Name] receive any private tutoring?	[___|___] -99 don't know
CR15.2	**[If Yes to CR15.1]** How many days of tutoring did [Name] receive in the past 30 days?	[___|___] -99 don't know
CR15.3	**[If Yes to CR15.1]** In the eight months since the school closrues, how much would you say you typically spent each month for [Name]'s tutoring?	_____
CR15.4	[**Enumerator]** Was the spending amount an exact figure or estimate?	1. Exact 2. Estimate
CR16	Did [Name] work for pay any time since the school closures?	1 Yes 2 No **>> L1**
CR16.1	**[If Yes to CR16]** Did [Name] work for pay any time in the last 30 days?	1 Yes 2 No **>>L1**
CR16.2	**[If Yes to CR16.1]** How many hours in a week did he/she typically work in the last 30 days?	.... Hours
L1	As part of this study, we may reach out to you from time to time with short surveys and information about how to support your children's education. Sometimes it will be with a person and sometimes it will be a recorded voice call or text message. Any time we reach out to you, we'll identify ourselves as IPA. Is this the best number to continue to reach you at?	1 Yes 2 No **>> L2**
L2	Could you give us an alternative number?	_____ Refused/ Don't have >> 99
SECTION ASSETS: Household Assets & Characteristics		
A1	Do you (or any other member of this household) own the house you are currently living in?	01: YES 02: NO
A2	Do any members of this household have a bank account or post-office account?	01: YES 02: NO
A4	How many rooms in this house are used for sleeping?	_____
A5	Type of toilet/latrine in house	01: FLUSH TOILET 02: PIT LATRINE 03: NO LATRINE
A6	Is there a separate room for the kitchen?	01: YES 02: NO

A8	What type of fuel does the household usually use for cooking?	01: ELECTRICITY 02: GAS (LPG) 03: BIOGAS 04: KEROSENE 05: COAL 06: CHARCOAL 07: WOOD 08: STRAW/THATCH/GRASS 09: AGRICULTURAL CROP WASTE 10: DUNG CAKES 11. SOLAR ELECTRICITY 888: OTHER, SPECIFY .....
A9	What is the primary source for drinking water for this household?	**01: PIPED WATER**
		02: TUBEWELL/BOREHOLE
		03: WELL
		04: SPRING
		05: RAINWATER HARVESTING
		06: TANKER TRUCK
		07: CART WITH SMALL TANK
		08: RIVER/CANAL/LAKE/POND
		09: BOTTLED WATER
		888: OTHER, SPECIFY .....
A10	Which of the following does any member of your household have? (**SELECT ALL THAT APPLY**)	01: MATTRESS 02: PRESSURE COOKER 03: CHAIR 04: COT & BED 05: TABLE 06: ELECTRIC FAN 07: RADIO/TRANSISTOR 08: TV (COLOUR OR BLACK & WHITE) 09: SEWING MACHINE 10: MOBILE PHONE 11: COMPUTER 12: REFRIGERATOR 13: CLOCK & WATCH 14: CYCLE 15: MOTORCYCLE & SCOOTER 16: ANIMAL-CART 17: CAR 18: WATER PUMP 19: THRESHER 20: TRACTOR

Midline Questionnaire

SECTION TR: TRACKING SHEET (SECTION TR)		
Respondent information for this survey		
	Call	
Script	Good day! I'm ${enum_name} calling from Innovations for Poverty Action, a U.S.-based research non-profit. We are partnering with a2i in Bangladesh to conduct a study on how the new Coronavirus is affecting children's learning. We spoke to ${resp_name} a few months ago to collect some information about the household and children in grades 6-10. We would like to talk to you again for some follow-up questions to understand the learning needs of your children over the last month. The information you provide is important to help policymakers understand the needs of students across Bangladesh. Your participation today will take 20 minutes. As researchers, we cannot provide direct benefits to you, but we will provide a 40 BDT mobile recharge for your participation. Can we continue talking?	1 Yes 2 No >> TR4 3 Call not answered >> TR4
SCREEN1	Is ${resp_name} the father or mother of the ${child_name_1} ,${child_name_2}, and ${child_name_3}?	1 Father 2 Mother 3 Sibling (older/younger) >> **Screen2** 4 Other adult >> **Screen 2**
SCREEN2	We would like to speak to either one of the parents of the children. Could you put him/her on the phone?	1 Parent now on phone >> **TR3 - Consent** 2 Call back later >> **TR4** 3 Share different number >> **TR4**

TR3 - CONSENT	Now let me share some information in detail. This study involves research, which is different from routine care or programming, because we are trying to learn about certain things rather than only providing services. I would like to invite you to participate in this research and will ask you some questions about your family's access to technology and the school activities of children in your household. Your answers are important to inform policymakers about how households are coping with the challenges they are experiencing right now. Participation is completely voluntary, and you can refuse to participate in this discussion, stop the discussion at any time or skip any questions that make you feel uncomfortable without any fear of repercussion. We do not anticipate any risks from participation in this research. As part of the study, you may be randomly selected to receive some additional messages from us by SMS. You may also be randomly selected to receive free data packages. If you are selected, you will be notified by SMS and will only need to confirm whether you accept. We will keep your information confidential to the extent possible, and information that identifies you or your family will be protected to prevent third parties from accessing it. a2i will not have access to your personal information or the answers that you give us, and we will only share our overall findings with them. We hope to record part of your interview for quality assurance. If you do not want to be recorded, you can participate without this component.	1 Consent **>>** TR4 2 Do not consent **>>**End 3 Call back later >> TR4
TR3.1 - AUDIO CONSENT	Do you agree have brief segments of our discussion audio recorded?	1 Audio recording consent 2 Do not consent for audio recording 3 Call back later >> TR4
TR3.2 - QUERIES	Do you have any further questions?	1 Yes 2 No
TR4	What was the response?	A: Caregiver/parent consented to be surveyed
		No interview: NA: No one picked up the phone
		No interview: NA: Phone switched off/ out of network/ invalid
		No interview: A: Household not eligible
		No interview: A: Reschedule: respondent available later
		No interview: A: offered caregivers number
		No interview:A: Hung up the phone before consent
		No interview:A: Refused: Did not consent(refusal)

SCREEN3	Please give us the number of the parent/guardian.	Name - Number - **>> TR4 after recording name and number of parent**
Screen4	Enumerator: Whom did you get on the call for survey?	1. Parent 2. Guardian (in case parent in not alive) 3. Other older relative
	[SCREEN1=5/6]Why the guardian was not available?	Open ended

HOUSEHOLD

I'd like to now ask you some questions about your household

Which division do you live in?	[Region Options]
Which district do you live in?	[District Options, narrowed by region]
Which upazila do you live in?	[Upazila options narrowed by district]
Which union do you live in?	[Union options narrowed by upazila]

INFORMATION ON CHILDREN		
[Grades 6-10)] {Repeat for each child} "I'd now like to ask you about each of the children in grades 6-10, for whom you are a guardian		
CR01	Does [NAME] still live in this household?	0 No >>CR02 1 Yes
CR02	[if not] Why not? >> NEXT CHILD	1 Married 2 Living with other parent 3 Living with other family members beside parents 4 Moved for education 5 Moved for work 6 Deceased 7 Other _____
	CHILD BEHAVIORS: Use of learning resources and activities	
CR03	How many days would you say [Name] typically did school work (studied) in a typical week in the month of March?	…. Days
CR04	How many hours a week would you say [Name] typically did school work/studied in the past week?	
CR05	Has [Name] received any private tutoring during the past month?	1 Yes 2 No >> CR09
CR06	How many hours of tutoring did [Name] receive during a typical week in the month of March?	

CR07	[If Yes to CR05] How much would you say you spent in total during the month of March for [Name]'s tutoring?	_____
CR09	I'm now going to list a set of possible learning resources. For each one, would you tell me if [NAME] used this at all during the past month?	[LEARNING RESOURCE]: 1 Watched Sangsad TV 2 Watched video lessons on a smartphone or other device 3 Used Robi platform 4 Used other internet resources 5 Read textbooks/school books 6. Worked in exercise books 7. Met with a teacher in person 8. Met with a teacher remotely: by phone or internet 9 Attended in-person school classes 10 Attended remote school classes 11. Other: _____ 12 None of the above
CR09a asked only for respondents of the long version of the questionnaire		
CR09a	[If CR09 = 7] Can you describe what your meetings w/ teachers are like?	*<text>*
CR10	How many total hours would you say [Name] used [LEARNING RESOURCE] during a typical week in the month of March?	… hours
CR11	How helpful was [LEARNING RESOURCE] for [NAME] ?	1 Very helpful 2 Somewhat helpful 3 Not at all helpful
CR12	Among the resources that [NAME] used in March, which resource do you think was the most useful for? And the least useful?	…….. Most useful [**MAYBE ADD OPTIONS IN A DRODOWN MENU]** **…….. LEAST USEFUL [options]** **Don't know**
CR13	During the month of March, did your child use any of the following devices to engage in learning activities?	1. Television 2 .Feature phone 3. Smart phone 4. Tablet 5. Computer 6. None of the above
CR14	During the month of March, did [NAME] use any of the following to access learning activities?	1. Pre-paid data package >>CR15 2. Post-paid internet 3. Wi-fi 4. None of the above
CR15	[If pre-paid data package] During the month of March**,** about how many GB of data would you estimate [NAME] for educational activities?	____ GB -999 Don't Know
CR15a	[If CR15 = -999] During the month of March, how much did you spend in Taka on data packages for [NAME]'s educational activities?	____ Taka

