



**CENTRAL SQUARE
FOUNDATION**



**Centre for
Social and
Behaviour
Change**

USING BEHAVIORAL INSIGHTS TO INCREASE PARENTS' ENGAGEMENT ON FLN

**A study by Central Square Foundation and Centre for Social
and Behaviour Change, Ashoka University**





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EXECUTIVE SUMMARY

Solving the foundational learning crisis in India requires bottom-up change through the involvement of multiple stakeholders, including teachers, administrators, parents, and communities. Several states have taken the initiative to tackle this crisis by launching foundational learning programs but limited attempts have been made to involve parents in supporting the success of these initiatives.

Research has shown that parents' involvement in children's learning can positively impact their academic performance and social-emotional development¹. Children spend 80% of their time at home. Thus, parents and communities can be leveraged to provide extended academic support to school systems. However, parents' involvement in children's learning tends to be low because parents lack clarity on the role they can play and feel underconfident in supporting their child, given their own low literacy levels. This is exacerbated by parents' limited awareness of the skills children require in early grades, along with a lack of access to tools needed to support their child's learning.

To solve for this, CSF and CSBC at Ashoka University collaborated to develop behavioral interventions to support an increase in parents' engagement in their child's Foundational Literacy and Numeracy (FLN) journey. The interventions were designed using behavioral principles in order to:

- Provide parents with clarity on the role they can play in their child's FLN journey
- Reduce the cognitive load of engaging with children through simple tools
- Increase parents' confidence to engage with such activities

Parents were encouraged to play the role of a coach for their child. They were provided with information on the skills their child was expected to acquire at an early age, the importance of FLN for their child's future, and simple activities they could use to engage with their children. Parents were shown videos in schools to orient them to their role and build their confidence. The core interventions were delivered through two modes - 1) Tech-based (through WhatsApp groups) and 2) offline (through workbooks).

To test their effectiveness in improving parent engagement with FLN, the interventions were evaluated through a two-month randomized controlled trial comprising 1017 parents in Uttar Pradesh. The results of the analysis indicate that both the interventions increased the value parents placed on FLN engagement with their children. In this report we provide details of the diagnostic research undertaken to identify behavioral barriers impacting parent engagement, interventions designed to address these barriers, intervention deployment channels, and research findings from the field trial. We conclude with potential scaling pathways for adoption of these interventions in other contexts.

¹ Lin, Q. (2003). Parent involvement and early literacy. Harvard Family Research Project.

CHAPTER 01

STUDY BACKGROUND

For India to achieve the goal of universal foundational literacy and numeracy in primary schools by 2026-27, as set out in the National Education Policy, it is essential for multiple stakeholders to work together. Although parents and communities are external to school systems, they can play an integral role in supporting schools by ensuring regular student attendance and monitoring and promoting their child's learning progress. Studies have shown that parents' involvement in education improves academic and social-emotional outcomes for their children².

CSF and CSBC collaborated to develop and empirically test behavior change interventions for parents to increase parents' engagement with FLN. The project was implemented in Bahraich and Chitrakoot districts in the state of Uttar Pradesh between 2021-2022.

1.1 Project Partners

The project was designed and implemented with the support of the below partners in addition to the two core organizations:



[Imperium Edutech](#) and [Commonplace](#) helped us develop intervention content and [Maitra Market Research](#) supported us with intervention deployment and data collection.

² Lin, Q. (2003). Parent involvement and early literacy. Harvard Family Research Project.

