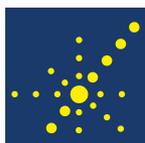# ASSESSMENTS IN THE TIMES OF COVID-19

EXPERIENCES FROM PHONE BASED
ASSESSMENT IN INDIA

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Pallavi Jhingran, Pratibha Joshi,
Pooja Nagpal, and Sudhanshu Sharma

CENTRAL SQUARE
FOUNDATION

THE COVID-19 IMPACT ON EDUCATION:

1.6 billion students in 190 countries were unable to attend school

The COVID-19 pandemic led to an unprecedented disruption in education. The UN estimates that COVID-19 induced school closures have affected 94% of the students worldwide as more than 1.6 billion students in 190 countries are unable to attend school. The potentially large learning losses due to school closures, and their long-term and inequitable impacts, are a matter of great concern for educators and policy makers. While governments around the world have deployed a host of measures to mitigate these learning losses, remote learning has played a pivotal role in their education response to COVID-19. This is true also for the education response to COVID-19 of the central and state governments in India (Doraiswamy et al, 2020).

As the school closures prolonged, it became important to not only keep the children meaningfully engaged with educational content but also to get a sense of their effective learning level- did it increase, decrease, or remained the same since schools closed? In future when the schools reopen, the information on student's learning level will be important to design effective strategies for return to in-school learning and remediation where necessary. This is especially true for the early grades, where children who fall behind in acquiring the foundational skills of literacy and numeracy tend to stay behind in their learning trajectories.

A few studies have attempted to use innovations such as phone-based assessments to understand changes in student learning where in-person assessments are infeasible due to COVID-19 related constraints. For example, see Bergman et. al (2020) for an application of phone-based assessments in Botswana.

Overview of the phone-based assessment As a part of an internal study at Central Square Foundation (CSF), we designed and implemented a phone-based assessment to measure early grade numeracy skills for 300 early grade students (Grade Pre-K, Kindergarten, and Grade I) from 3 semi-urban localities in New Delhi in August and September, 2020. This was a randomly drawn sample from the population served by Saarthi Education. In this piece, we discuss our experience of conducting phone-based assessments, the challenges involved, and the implications for using phone-based assessments at scale for early grades. The learning assessment instruments were developed internally, and administered to 300 children by a team of 10 enumerators over a period of 5 days. The enumerators, who underwent a comprehensive training and conducted a detailed pilot, were tasked with the responsibility of calling parents to collect data on basic demographic characteristics of the household and then administer a phone-based assessment to their children.

300 **Students**
(Pre-K, Kindergarten, Grade1)

Geography:
3 semi-urban localities in Delhi

5 Days

10 *Enume*

August – September 2020

Key Insights for conducting phone-based assessments

- Suitable to test a limited set of competencies, especially for assessing early grade skills which typically require verbal, face-to-face, and visual aids for testing

- Tradeoffs involved in terms of the length, scope, and the type of assessments that can be administered

- Likelihood of non-response is higher, especially as the child may not be willing to participate

- Need to take additional measures to ensure the child is comfortable during the assessments. E.g., asking parents to stay close to their child should their child require help with understanding the question.

- Need to account for and plan for the possibility of the parent assisting the child during the assessment

Design of Assessment Instruments

The following measures were taken while designing the instruments for phone-based assessment:

- Most early grade assessments are oral in nature, and are conducted in a one-on-one capacity with the help of a visual stimuli or aid which is shown to the student for him/her to be able to respond. For example, a table of words which the child is asked to read to check for word reading ability. However, for the purpose of conducting phone-based assessments, specific skills had to be prioritised for testing, and we had to select assessment items/tasks which are conducive to administer in the absence of visual cues.

- The assessment was kept short- requiring 20-25 minutes per child, including 5-10 mins of consent and rapport building.

- In the absence of face to face interaction and visual cues, phone-based assessments may place cognitive load on a child's listening and processing skills. Therefore, it was ensured that the instructions and question text were simple

and easy to understand. Practice questions were included in the assessment and enumerators were instructed to administer practice questions to ensure that the child has understood the problem before asking the main question.

Enumerator Training and Pilot

Enumerators play a key role in conducting assessments as they have the responsibility of collecting good quality student response data. To ensure data quality, accuracy and reliability, the enumerators underwent 2-days of extensive training conducted virtually by CSF's Research team. The enumerators were trained on three critical aspects - (i) general guidelines for conducting the phone assessment (including instructions for rapport building, taking informed consent etc.), (ii) specific instructions and guidelines for administering the assessment tasks and (iii) recording parent and student responses. The enumerators were provided a detailed script and were asked to follow it strictly throughout the assessment to ensure consistency in test administration.