CR16	During the month of March, how much would you say you spend on all phone and internet charges for [child] for educational activities?	
CR18	How much would you say you spent in the during the month of March for [Name]'s learning activities, excluding tutoring and the cost of any phone and internet charges? (books, for-pay website resources,…)	_____
	CHILD BEHAVIORS: Outside options to learning	
CR20	Did [Name] work for pay or help with a family business or on a family farm during the past 30 days?	1 Yes 2 No >> CR24
CR21	[If Yes to CR20] How many total days did he/she work over the past 30 days??	…. Days / …... Months
CR22	[If Yes to CR20] How many hours in a day did he/she typically work?	…. Hours
CR23	How many hours did [Name] spend taking care of siblings or household chores **during a typical week in the month of March?**	
	PARENTAL BEHAVIORS: Time investment in education	
CR24	*If R is a parent:* During the month of March, how often were you or another parent at home while [NAME] was engaging in learning activities? *If R is another family member:*–During the month of March, how often was at least one of [NAME]'s parents at home while [NAME] was engaging in learning activities?	1 Always 2 Often 3 Sometimes 4 Rarely 5 Never -99 Don't know -97 Refused
CR25	In a typical week during the month of March, how many days did you or another parent remind [NAME] to complete learning activities? *If R is another family member:*–In a typical week during the month of March, how many days did a parent remind [NAME] to complete learning activities?	
CR26	Over the past month did any other adults/old siblings in the household or nearby, besides [NAME]'s parents help [NAME] with his/her learning? [if yes] Who?	[pick multiple] 1 Uncle 2 Aunt 3 Neighbor 4 Cousin

		5 Older sister 6 Older brother 7 Mother 8 Father 9 Grandfather 10 Grandmother 11 Friend 12 Schoolteacher 13 Religious leader 14 Other(specify) 15 None of the above
CR27	How many hours did they spend helping [NAME] in a typical week in the month of March?	
CR28	In a typical week during the month of March, how many hours did you or another parent spend helping your child with their educational activities? *If R is another family member:*– In a typical week during the month of March, how many hours did a parent spend helping [NAME] with their educational activities?	
CR29	[If CR28>0], which of the following activities did you or another parent do with [NAME]? *If R is another family member:* If CR28>0], which of the following activities a parent do with [NAME]?	1 Explain or clarify materials and concepts 2 Help with assignments or specific problems 3 Watch videos or TV with [NAME] 4 Help find additional resources 5 Provide encouragement and support 6 Provide supervision to help [NAME] stay on task 7 Other _____

Only for respondents of the long version of the questionnaire

	PARENTAL EXPECTATIONS AND BELIEFS	
CR30	Now, I'd like you to think about the learning activities that [NAME] has done during the month of March. How would you compare his/her current level of knowledge and ability today to the beginning of March?	1 Has learned a lot 2 Has learned something, but not very much 3 Has not learned anything -99 Don't know
CR31	Did [NAME]'s school ask students to submit assignments regularly throughout the school year after the closures? (either in person or remotely)	0 No 1 Yes -999 Don't know
CR31a	[If CR31 = yes] Overall, about how many of these assignments did [NAME] submit?	0 None 1 A few 2 Some 3 Most

		4 All -999 Don' know
CR32	Did [NAME]'s school ask students to submit a set of final assignments at the end of 2020?	0 No 1 Yes -999 Don't know
CR32a	[If CR32 = yes] Did [NAME] submit final assignments to his/her school at the end of 2020?	
CR32b	[if CR32=yes] About how many assignments did [NAME] submit?	1.None, 2. Few, 3. Some, 4. Almost all, 5. All -999 Don't Know
CR33	[If YES] Did [NAME] receive a grade or feedback on these assignments?	
CR34	Do you expect to send [NAME] to school once it re-opens?	1 Yes 2 No
CR35	Do you think that [NAME] is ready to start school at his/her current level?	1 Yes 2 No
CR36 asked in both long and short versions of the questionnaire		
CR36	How much in tuition fees do you pay to the school?	_____ BDT *Frequency: Monthly, Quarterly, Annual*
CR37	[If CR34=1] In what grade will [NAME] enroll?	1 Grade 6 2 Grade 7 3 Grade 8 4 Grade 9 5 Grade 10 6 Grade 11 7 Grade 12
CR38	Is this the same school that she attended at the beginning of 2020?	1 Yes 2 No
CR39	{If CR38=2} Why is it a different school? (do not read choices)	1 Moving to next level 2 Previous school is not opening 3 New school is higher quality 4 New school is closer 5 New school is lower cost 6 Family moved to new location 7 Other _____

CR40	What level of education do you expect [Name] to complete?	1. Primary School Certificate 2. Junior School Certificate 3. Secondary School Certificate 4. Higher School Certificate 5. University Graduate 6. Post Graduate 7. Vocational education 8. Madrasa Hafiz 9. Ebtadayee (grade I-V) Equivalent to primary. 10. Dakhil (grade VI-X) Equivalent to SSC. 11. Alim (grade XI-XII) Equivalent to HSC. 12. Fazil (grade XIII-XIV) Equivalent to degrees. 13. Kamil (grade XV-XVI)

Endline Questionnaire

SECTION TR: TRACKING SHEET (SECTION TR):		
Respondent information for this survey		
Call		
Script	Good day! I'm ${enum_name} calling from Innovations for Poverty Action, a U.S.-based research non-profit. We are partnering with a2i in Bangladesh to conduct a study on how the new Coronavirus is affecting children's learning. We spoke to ${resp_name} a few months ago to collect some information about the household and children in grades 6-10. We would like ask you some follow-up questions to understand the learning needs of your children over the last two months. The information you provide is important to help policymakers understand the needs of students across Bangladesh. Your participation today will take 30-35 minutes. As researchers, we cannot provide direct benefits to you, but we will provide a 50 BDT mobile recharge for your participation. Can we continue talking?	1 Yes 2 No **>>** TR4 3 Call not answered >> TR4
SCREEN1	Is ${resp_name} the father or mother of the ${child_name_1} ,${child_name_2}, and ${child_name_3}?	1 Father 2 Mother 3 Sibling (older/younger) **>> Screen2** 4 Other adult **>> Screen 2**
SCREEN2	We would like to speak to either one of the parents of the children. Could you put him/her on the phone?	1 Parent now on phone **>> TR3 - Consent** 2 Call back later **>> TR4** 3 Share different number **>> Screen3**
SCREEN3	Please give us the number of the parent/gaurdian.	Name - Number - **>> TR4 after recording name and number of parent**
TR3 - CONSENT	Now let me share some more details. This study involves research, which is different from routine care or programming, because we are trying to learn about certain things rather than only providing services. I would like to invite you to participate in this survey and will ask you some questions about the learning activities of children in your household. We hope to then speak to your children in grades 6-10 for a quick learning check. We will be ask them a few questions from their Mathematics and Bangla school curriculum. After your child answers the questions, we will tell them the total score and also send it via SMS if they want. This test is only for research purposes, and your child's score will not be shared with his/her teachers or school. Participation is completely voluntary, and you can refuse to participate in this discussion, stop the discussion at any time or skip any questions that make you feel uncomfortable without any fear of repercussion. You can also choose to not consent to your child participating in our learning check. Would you like to participate in this study? You can take the time you need to decide.	1 Consent **>>** TR4 2 Do not consent **>>**End 3 Call back later >> TR4

	Would you consent for your child to participate in this study? We will also ask for his/her permission before we proceed.	1 Consented to child survey 2 Did not consent to child survey
TR3.1 - AUDIO CONSENT	AUDIO CONSENT: We hope to record part of your interview for quality assurance and additional research that IPA is conducting on designing and evaluating surveys. We won't include any information such as your name, address, phone number, that could directly identify you or share the recording as part of that research. If you do not want to be recorded, you can participate without this component. Do you agree have brief segments of our discussion audio recorded?	1 Audio recording consent 2 Do not consent for audio recording 3 Call back later >> TR4
TR3.2 - QUERIES	Do you have any further questions?	1 Yes 2 No
TR4	What was the response	A: Caregiver/parent consented to be surveyed
		No interview: NA: No one picked up the phone
		No interview: NA: Phone switched off/ out of network/ invalid
		No interview: A: Household not eligible
		No interview: A: Reschedule: respondent available later
		No interview: A: offered caregivers number
		No interview:A: Hung up the phone before consent
		No interview:A: Refused: Did not consent(refusal)