1.2 Project Timeline

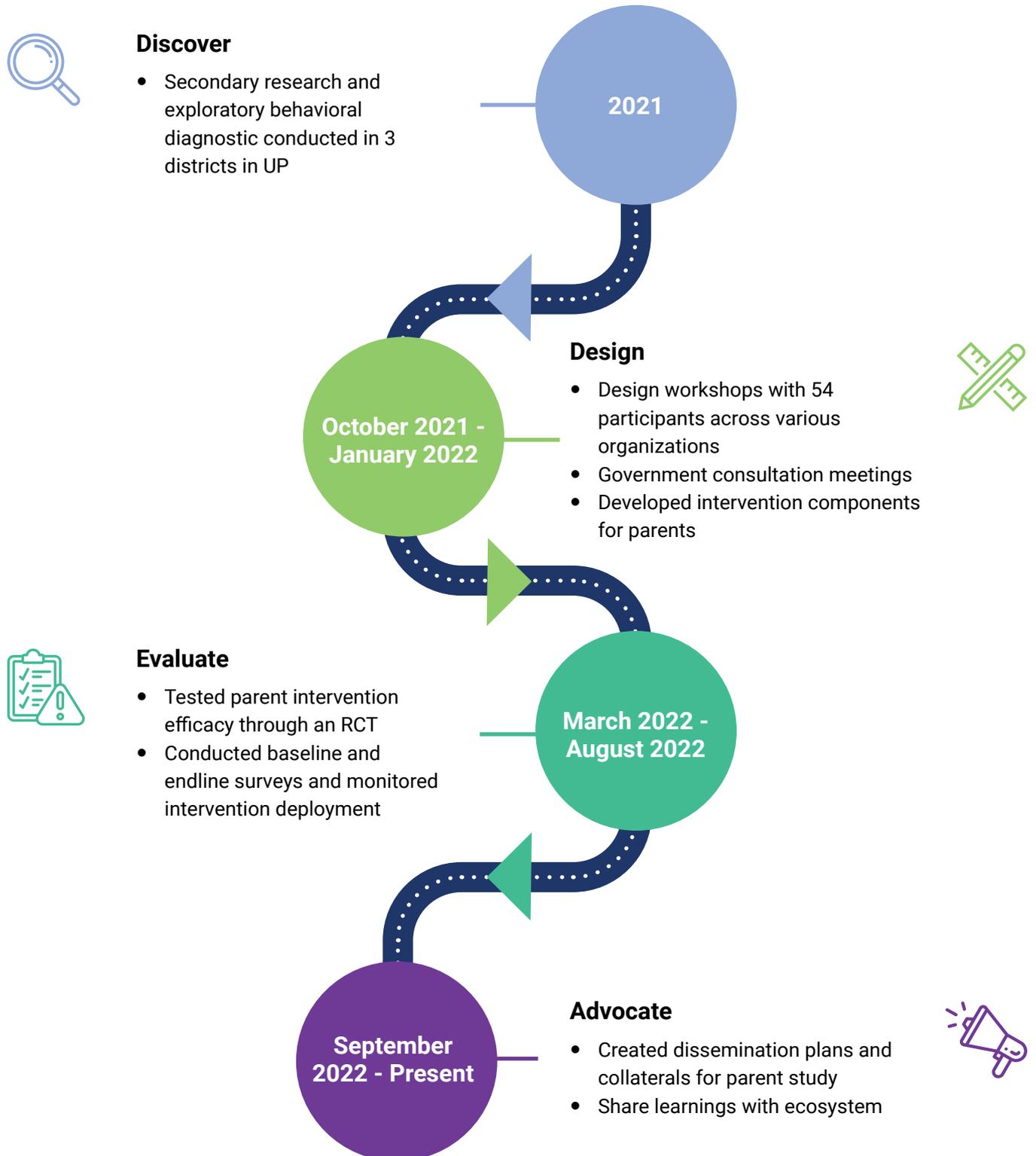


Figure 1: Project Timelines

DIAGNOSTIC FINDINGS

We conducted an exploratory research study to identify behavioral barriers and enablers regarding FLN among key stakeholders. In-depth interviews were conducted with teachers, Academic Resource Persons (ARPs) and parents of children in primary schools in Bahraich, Chitrakoot and Balrampur districts of Uttar Pradesh. A total of eight interviews were conducted for each target group. The diagnostic findings revealed motivational and capacity barriers faced by parents. These are outlined below.