Following the training, a brief pilot was conducted with 30 students and parents before the final assessment to get quick feedback on the responsiveness, assessment items and process and other logistical aspects. Based on the pilot, changes were made to the calling protocols, assessment instruments, and enumerator scripts to ensure high response rate and reliable data.

Assessment Implementation

The enumerators called the parents in advance to inform them regarding the assessment objective, took consent for assessing the child and sought time for administering the assessment as per availability of the child and parent. On the day of the survey, the enumerators called the parents, re-stated the purpose of the call and the objective of the assessment. They requested to speak with the child and took the parent's consent for testing. To facilitate honest responses, enumerators requested the parent to not support the child during the assessment and clarified that the assessment was low-stakes and had no rewards or consequences associated. Given that the children were very young (3-11 years), enumerators conducted the assessments in a conversational mode to make the child comfortable. The enumerators administered the assessment and recorded the student response data, as per the guidelines. The final assessment data for all students was collated by the enumerators and shared with the CSF team.

Considerations For Effective Phone-based Assessments

While phone-based assessments are cost-effective and potentially scalable, following are some important considerations for designing and implementing phone-based assessments for early grade students:

Ethics: consent for conducting phone-based assessments with young children should be taken from their parents or guardians. In the process of soliciting consent, it should be made amply clear to the parent or guardian that the assessment is low stakes and does not directly impact the child in any way.

Trade-offs: given the nature of these assessments, phone-based as opposed to in-person, only a limited set of competencies can be tested. This is not necessarily a drawback as it can allow for focused, and hence shorter assessments which can be implemented more frequently. However, as phone-based assessments can test only a limited set of competencies, these should not be seen as a replacement for in-person assessments which tend to be more extensive. Further, children in our sample were tested on numeracy skills which are more conducive to a phone-based format, whereas literacy assessments require children to read off visual stimuli and are anticipated to be much harder to administer over the phone.

Non-response: phone-based assessments are likely to have a much higher non-response rate than in-person assessments, especially for young children. Since young children use their parent's phone for assessment, inability of the assessment agency to reach the parent's phone would mean that assessment can't be administered to the child. In some instances, the child might not be comfortable in responding to a phone-based assessment leading to non-response. To address this, we kept a 30% buffer in our sample.

Integrity of the assessment: ensuring that children are not assisted by older siblings or parents during the phone-based assessment can be challenging in practice. The guidelines communicated to parents before the start of the phone-based assessment can explicitly state that they should not help the child with the assessment. However, this guideline is advisory in nature and can't be enforced in the context of phone-based assessments. Moreover, young children are bound to be helped by their siblings or parents if not in answering the question then at least in understanding it. In our study, we assigned a "zero score" where we heard a parent or sibling helping the child on any assessment question. This was given as a separate option on the enumerator sheet and allowed us to get a sense of how many children were helped during the phone-based assessment. We found that about 15% of the students were assisted in responding to at least one of the assessment questions. However, only about 5% of the students were consistently helped in responding to the assessment questions[1].

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[1]A student is "consistently helped" if they were assisted by a parent or sibling in responding to four or more assessment questions

Conclusion

Phone based assessments can prove to be a promising innovation to measure student learning, especially in situations where conducting in-person assessments is not feasible. The COVID-19 pandemic and the subsequent shift to at-home learning due to school closures have provided an impetus for exploring alternative methods of assessment like phone-based assessments.

Phone based assessments have a set of design considerations and limitations that need to be addressed for these assessments to be reliable and meaningful. The fundamental trade-off in the context of phone-based assessments is between comprehensiveness and efficiency. Relative to the conventional in-person assessments, phone-based assessments can only test a limited number of learning competencies but can do so at a fraction of the cost of conventional assessments. In our study, cost of conducting phone-based assessments was INR 255 (USD 3.5) per observation.

Photo Credit: Rocket Learning

Since phone-based assessments rely on mobile phones, a technology with wide reach in India, and require fewer human resources, they are cost-effective and easy to scale relative to in-person assessments. While phone-based assessments might be more efficient, they are not necessarily a substitute for in-person assessments. This is especially true in the case of early grade students where face to face interaction is an essential part of assessing a child's foundational skills. However, this is not to say that phone-based assessments cannot play a catalytic role in capturing student learning outcomes efficiently. A good way forward would be to consider phone-based and in-person assessments as complements rather than substitutes, each offsetting the limitations of the other. While in-person assessments allow testing for a comprehensive set of learning competencies, the phone-based assessment can be used for testing a targeted set of competencies more frequently. Further steps are required to ensure reliability of learning outcomes measured via phone assessments not just for early grade learners but also in the later grades, as well as how best early grade literacy assessments can be conducted

Acknowledgements

References

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