BH HOUSEHOLD		
BH1n	I'd like to now ask you some questions about your household	
	In what division do you live?	[Region Options]
	In what district do you live?	[District Options, narrowed by region]
	In what upazila do you live	[Upazil options narrowed by district]
CR	**INFORMATION ON CHILDREN**	
CR03n	**[Grades 6-10)] {Repeat for each child} "I'd now like to ask you about each of the children who were in grades 6-10 last year, for whom you are a guardian**	
	First, I'd like to ask you about {CHILD NAME}:	
CR03a	Does [NAME] still live in this household?	0 No **>>Skip Learning Assessment** 1 Yes
CR03b	[if not] Why not? >> NEXT CHILD	1 Married 2 Living with other parent 3 Living with other family members beside parents 4 Moved for education 5 Moved for work 6 Deceased 7 Other _____
	CHILD BEHAVIORS: Use of learning resources and activities	
CR01	Is {CHILD NAME} currently enrolled at school/madrasa	0 No 1 Yes >> CR01a
CR01a	At what level does your child study at school/madrasa?	1. Madrasa Hafiz 2. Ebtadayee (grade I-V) Equivalent to primary. 3. Dakhil (grade VI-X) Equivalent to SSC. 4. Alim (grade XI-XII) Equivalent to HSC. 5. Fazil (grade XIII-XIV) Equivalent to degrees. 6. Kamil (grade XV-XVI) 7. Not currently enrolled in any school or madrasa >> **END SURVEY** -999 Don't Know -222 Other (Specify) -888 Refused
CR03	How many days would you say [Name] typically did school work (studied) in a typical week in the month of May?	…. Days
CR04	How many hours a week would you say [Name] typically did school work/studied in the past week?	
CR05	Has [Name] received any private tutoring during the past month?	1 Yes 2 No >> CR06

CR06	How many hours of tutoring did [Name] receive during a typical week in the month of May?	
CR07	[If Yes to CR05] How much would you say you spent in total during the month of March for [Name]'s tutoring?	_____
CR09	I'm now going to list a set of possible learning resources. For each one, would you tell me if [NAME] used this at all during the past month?	[LEARNING RESOURCE]: 1 Watched Sangsad TV 2 Watched video lessons on a smartphone or other device 3 Used Robi platform 4 Used other internet resources 5 Read textbooks/school books 6. Worked in exercise books 7. Met with a teacher in person 8. Met with a teacher remotely: by phone or internet 9 Attended in-person school classes 10 Attended remote school classes 11. Other: _____ 12 None of the above
CR10	How many total hours would you say [Name] used [LEARNING RESOURCE] during a typical week in the month of May?	… hours
CR13	During the month of May, did your child use any of the following devices to engage in learning activities?	1. Television 2 .Feature phone 3. Smart phone 4. Tablet 5. Computer 6. None of the above
CR14	During the month of May, did [NAME] use any of the following to access learning activities?	1. Pre-paid data package >>CR15 2. Post-paid internet 3. Wi-fi 4. None of the above 2. Post-paid internet 3. Wi-fi
CR15	[If pre-paid data package] During the month of May, about how many GB of data would you estimate [NAME] for educational activities?	_____ GB -999 Don't Know
CR15a	[If CR15 = -999] During the month of May, how much did you spend in taka on data packages for [NAME]'s educational activities?	
CR16	During the month of May, how much would you say you spend on all phone and internet charges for [child] for educational activities?	
	CHILD BEHAVIORS: Outside options to learning	
CR20	Did [Name] work for pay or help with a family business or on a family farm during the past 30 days?	1 Yes 2 No >> CR21
CR21	[If Yes to CR20] How many total days did he/she work over the past 30 days??	…. Days / ….. Months
CR22	[If Yes to CR20] How many hours in a day did he/she typically work?	…. Hours
CR23	How many hours did [Name] spend taking care of siblings or household chores during a typical week in the month of May?	

CR30	Every parent has different ideas and aspirations about their children's lives. We want to find out how you think about your children. By what age do you think [Name] will get married?	… years/ 99 - Already married
	PARENTAL BEHAVIORS: Time investment in education	
CR24	If R is a parent: During the month of May, how often were you or another parent at home while [NAME] was engaging in learning activities? If R is another family member: During the month of May, how often was at least one of [NAME]'s parents at home while [NAME] was engaging in learning activities?	1 Always 2 Often 3 Sometimes 4 Rarely 5 Never -99 Don't know -97 Refused
CR25	In a typical week during the month of May, how many days did you or another parent remind [NAME] to complete learning activities? If R is another family member: In a typical week during the month of May, how many days did a parent remind [NAME] to complete learning activities?	
CR26	Over the past month did any other adults/old siblings in the household or nearby, besides [NAME]'s parents help [NAME] with his/her learning? [if yes] Who?	[pick multiple] 1 Uncle 2 Aunt 3 Neighbor 4 Cousin 5 Older sister 6 Older brother 7 Mother 8 Father 9 Grandfather 10 Grandmother 11 Friend 12 Schoolteacher 13 Religious leader 14 Other(specify) 15 None of the above
CR27	How many hours did they spend helping [NAME] in a typical week in the month of May?	
CR28	In a typical week during the month of May, how many hours did you or another parent spend helping your child with their educational activities? If R is another family member: In a typical week during the month of May, how many hours did a parent spend helping [NAME] with their educational activities?	

CR29	[If CR28>0], which of the following activities did you or another parent do with [NAME]? If R is another family member: If CR28>0], which of the following activities a parent do with [NAME]?	[If CR28>0], which of the following activities did you or another parent do with [NAME]? If R is another family member: If CR28>0], which of the following activities a parent do with [NAME]? 1 Explain or clarify materials and concepts 2 Help with assignments or specific problems 3 Watch videos or TV with [NAME] 4 Help find additional resources 5 Provide encouragement and support 6 Provide supervision to help [NAME] stay on task 7 Other _____
	PARENTAL EXPECTATIONS AND BELIEFS	
CR31	Now, I'd like you to think about the learning activities that [NAME] has done during the month of May. How would you compare his/her current level of knowledge and ability today to the beginning of May?	1 Has learned a lot 2 Has learned something, but not very much 3 Has not learned anything -99 Don't know
CR32	How likely it is that you will send [NAME] to school once it re-opens?	1 Very Likely 2 Likely 3 Unlikely 4 Very Unlikely
CR33	Up to what level of education do you expect [Name] to be able to complete?	1. Primary School Certificate 2. Junior School Certificate 3. Secondary School Certificate 4. Higher School Certificate 5. University Graduate 6. Post Graduate 7. Vocational education 8. Madrasa Hafiz 9. Ebtadayee (grade I-V) Equivalent to primary. 10. Dakhil (grade VI-X) Equivalent to SSC. 11. Alim (grade XI-XII) Equivalent to HSC. 12. Fazil (grade XIII-XIV) Equivalent to degrees. 13. Kamil (grade XV-XVI)
	We may reach out to you for further studies related to this one. Any time we reach out to you, we'll identify ourselves as IPA. Do you want to be contacted in future?	1 yes 0 no

CR	**INFORMATION ON CHILDREN**	
CR03n		
	LEARNING ASSESSMENT – RANDOMLY PICK ONE CHILD CURRENTLY LIVING IN THE HOUSEHOLD TO DO LEARNING ASSESSMENT	

	For one randomly selected child (unique child_id) currently living in the household			**Protocol/ Notes**
assent	*Hello, my name is _____ and I am calling from Innovations for Poverty Action, a U.S.-based research non-profit. We are working with a2i to learn how students are coping while school are closed. I'm inviting you to participate in this study that will help us to understand decisions and problems students face while learning remotely and what can be done to make things better. We will also talk with about 4000 students like you.* *I will first ask you some questions from your maths and Bangla curriculum. I will then ask you about a few questions on your learning activities in May and your feelings about school. These questions are only for research purposes, and we won't share your answers with anyone.* *We got permission from your mother/father/legal guardian. However, you do not have to say 'yes'. You can talk to me in person or in the presence of anyone you like. You are free to decide if you would like to talk to us, and it is not a problem if you do not want to (this will be just between us and no-one else will know).* *Please don't worry about right or wrong answers. You don't have to answer all the questions, only those you are comfortable responding to. After you answer the questions, we will tell you the total score. If you want, we can send you the score in an SMS in the next week. If you want, you can also stop the conversation. Your name and other identifying information will not be intentionally shared with anyone else, and we will consider it confidential. Your participation will help us to learn about how students like you are doing, and you can feel free to ask any questions you have in mind. If you agree to take part in the study, our conversation will last about 15 minutes. I will repeat any question up to two times, and you can keep a notepad and pen next to you in case you want to work out problems. You should not use a calculator. I will repeat these instructions before we begin.* *Do you want to proceed with the survey?* 1 Agreed to survey 2 Refused assent >>End 3 Call back later			
varname	*question*	*responses*	*skips*	
la_grade	Grade in academic year Jan-Dec 2020	1. Grade 6 2. Grade 7 3. Grade 8 4. Grade 9 5. Grade 10	If la_grade == 1, enable q1_base6_g4 –g6 If la_grade == 2, enable Q If la_grade == 3, enable Q If la_grade == 4, enable Q If la_grade == 5, enable Q	*Get from baseline prefill.* *Pay attention to skips, academic year.*
q1_base6_g4	Subtract বিয়োগ করো: 997-54 997-54	1. 800 2. 943 3. 951 4. 913	mscore_base6 = 1 if *answer* = 2	*Read out options if it makes it easier for students to answer quicker*
q2_base6_g5	1 quintal = how many kilograms? ১ কুইন্টাল = কত কেজি?	1. 150 2. 200 3. 1000 4. 100	mscore_base6 +1 if *answer* = 4	*Read out options if it makes it easier for students to answer quicker*