2.1 Motivational Barriers

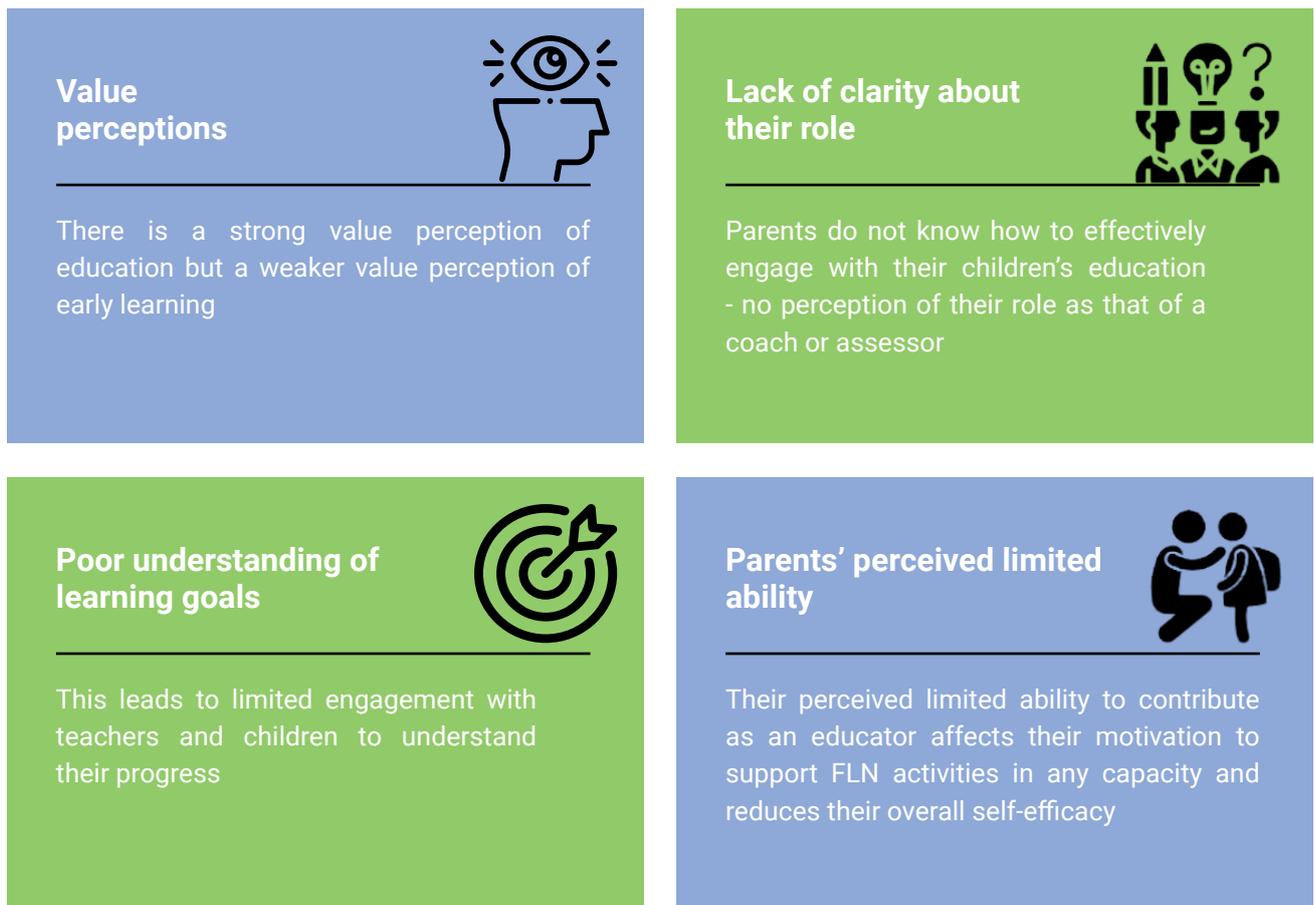


Figure 2: Behavioral Barriers to FLN - Motivational

2.2 Intent-Action Gaps