q3_base6_g5	Find the average of গড় নির্নয় করঃ : 50, 75, 100, 175	1. 50 2. 65 3. 75 4. 100	mscore_base6 +1 if *answer* = 4	*Read out numbers in the question slowly; repeat if required.* *Nudge student to write down, if they need to but not use a calculator.* *Read out options if it helps student answer quicker.*
q4_base6_g6	If the price of 15 ball pens is 60 taka, what is the price of one ball pen? ১৫টি বলপেনের দাম ৬০ টাকা হলে একটি বলপেনের দাম কত?	1. 4 taka 2. 5 taka 3. 6 taka 4. 7 taka	mscore_base6 +1 if *answer* = 1	*Nudge student to write down, if they need to but not use a calculator. Offer to repeat question.* *Read out options if it helps student answer quicker.*
note	*Would you like to know your score so far?*	*Read out $score_base6 if Yes:*	If mscore_base6 >=3, enable q5_upper_g6 – q6_upper_g6 If mscore_base6 = 2 & q4 = 1, enable q5_upper_g6 – q6_upper_g6 If mscore_base6 = 2 & q2, q3 = 1, enable q5_upper_g6 – q6_upper_g6 Else enable q7_lower_g5-q8_lower_g4	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more maths questions, before moving to bangla*
q5_upper_g6	What is the third place from the right of any number in the Bangladesh system? দেশীয় রীতিতে কোন সংখ্যার ডানদিক থেকে তৃতীয় স্থানটি কি প্রকাশ করে?	1) Tens 2) Ones 3) Hundreds 4) Ten thounsands	mscore_upper6 = 1 if *answer* = 3	*Read out options if it makes it easier for students to answer quicker*
q6_upper_g6	What do you call a simple ratio when the anterior and the posterior are one? কোনো সরল অনুপাতের পুর্বরাশি ও উত্তররাশি এক হলে তাকে কি বলে?	1. Single ratio 2. Normal ratio 3.general ratio 4. opposite ratio	mscore_upper6 +1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q7_lower_g5	The BRTC bus leaves Dhaka at 2.30 pm. At what time according to international custom, the bus leaves Dhaka ? বিআরটিসি বাস দুপুর ২ টা ৩০ মিনিটে ঢাকা থেকে ছাড়ে। আন্তর্জাতিক রীতি অনুযায়ী কয়টায় ছাড়ে?	1) 0:30 pm 2) 1:30 p.m. 3) 13:30 pm 4) 14:30 pm	mscore_lower6 +1 if *answer* = 3	*Read out numbers in the question slowly; repeat if required.* *Nudge student to write down, if they need to but not use a calculator.* *Read out options if it helps student answer quicker.*

q8_lower_g4	What is a right triangle? সমকোণ কাকে বলে?	1. the one with one 90 angle 2. the one with all 60 degree angles 3. the one with no 90 degree angles ১। যার যেকোনো একটি কোন ৯০ ডিগ্রি ২। যার প্রত্যেক কোণ ৬০ ডিগ্রি ৩। কোন কোণ ৯০ ডিগ্রি না	mscore_lower6 +1 if *answer* = 1	*Read out options if it helps student answer quicker.*
calculate	*Would you like to know your score so far?*	*Read out $finalscore_m if Yes:*	mscore_upper6 + mscore_lower6 + mscore_base6 = finalscore	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you are now moving to bangla questions*
q9_base6_g4	What kind of word is "father" based on gender? লিঙ্গের ভিত্তিতে "পিতা" কি ধরণের শব্দ ?	1. Masculine 2. Feminine	bscore_base6 = 1 if *answer* = 1	*Read out options if it helps student answer quicker.*
q10_base6_g5	What kind of word is "boy" based on the word? বচনের ভিত্তিতে " বালকটি" কোন ধরণের শব্দ?	1. Singular 2. Plural 3. I don't know 4. Refuse to answer ১. একবচন ২. বহুবচন ৩. জানি না ৪. উত্তর দিতে অস্বীকার	bscore_base6 + 1 if *answer* = 1	*Read out options*
q11_base6_g5	How many forms of Bengali language are there? বাংলা ভাষার কয়টি রূপ ?	1. 2 2. 4 3. 6 4. I don't know 5. Refuse to answer ১. ২ ২. ৪ ৩. ৬ ৪. জানি না ৫. উত্তর দিতে অস্বীকার	bscore_base6 + 1 if *answer* = 2	*Read out options if it helps student answer quicker.*
q12_base6_g6	"Study attentively, otherwise you can't pass" Which of the following is the Colloquial form? "মনোযোগ দিয়া পড়ালেখা করিবে, না হইলে পাস করিতে পারিবেনা" এর চলিত রূপ নিচের কোনটি?	1. Study carefully, otherwise you will not be able to pass 2. Study carefully,	bscore_base6 + 1 if *answer* = 3	*Read out options if it helps student answer quicker.*

		otherwise you will not be able to pass 3. Study carefully, otherwise you will not be able to pass 4. Study attentively, otherwise you will not be able to pass 5. Not known 6. Refuse to answer ১. মনোযোগ দিয়া পড়ালেখা করবে, না হইলে পাস করতে পারবে না ২. মনোযোগ দিয়ে পড়ালেখা করিবে, না হইলে পাস করতে পারবে না ৩. মনোযোগ দিয়ে পড়ালেখা করবে, না হলে পাস করতে পারবে না ৪.মনোযোগ দিয়া পড়ালেখা করিবে, না হইলে পাস করতে পারবে না ৫. জানা নেই ৬. উত্তর দিতে অস্বীকার		
note	*Would you like to know your score so far?*	*Read out $bscore_base6 if Yes:*	If bscore_base6 >=3, enable q13_upper_g6 – q14_upper_g6 If bscore_base6 = 2 & q12 = 1, enable q13_upper_g6 – q14_upper_g6 If bscore_base6 = 2 & q10, q11 = 1, enable q13_upper_g6 – q14_upper_g6 Else enable q15_lower_g5-q16_lower_g4	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more bangla questions to go.*
q13_upper_g6	Considering the origin, the words of Bengali language have been divided into how many parts? উৎপত্তির দিক দিয়ে বিবেচনায় বাংলা ভাষার শব্দগুলোকে কয় ভাগে ভাগ করা হয়েছে ?	1. 4 2.5 3.6 4. Not known 5. Refuse to answer	bscore_upper6 = 1 if *answer* = 2	*Read out options if it helps student answer quicker.*
q14_upper_g6	"" Rifat reads books "" What kind of parts of speech is "'Rifat here? রিফাত বই পড়ে '' এখানে ''রিফাত'' কোন ধরণের পদ ?	1. Noun 2. Adjectives 3. Pronouns 4. Verbs	bscore_upper6 + 1 if *answer* = 1 **Check with R/S**	*Read out options if it helps student answer quicker.*

		5. I don't know 6. Refuse to answer ১. বিশেষ্য ২. বিশেষণ ৩. সর্বনাম ৪. ক্রিয়া ৫.জানি না ৬. উত্তর দিতে অস্বীকার		
q15_lower_g5	We will go Rangpur next month' - what kind of tense is used in this sentence? "আমরা আগামি মাসে রংপুর যাবো" - এটি কোন কালের উদাহরন?	1. present 2. past 3. future 4. I don't know 5. Refuse to answer ১. বর্তমান ২. অতীত ৩. ভবিষ্যৎ ৪. জানি না ৫. উত্তর দিতে অস্বীকার	bscore_upper6 + 1 if *answer* = 3 **Check with R/S**	*Read out options if it helps student answer quicker.*
q16_lower_g4	What is the origin of word "chair"? "চেয়ার" কোন ধরণের শব্দ ?	1. Arabi 2. Persian 3. English 4. Not known 5. Refuse to answer ১.আরবি ২. ফারসি ৩.ইংরেজি ৪. জানা নেই ৫. উত্তর দিতে অস্বীকার	bscore_upper6 + 1 if *answer* = **?? Check with R/S**	*Read out options if it helps student answer quicker.*
calculate	*Would you like to know your score so far?*	*Read out $finalscore_b if Yes:*	bscore_upper6 + bscore_lower6 + bscore_base6 = finalscore_b	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you are now moving to bangla questions*
q17_base7_g5	***Repeat q2_base6_g5*** 1 quintal = how many kilograms? ১ কুইন্টাল = কত কেজি?	1. 150 2. 200 3. 1000 4. 100	mscore_base7 = 1 if *answer* = 4	*Read out options if it makes it easier for students to answer quicker*
q18_base7_g6	***Repeat q4_base6_g6*** If the price of 15 ball pens is 60 taka, what is the price of	1. 4 taka 2. 5 taka 3. 6 taka 4. 7 taka	mscore_base7 +1 if *answer* = 1	*Nudge student to write down, if they need to but not use a calculator. Offer to repeat question.*

	one ball pen? ১৫টি বলপেনের দাম ৬০ টাকা হলে একটি বলপেনের দাম কত?			*Read out options if it helps student answer quicker.*
q19_base 7_g6	***Repeat q5_upper_g6*** What is the third place from the right of any number in the Bangladesh system? দেশীয় রীতিতে কোন সংখ্যার ডানদিক থেকে তৃতীয় স্থানটি কি প্রকাশ করে?	1) Tens 2) Ones 3) Hundreds 4) Ten thousands	mscore_base7+1 if *answer* = 3	*Read out options if it makes it easier for students to answer quicker*
q20_base 7_g7	Which of the following is not a whole square number? নিচের কোনটি পূর্ণ বর্গ সংখ্যা নয়?	1) 35 2) 25 3) 64 4) 49	mscore_base7+1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
note	*Would you like to know your score so far?*	*Read out $score_base7 if Yes:*	If mscore_base7 >=3, enable q21_upper_g7 – q22_upper_g7 If mscore_base7 = 2 & q20 = 1, enable q21_upper_g7 – q22_upper_g7 If mscore_base6 = 2 & q18, q19 = 1, enable q21_upper_g7 – q22_upper_g7 Else enable q23_lower_g6-q24_lower_g5	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more maths questions, before moving to bangla*
q21_upper_g7	Which of the following is not a multiple of 3? নিচের কোনটি ৩ এর গুণিতক নয়?	a) 6 b) 10 c) 12 d) 45	mscore_upper7 = 1 if *answer* = 2	*Read out options.*
q22_upper_g7	If the single local number of a number is 4 or 6, what will be the unit local number of its square number? কোন সংখ্যার একক স্থানীয় অংক ৪ বা ৬ হলে, এর বর্গসংখ্যার একক স্থানীয় অংক কত হবে?	a) 6 b) 2 c) 8 d) 5	mscore_upper7 + 1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q23_lower_g6	***Repeat q6_upper_g6*** What do you call a simple ratio when the anterior and the posterior are one? কোনো সরল অনুপাতের পুর্বরাশি ও উত্তররাশি এক হলে তাকে কি বলে?	1. Single ratio 2. Normal ratio 3.general ratio 4. opposite ratio	mscore_upper7 +1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q24_lower_g5	***Repeat q7_lower_g5*** The BRTC bus leaves Dhaka at 2.30 pm. At what time according to international custom, the bus leaves Dhaka ? বিআরটিসি বাস দুপুর ২ টা ৩০ মিনিটে ঢাকা থেকে ছাড়ে। আন্তর্জাতিক রীতি অনুযায়ী কয়টায় ছাড়ে?	1) 0:30 pm 2) 1:30 p.m. 3) 13:30 pm 4) 14:30 pm	mscore_upper7 +1 if *answer* = 3	*Read out numbers in the question slowly; repeat if required.* *Nudge student to write down, if they need to but not use a calculator.*

				Read out options if it helps student answer quicker.
calculate	*Would you like to know your score so far?*	*Read out $finalscore_m if Yes:*	bscore_upper7 + bscore_lower7 + bscore_base7 = finalscore_m	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you are now moving to bangla questions*
q25_base7_g5	***Repeat q10_base6_g5*** What kind of word is "boy" based on the word? বচনের ভিত্তিতে '' বালকটি'' কোন ধরণের শব্দ?	1. Singular 2. Plural 3. I don't know 4. Refuse to answer ১. একবচন ২. বহুবচন ৩. জানি না ৪. উত্তর দিতে অস্বীকার	bscore_base7 = 1 if *answer* = 1	*Read out options*
q26_base7_g6	***Repeat q12_base6_g6*** "Study attentively, otherwise you can't pass" Which of the following is the Colloquial form? "মনোযোগ দিয়া পড়ালেখা করিবে, না হইলে পাস করিতে পারিবেনা" এর চলিত রূপ নিচের কোনটি?	1. Study carefully, otherwise you will not be able to pass 2. Study carefully, otherwise you will not be able to pass 3. Study carefully, otherwise you will not be able to pass 4. Study attentively, otherwise you will not be able to pass 5. Not known 6. Refuse to answer ১. মনোযোগ দিয়া পড়ালেখা করবে, না হইলে পাস করতে পারবে না ২. মনোযোগ দিয়ে পড়ালেখা করিবে, না হইলে পাস করতে পারবে না ৩. মনোযোগ দিয়ে পড়ালেখা করবে, না হলে পাস করতে পারবে না ৪.মনোযোগ দিয়া পড়ালেখা	bscore_base7 + 1 if *answer* = 3	*Read out options if it helps student answer quicker.*

		করিবে, না হইলে পাস করতে পারবে না ৫. জানা নেই ৬. উত্তর দিতে অস্বীকার		
q27_base7_g6	***Repeat q13_upper_g6*** Considering the origin, the words of Bengali language have been divided into how many parts? উৎপত্তির দিক দিয়ে বিবেচনায় বাংলা ভাষার শব্দগুলোকে কয় ভাগে ভাগ করা হয়েছে ?	1. 4 2.5 3.6 4. Not known 5. Refuse to answer	bscore_base7 + 1 if *answer* = 2	*Read out options if it helps student answer quicker.*
q28_base7_g7	When does the word "positive express" (dhonattok shobdo) meaning in Bangla? ধনাত্মক শব্দ তাৎপর্যময় অর্থ প্রকাশ করে কখন?	1) If suffix is added 2) If Inflection is added 3) If it is used in sentences 4) if prefix is added ক) প্রত্যয় যুক্ত হলে খ) বিভক্তি যুক্ত হলে গ) বাক্যে ব্যবহৃত হলে ঘ) উপসর্গ যুক্ত হলে	bscore_base7 + 1 if *answer* = 3	*Read out options if it helps student answer quicker.*
note	*Would you like to know your score so far?*	*Read out $bscore_base7 if Yes:*	If bscore_base7 >=3, enable q29_upper_g7 – q30_upper_g7 If bscore_base7 = 2 & q28 = 1, enable q29_upper_g7 – q30_upper_g7 If bscore_base7 = 2 & q26, q27 = 1, enable q29_upper_g7 – q30_upper_g7 Else enable q31_lower_g6-q32_lower_g5	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more bangla questions to go.*
q29_upper7_g7	The only son is the hope and trust of the parents' - here how is the "word duplication" formed? একমাত্র ছেলেটি বাবা-মায়ের আশা-ভরসার স্থল'- দ্বিরুক্তিটি কীভাবে গঠিত?	1) Using the same word twice 2) Adding synonyms 3) By adding the opposite word 4) By changing the part after the even word ক) একই শব্দ দুইবার ব্যবহার করে খ) সমার্থক শব্দ যোগে গ) বিপরীত শব্দ যোগে ঘ) জোড় শব্দের পর অংশ	bscore_upper7 = 1 if *answer* = 2	*Read out options if it helps student answer quicker.*

		পরিবর্তন করে		
q30_upper7_g7	What is the desire to hear one word after another in order to understand the meaning of the sentence clearly? বাক্যের অর্থ পরিস্কারভাবে বোঝার জন্য এক পদের পর অন্য পদ শোনার ইচ্ছাকে কী বলে?	1) Aspiration 2)Qualifications 3) Assets 4) financial consistency ক) আকাংখ্যা খ) যোগ্যতা গ) আসক্তি ঘ) অর্থ সঙ্গতি	bscore_upper7 + 1 if *answer* = 1	*Read out options if it helps student answer quicker.*
q31_lower_g6	***Repeat q14_upper_g6*** " Rifat reads books " What kind of parts of speech is "Rifat" here? রিফাত বই পড়ে " এখানে "রিফাত" কোন ধরণের পদ ?	1. Noun 2. Adjectives 3. Pronouns 4. Verbs 5. I don't know 6. Refuse to answer ১. বিশেষ্য ২. বিশেষণ ৩. সর্বনাম ৪. ক্রিয়া ৫.জানি না ৬. উত্তর দিতে অস্বীকার	bscore_upper6 + 1 if *answer* = 1 **Check with R/S**	*Read out options if it helps student answer quicker.*
q32_lower_g5	***Repeat q15_lower_g5*** We will go Rangpur next month' - what kind of tense is used in this sentence? "আমরা আগামি মাসে রংপুর যাবো" - এটি কোন কালের উদাহরন?	1. present 2. past 3. future 4. I don't know 5. Refuse to answer ১. বর্তমান ২. অতীত ৩. ভবিষ্যৎ ৪. জানি না ৫. উত্তর দিতে অস্বীকার	bscore_upper7 + 1 if *answer* = 3 **Check with R/S**	*Read out options if it helps student answer quicker.*
calculate	*Would you like to know your score so far?*	*Read out $finalscore_b if Yes:*	bscore_upper7 + bscore_lower7 + bscore_base7 = finalscore_b	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you are now moving to bangla questions*
q33_base8_g6	***Repeat q4_base6_g6*** If the price of 15 ball pens is 60 taka, what is the price of one ball pen? ১৫টি বলপেনের দাম ৬০ টাকা হলে একটি বলপেনের দাম কত?	1. 4 taka 2. 5 taka 3. 6 taka 4. 7 taka	mscore_base8 +1 if *answer* = 1	*Nudge student to write down, if they need to but not use a calculator. Offer to repeat question.*

				Read out options if it helps student answer quicker.
q34_base8_g7	***Repeat q20_base7_g7*** Which of the following is not a whole square number? নিচের কোনটি পূর্ণ বর্গ সংখ্যা নয়?	1) 35 2) 25 3) 64 4) 49	mscore_base8+1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q35_base8_g7	***Repeat q21_upper_g7*** Which of the following is not a multiple of 3? নিচের কোনটি ৩ এর গুণিতক নয়?	1) 6 2) 10 3) 12 4) 45	mscore_base8 = 1 if *answer* = 2	*Read out options.*
q36_base8_g8	If the purchase price is 100 taka, what is the selling price at 8% profit? ক্রয় মূল্য ১০০ টাকা হলে ৮% লাভে বিক্রয় মূল্য কত?	1) 92 taka 2) 100 taka 3) 108 taka 4) 116 taka	mscore_base8 = 1 if *answer* = 3	*Read out options if it makes it easier for students to answer quicker*
note	*Would you like to know your score so far?*	*Read out $score_base8 if Yes:*	If mscore_base8 >=3, enable q37_upper_g8 – q38_upper_g8 If mscore_base8 = 2 & q36 = 1, enable q37_upper_g8 – q38_upper_g8 If mscore_base8 = 2 & q34, q35 = 1, enable q37_upper_g8 – q38_upper_g8 Else enable q39_lower_g7-q40_lower_g6	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more maths questions, before moving to bangla*
q37_upper_g8	Which is the largest unit of length? দৈর্ঘ্যের বৃহত্তম একক কোনটি?	1) kilometer 2) meter 3) decimeter 4) centimetre	mscore_upper8 = 1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q38_upper_g8	One person ran 18,000 meters. How many km did he run? একজন ব্যক্তি ১৬০০০ মিটার দৌড়ালো। সে কত কি.মি. দৌড়ালো?	a) 1600 b) 16 c) 160 d) 15	mscore_upper8 + 1 if *answer* = 2	*Read out options if it makes it easier for students to answer quicker*
q39_lower_g7	***Repeat q22_upper_g7*** If the single local number of a number is 4 or 6, what will be the unit local number of its square number? কোন সংখ্যার একক স্থানীয় অংক ৪ বা ৬ হলে, এর বর্গসংখ্যার একক স্থানীয় অংক কত হবে?	a) 6 b) 2 c) 8 d) 5	mscore_lower8 = 1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q40_lower_g6	***Repeat q6_upper_g6*** What do you call a simple ratio when the anterior and the posterior are one? কোনো সরল অনুপাতের পুর্বরাশি ও উত্তররাশি এক হলে তাকে কি বলে?	1. Single ratio 2. Normal ratio 3.general ratio 4. opposite ratio	mscore_lower8 +1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*

calculate	*Would you like to know your score so far?*	*Read out $finalscore_m if Yes:*	mscore_upper8 + mscore_lower8 + mscore_base9 = finalscore_m	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you are now moving to bangla questions*
q41_base8_g6	***Repeat q12_base6_g6*** "Study attentively, otherwise you can't pass" Which of the following is the Colloquial form? "মনোযোগ দিয়া পড়ালেখা করিবে, না হইলে পাস করিতে পারিবেনা" এর চলিত রূপ নিচের কোনটি?	1. Study carefully, otherwise you will not be able to pass 2. Study carefully, otherwise you will not be able to pass 3. Study carefully, otherwise you will not be able to pass 4. Study attentively, otherwise you will not be able to pass 5. Not known 6. Refuse to answer ১. মনোযোগ দিয়া পড়ালেখা করবে, না হইলে পাস করতে পারবে না ২. মনোযোগ দিয়ে পড়ালেখা করিবে, না হইলে পাস করতে পারবে না ৩. মনোযোগ দিয়ে পড়ালেখা করবে, না হলে পাস করতে পারবে না ৪.মনোযোগ দিয়া পড়ালেখা করিবে, না হইলে পাস করতে পারবে না ৫. জানা নেই ৬. উত্তর দিতে অস্বীকার	bscore_base8 + 1 if *answer* = 3	*Read out options if it helps student answer quicker.*
q42_base8_g7	***Repeat q28_base7_g7*** When does the word "positive express" (dhonattok shobdo) meaning in Bangla? ধনাত্মক শব্দ তাৎপর্যময় অর্থ প্রকাশ করে কখন?	1) If suffix is added 2) If Inflection is added 3) If it is used in sentences 4) if prefix is added	bscore_base8 + 1 if *answer* = 3	*Read out options if it helps student answer quicker.*

		ক) প্রত্যয় যুক্ত হলে খ) বিভক্তি যুক্ত হলে গ) বাক্যে ব্যবহৃত হলে ঘ) উপসর্গ যুক্ত হলে		
q43_base8_g7	***Repeat q29_upper7_g7*** The only son is the hope and trust of the parents' - here how is the "word duplication" formed? একমাত্র ছেলেটি বাবা-মায়ের আশা-ভরসার স্থল'- দ্বিরুক্তিটি কীভাবে গঠিত?	1) Using the same word twice 2) Adding synonyms 3) By adding the opposite word 4) By changing the part after the even word ক) একই শব্দ দুইবার ব্যবহার করে খ) সমার্থক শব্দ যোগে গ) বিপরীত শব্দ যোগে ঘ) জোড় শব্দের পর অংশ পরিবর্তন করে	bscore_base8 + 1 if *answer* = 2	*Read out options if it helps student answer quicker.*
q44_base8_g8	How many types of elements ("stem" in grammar?) are there, and what are their names? ধাতু কত প্রকার ও কী কী?	1.3 2.4 3.5	bscore_base8 + 1 if *answer* = 1	
note	*Would you like to know your score so far?*	*Read out $bscore_base8 if Yes:*	If bscore_base8 >=3, enable q45_upper_g8 – q46_upper_g8 If bscore_base8 = 2 & q44 = 1, enable q45_upper_g8 – q46_upper_g8 If bscore_base8 = 2 & q42, q43 = 1, enable q45_upper_g8 – q46_upper_g8 Else enable q47_lower_g7- q48_lower_g6	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more bangla questions to go.*
q45_upper_g8	What do we need to write on the right side of the postcard or envelope? পোস্টকার্ড বা খামের ডানদিকে কী লিখতে হয়?	1) Name and address of the sender 2) Date and year 3) The main content 4) Name and address of the recipient ক) প্রেরকের নাম ও ঠিকানা খ) তারিখ ও সন গ) মূল বিষয়বস্তু ঘ) প্রাপকের নাম ও ঠিকানা	bscore_upper8 = 1 if *answer* = 4	*Read out options if it helps student answer quicker.*

q46_upper_g8	Baba has brought hilsa from the market '- the sentence has lost which quality of perfect sentence? বাবা বাজার থেকে ইলিশ এনেছে'- বাক্যটি স্বার্থক বাক্যের কোন গুন হারিয়েছে?	1) Desire 2) Assets 3)Qualifications 4) clarity ক) আকাংখ্যা খ) আসক্তি গ) যোগ্যতা ঘ) প্রাঞ্জলতা	bscore_upper8 + 1 if *answer* = 2	*Read out options if it helps student answer quicker.*
q47_lower_g7	***Repeat q30_upper7_g7*** What is the desire to hear one word after another in order to understand the meaning of the sentence clearly? বাক্যের অর্থ পরিস্কারভাবে বোঝার জন্য এক পদের পর অন্য পদ শোনার ইচ্ছাকে কী বলে?	1) Aspiration 2)Qualifications 3) Assets 4) financial consistency ক) আকাংখ্যা খ) যোগ্যতা গ) আসক্তি ঘ) অর্থ সঙ্গতি	bscore_lower8 + 1 if *answer* = 1	*Read out options if it helps student answer quicker.*
q48_lower_g6	***Repeat q13_upper_g6*** Considering the origin, the words of Bengali language have been divided into how many parts? উৎপত্তির দিক দিয়ে বিবেচনায় বাংলা ভাষার শব্দগুলোকে কয় ভাগে ভাগ করা হয়েছে ?	1. 4 2.5 3.6 4. Not known 5. Refuse to answer	bscore_lower8 + 1 if *answer* = 2	*Read out options if it helps student answer quicker.*
calculate	*Would you like to know your score so far?*	*Read out $finalscore_b if Yes:*	bscore_upper8 + bscore_lower8 + bscore_base8 = finalscore_b	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you are now moving to bangla questions*
q49_base9_g7	***Repeat q20_base7_g7*** Which of the following is not a whole square number? নিচের কোনটি পূর্ণ বর্গ সংখ্যা নয়?	1) 35 2) 25 3) 64 4) 49	mscore_base9 = 1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q50_base9_g8	***Repeat q36_base8_g8*** If the purchase price is 100 taka, what is the selling price at 8% profit? ক্রয় মূল্য ১০০ টাকা হলে ৮% লাভে বিক্রয় মূল্য কত?	1) 92 taka 2) 100 taka 3) 108 taka 4) 116 taka	mscore_base9 + 1 if *answer* = 3	*Read out options if it makes it easier for students to answer quicker*
q51_base9_g8	***Repeat q37_upper_g8*** Which is the largest unit of length? দৈর্ঘ্যের বৃহত্তম একক কোনটি?	1) kilometer 2) meter 3) decimeter 4) centimetre	mscore_base9 + 1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q52_base9_g9	If the midpoints of the sides ab and bc in the triangle abc	1. 1/2 BC 2. 1/2 AC	mscore_base9 + 1 if *answer* = 1	

	are D and E respectively, then AD + DE = ? abc ত্রিভুজে ab ও bc বাহুর মধ্যবিন্দু যথাক্রমে D ও E হলে AD + DE =?	3. 1/2 CE 4. 1/2 DE		
note	*Would you like to know your score so far?*	*Read out $mscore_base9 if Yes:*	If mscore_base9 >=3, enable q53_upper_g9 – q54_upper_g9 If mscore_base9 = 2 & q52 = 1, enable q53_upper_g9 – q54_upper_g9 If mscore_base9 = 2 & q50, q51 = 1, enable q53_upper_g9 – q54_upper_g9 Else enable q55_lower_g8-q56_lower_g7	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more bangla questions to go.*
q53_upper_g9	The length of one diagonal of the square is 4 cm. If so, what is the length of the other diagonal? বর্গের একটি কর্ণের দৈর্ঘ্য ৪ সে।মি। হলে, অপর কর্ণের দৈর্ঘ্য কত?	A) 4 B) 3 C) 2 D) 1	mscore_upper9 = 1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q54_upper_g9	0, 1, 1, 2, 3, 5, ... What will be the next number of 5 here? ০, ১, ১, ২, ৩, ৫, … এখানে ৫ এর পরবর্তী সংখ্যা কি হবে?	a) 9 b) 8 c) 7 d) 10	mscore_upper9 + 1 if *answer* = 2	*Read out options if it makes it easier for students to answer quicker*
q55_lower_g8	***Repeat q38_upper_g8*** One person ran 18,000 meters. How many km did he run? একজন ব্যক্তি ১৬০০০ মিটার দৌড়ালো। সে কত কি.মি. দৌড়ালো?	a) 1600 b) 16 c) 160 d) 15	mscore_lower9 + 1 if *answer* = 2	*Read out options if it makes it easier for students to answer quicker*
q56_lower_g7	***Repeat q21_upper_g7*** Which of the following is not a multiple of 3? নিচের কোনটি ৩ এর গুণিতক নয়?	1) 6 2) 10 3) 12 4) 45	mscore_lower9 + 1 if *answer* = 2	*Read out options.*
calculate	*Would you like to know your score so far?*	*Read out $finalscore_m if Yes:*	mscore_upper9 + mscore_lower9 + mscore_base9 = finalscore	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you will move to bangla questions now.*

q57_base9_g7	***Repeat q28_base7_g7*** When does the word "positive express" (dhonattok shobdo) meaning in Bangla? ধনাত্মক শব্দ তাৎপর্যময় অর্থ প্রকাশ করে কখন?	1) If suffix is added 2) If Inflection is added 3) If it is used in sentences 4) if prefix is added ক) প্রত্যয় যুক্ত হলে খ) বিভক্তি যুক্ত হলে গ) বাক্যে ব্যবহৃত হলে ঘ) উপসর্গ যুক্ত হলে	bscore_base9 = 1 if *answer* = 3	*Read out options if it helps student answer quicker.*
q58_base9_g8	***Repeat q44_base8_g8*** How many types of elements ("stem" in grammar?) are there, and what are their names? ধাতু কত প্রকার ও কী কী?	1.3 2.4 3.5	bscore_base9 + 1 if *answer* = 1	*Read out options if it helps student answer quicker.*
q59_base9_g8	***Repeat q45_upper_g8*** What do we need to write on the right side of the postcard or envelope? পোস্টকার্ড বা খামের ডানদিকে কী লিখতে হয়?	1) Name and address of the sender 2) Date and year 3) The main content 4) Name and address of the recipient ক) প্রেরকের নাম ও ঠিকানা খ) তারিখ ও সন গ) মূল বিষয়বস্তু ঘ) প্রাপকের নাম ও ঠিকানা	bscore_base9 + 1 if *answer* = 4	*Read out options if it helps student answer quicker.*
q60_base9_g9	What do we call the organization of the signals emanating from the human voice? মানুষের কণ্ঠ নিঃসৃত বাক্য সঙ্কেতের সংগঠনকে কী বলে?	1) Sounds 2) words 3) sentence 4) Language ক) ধ্বনি খ) শব্দ গ) বাক্য ঘ) ভাষা	bscore_base9 + 1 if *answer* = 4	*Read out options if it helps student answer quicker.*
note	*Would you like to know your score so far?*	*Read out $bscore_base9 if Yes:*	If bscore_base9 >=3, enable q61_upper_g9 – q62_upper_g9 If bscore_base9 = 2 & q60 = 1, enable q61_upper_g9 – q62_upper_g9 If bscore_base9 = 2 & q58, q59 = 1, enable q61_upper_g9 – q62_upper_g9	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more bangla questions to go.*

			Else enable q63_lower_g8-q64_lower_g7	
q61_upper_g9	What is the function of grammar? ব্যাকরণের কাজ কী?	1) To make good speakers 2) To make good writers 3) To determine the internal discipline of language 4) To Teach fast writing ক) ভালো বক্তা তৈরী করা খ) ভালো লেখক তৈরী করা গ) ভাষার অভ্যন্তরীন শৃঙ্খলা নিরুপণ করা ঘ) দ্রুত লেখন শেখানো	bscore_upper9 = 1 if *answer* = 3	*Read out options if it helps student answer quicker.*
q62_upper_g9	What do we call the letter to be written for the job post? চাকরীর জন্য যে পত্র লিখতে হয় তাকে কী বলে?	1) Private letter 2) Official letter 3) Application form 4) Business Letter ক) ব্যাক্তিগত পত্র খ) সরকারী পত্র গ) আবেদন পত্র ঘ) ব্যবসায়িক পত্র	bscore_upper9 + 1 if *answer* = 3	
q63_lower_g8	***Repeat q46_upper_g8*** Baba has brought hilsa from the market '- the sentence has lost which quality of perfect sentence? বাবা বাজার থেকে ইলিশ এনেছে'- বাক্যটি স্বার্থক বাক্যের কোন গুন হারিয়েছে?	1) Desire 2) Assets 3)Qualifications 4) clarity ক) আকাংখ্যা খ) আসক্তি গ) যোগ্যতা ঘ) প্রাঞ্জলতা	bscore_lower9 = 1 if *answer* = 2	*Read out options if it helps student answer quicker.*
q64_lower_g7	***Repeat q29_upper7_g7*** The only son is the hope and trust of the parents' - here how is the "word duplication" formed? একমাত্র ছেলেটি বাবা-মায়ের আশা-ভরসার স্থল'- দ্বিরুক্তিটি কীভাবে গঠিত?	1) Using the same word twice 2) Adding synonyms 3) By adding the opposite word 4) By changing the part after the even word ক) একই শব্দ দুইবার ব্যবহার করে খ) সমার্থক শব্দ যোগে গ) বিপরীত শব্দ যোগে ঘ) জোড় শব্দের পর অংশ পরিবর্তন করে	bscore_lower9 + 1 if *answer* = 2	*Read out options if it helps student answer quicker.*

calculate	*Would you like to know your score so far?*	*Read out $finalscore_b if Yes:*	bscore_upper9 + bscore_lower9 + bscore_base9 = finalscore_b	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you are now moving to bangla questions*
q65_base10_g8	***Repeat q36_base8_g8*** If the purchase price is 100 taka, what is the selling price at 8% profit? ক্রয় মূল্য ১০০ টাকা হলে ৮% লাভে বিক্রয় মূল্য কত?	1) 92 taka 2) 100 taka 3) 108 taka 4) 116 taka	mscore_base10 = 1 if *answer* = 3	*Read out options if it makes it easier for students to answer quicker*
q66_base10_g9	***Repeat q52_base9_g9*** If the midpoints of the sides ab and bc in the triangle abc are D and E respectively, then AD + DE = ? abc ত্রিভুজে ab ও bc বাহুর মধ্যবিন্দু যথাক্রমে D ও E হলে AD + DE =?	1. 1/2 BC 2. 1/2 AC 3. 1/2 CE 4. 1/2 DE	mscore_base10 + 1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q67_base10_g9	***Repeat q53_upper_g9*** The length of one diagonal of the square is 4 cm. If so, what is the length of the other diagonal? বর্গের একটি কর্ণের দৈর্ঘ্য ৪ সে।মি। হলে, অপর কর্ণের দৈর্ঘ্য কত?	1) 4 2) 3 3) 2 4) 1	mscore_base10 + 1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
q68_base10_g10	Which of the following can be drawn if only one arm length is given? শুধুমাত্র একটি বাহুর দৈর্ঘ্য দেওয়া থাকলে নিচের কোনটি অঙ্কন করা সম্ভব?	1) Rhombs 2) Square 3) Parallellogram 4) Trapezium রম্বস বর্গ সামন্তরিক ট্রাপিজিয়াম	mscore_base10 + 1 if *answer* = 2	*Read out options if it makes it easier for students to answer quicker*
note	*Would you like to know your score so far?*	*Read out $mscore_base10 if Yes:*	If mscore_base10 >=3, enable q69_upper_g10 – q70_upper_g10 If mscore_base10 = 2 & q68 = 1, enable q69_upper_g10 – q70_upper_g10 If mscore_base10 = 2 & q66, q67 = 1, enable q69_upper_g10 – q70_upper_g10	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more bangla questions to go.*

			Else enable q71_lower_g9-q72_lower_g8	
q69_upper_g10	Solve this equation If tanθ - cotθ=0, then tanθ=? tanθ - cotθ=0 হলে tanθ=?	1. 2 2. 4 3. 3 4. 1	mscore_upper10 = 1 if *answer = 2*	*Read out options if it makes it easier for students to answer quicker*
q70_upper_g10	Adding 5 to a number doubles the sum. What is the number? কোন সংখ্যার সাথে ৫ যোগ করলে যোগফল সংখ্যাটির দ্বিগুণ হয়। সংখ্যাটি কত?	1. 6 2. 5 3. 7 4. 10	mscore_upper10 + 1 if *answer = 1*	*Read out options if it makes it easier for students to answer quicker*
q71_lower_g9	***Repeat q54_upper_g9*** 0, 1, 1, 2, 3, 5, ... What will be the next number of 5 here? ০, ১, ১, ২, ৩, ৫, ... এখানে ৫ এর পরবর্তী সংখ্যা কি হবে?	a) 9 b) 8 c) 7 d) 10	mscore_lower10 = 1 if *answer* = 2	*Read out options if it makes it easier for students to answer quicker*
q72_lower_g8	***Repeat q37_upper_g8*** Which is the largest unit of length? দৈর্ঘ্যের বৃহত্তম একক কোনটি?	1) kilometer 2) meter 3) decimeter 4) centimetre	mscore_lower10 + 1 if *answer* = 1	*Read out options if it makes it easier for students to answer quicker*
calculate	*Would you like to know your score so far?*	*Read out $finalscore_m if Yes:*	mscore_upper10 + mscore_lower10 + mscore_base10 = finalscore	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you are now moving to bangla questions*
q73_base10_g8	***Repeat q44_base8_g8*** How many types of elements ("stem" in grammar?) are there, and what are their names? ধাতু কত প্রকার ও কী কী?	1.3 2.4 3.5	bscore_base10 = 1 if *answer* = 1	*Read out options if it helps student answer quicker.*
q74_base10_g9	***Repeat q60_base9_g9*** What do we call the organization of the signals emanating from the human voice? মানুষের কণ্ঠ নিঃসৃত বাক্য সঙ্কেতের সংগঠনকে কী বলে?	1) Sounds 2) words 3) sentence 4) Language ক) ধ্বনি খ) শব্দ গ) বাক্য ঘ) ভাষা	bscore_base10 + 1 if *answer* = 4	*Read out options if it helps student answer quicker.*
q75_base10_g9	***Repeat q61_upper_g9*** What is the function of grammar? ব্যাকরণের কাজ কী?	1) To make good speakers 2) To make good writers 3) To determine the internal	bscore_base10 + 1 if *answer* = 3	*Read out options if it helps student answer quicker.*

		discipline of language 4) To Teach fast writing ক) ভালো বক্তা তৈরী করা খ) ভালো লেখক তৈরী করা গ) ভাষার অভ্যন্তরীন শৃঙ্খলা নিরুপণ করা ঘ) দ্রুত লেখন শেখানো		
q76_base10_g10	What do we need to write on the right side of the postcard or envelope? পোস্টকার্ড বা খামের ডানদিকে কী লিখতে হয়?	1) Name and address of the sender 2) Date and year 3) The main content 4) Name and address of the recipient ক) প্রেরকের নাম ও ঠিকানা খ) তারিখ ও সন গ) মূল বিষয়বস্তু ঘ) প্রাপকের নাম ও ঠিকানা	bscore_base10 + 1 if *answer* = 3	*Read out options if it helps student answer quicker.*
note	*Would you like to know your score so far?*	*Read out $bscore_base10 if Yes:*	If bscore_base10 >=3, enable q77_upper_g10 – q78_upper_g10 If bscore_base10 = 2 & q76 = 1, enable q77_upper_g10 – q78_upper_g10 If bscore_base10 = 2 & q74, q75 = 1, enable q77_upper_g10 – q78_upper_g10 Else enable q79_lower_g9-q80_lower_g8	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)* *Tell them you have two more bangla questions to go.*
q77_upper_g10	What is the main difference between the Saint (Sadhu) language and colloquial language? সাধু ও চলিত ভাষার মূল পার্থক্য কোন পদে বেশী দেখা যায়?	1) In nouns and adjectives 2) In verbs and pronouns 3) In nouns and verbs 4) Adjectives and verbs ক) বিশেষ্য ও বিশেষণে খ) ক্রিয়া ও সর্বনামে গ) বিশেষ্য ও ক্রিয়ায় ঘ) বিশেষণ ও ক্রিয়ায়	bscore_upper10 = 1 if *answer* = **?? Check with R/S**	*Read out options if it helps student answer quicker.*
q78_upper_g10	What are the signs we use to stop when writing? লেখার	1) Partition mark 2) Symbolic signs 3) Punctuation	bscore_upper10 + 1 if *answer* = **?? Check with R/S**	*Read out options if it helps student answer quicker.*

	সময় বিশ্রামের জন্য আমরা যে চিহ্ন গুলো ব্যবহার করে থাকি সেগুলোকে কী বলে?	4) Punctuation mark (different wording in Bangla) ক) বিভাজন চিহ্ন খ) সাংকেতিক চিহ্ন গ) বিরাম চিহ্ন ঘ) বিশ্রাম চিহ্ন		
q79_lower_g9	***Repeat q62_upper_g9*** What do we call the letter to be written for the job post? চাকরীর জন্য যে পত্র লিখতে হয় তাকে কী বলে?	1) Private letter 2) Official letter 3) Application form 4) Business Letter ক) ব্যাক্তিগত পত্র খ) সরকারী পত্র গ) আবেদন পত্র ঘ) ব্যবসায়িক পত্র	bscore_lower10 = 1 if *answer* = 3	*Read out options if it helps student answer quicker.*
q80_lower_g8	***Repeat q45_upper_g8*** What do we need to write on the right side of the postcard or envelope? পোস্টকার্ড বা খামের ডানদিকে কী লিখতে হয়?	1) Name and address of the sender 2) Date and year 3) The main content 4) Name and address of the recipient ক) প্রেরকের নাম ও ঠিকানা খ) তারিখ ও সন গ) মূল বিষয়বস্তু ঘ) প্রাপকের নাম ও ঠিকানা	bscore_lower10 = 1 if *answer* = 4	*Read out options if it helps student answer quicker.*
calculate	*Would you like to know your score so far?*	*Read out $finalscore_b if Yes:*	bscore_upper10 + bscore_lower10 + bscore_base10 = finalscore_b	*Read out score only if student wants to hear. Encourage them to stay on the phone ("you are doing well so far" etc..)*
	Would you like me to send this message to this number by SMS within one week?	0 No 1 Yes		

	CHILD EXPECTATIONS AND BELIEFS	
CR1	Now, I'd like you to think about the learning activities that you have done during the month of May. How would you compare your current level of knowledge and ability today to the beginning of March?	1 Have learned a lot 2 Have learned something, but not very much 3 Have not learned anything -99 Don't know

CR2a	**(Program order between this and next question to be randomized)** Imagine you had no constraints and could study for as long as you liked. What level of education would you like to complete some day?	1. Primary School Certificate 2. Junior School Certificate 3. Secondary School Certificate 4. Higher School Certificate 5. University Graduate 6. Post Graduate 7. Vocational education 8. Madrasa Hafiz 9. Ebtadayee (grade I-V) Equivalent to primary. 10. Dakhil (grade VI-X) Equivalent to SSC. 11. Alim (grade XI-XII) Equivalent to HSC. 12. Fazil (grade XIII-XIV) Equivalent to degrees. 13. Kamil (grade XV-XVI)
CR2b	Now think about your current situation. What level of education do you think you will most likely achieve?	1. Primary School Certificate 2. Junior School Certificate 3. Secondary School Certificate 4. Higher School Certificate 5. University Graduate 6. Post Graduate 7. Vocational education 8. Madrasa Hafiz 9. Ebtadayee (grade I-V) Equivalent to primary. 10. Dakhil (grade VI-X) Equivalent to SSC. 11. Alim (grade XI-XII) Equivalent to HSC. 12. Fazil (grade XIII-XIV) Equivalent to degrees. 13. Kamil (grade XV-XVI)
CR3n	I will now read you some statements. or each one, tell us how true it is for YOU by telling me whether it is VERY TRUE, SORT OF TRUE, NOT VERY TRUE, or NOT AT ALL TRUE. There are no right or wrong answers.	
CR3a	I work very hard on my schoolwork.	1. Very True 2. Sort of True 3. Not Very True 4. Not At All True
CR3b	When I'm learning at home, I just act as if I'm working.	
CR3c	How important is to you to do the best you can in school?	
CR3d	When it comes to school, my parents are always telling me what to do.	
CR3e	My parents don't explain why school is important.	
CR3f	My parents don't seem to have enough time for me.	
CR4	How many hours a week would you say you typically did school work/studied in the past week?	

CR5	During the month of May, did you use any of the following devices to engage in learning activities?	1. Television 2 .Feature phone 3. Smart phone 4. Tablet 5. Computer
CR6	I'm now going to list a set of possible learning resources. For each one, would you tell me if you have used this at all during the past month?	[LEARNING RESOURCE]: 1 Watched Sangsad TV 2 Watched video lessons on a smartphone or other device 3 Used Robi platform 4 Used other internet resources 5 Read textbooks/school books 6. Worked in exercise books 7. Met with a teacher in person 8. Met with a teacher remotely: by phone or internet 9 Attended in-person school classes 10 Attended remote school classes 11. Other: _____

a