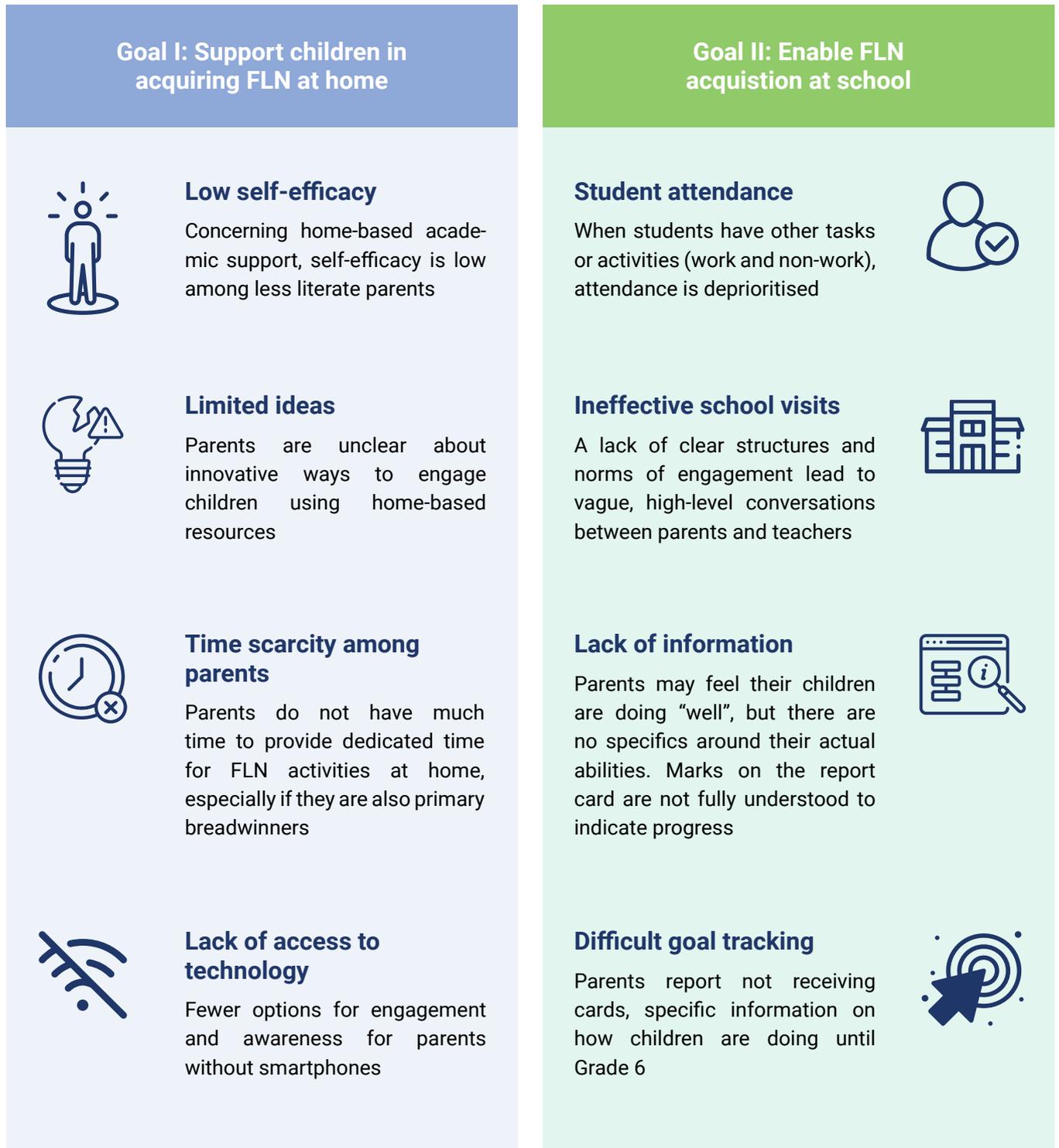


Figure 3: Behavioral Barriers to FLN - Intent-Action Gaps

2.3 Access and System Barriers

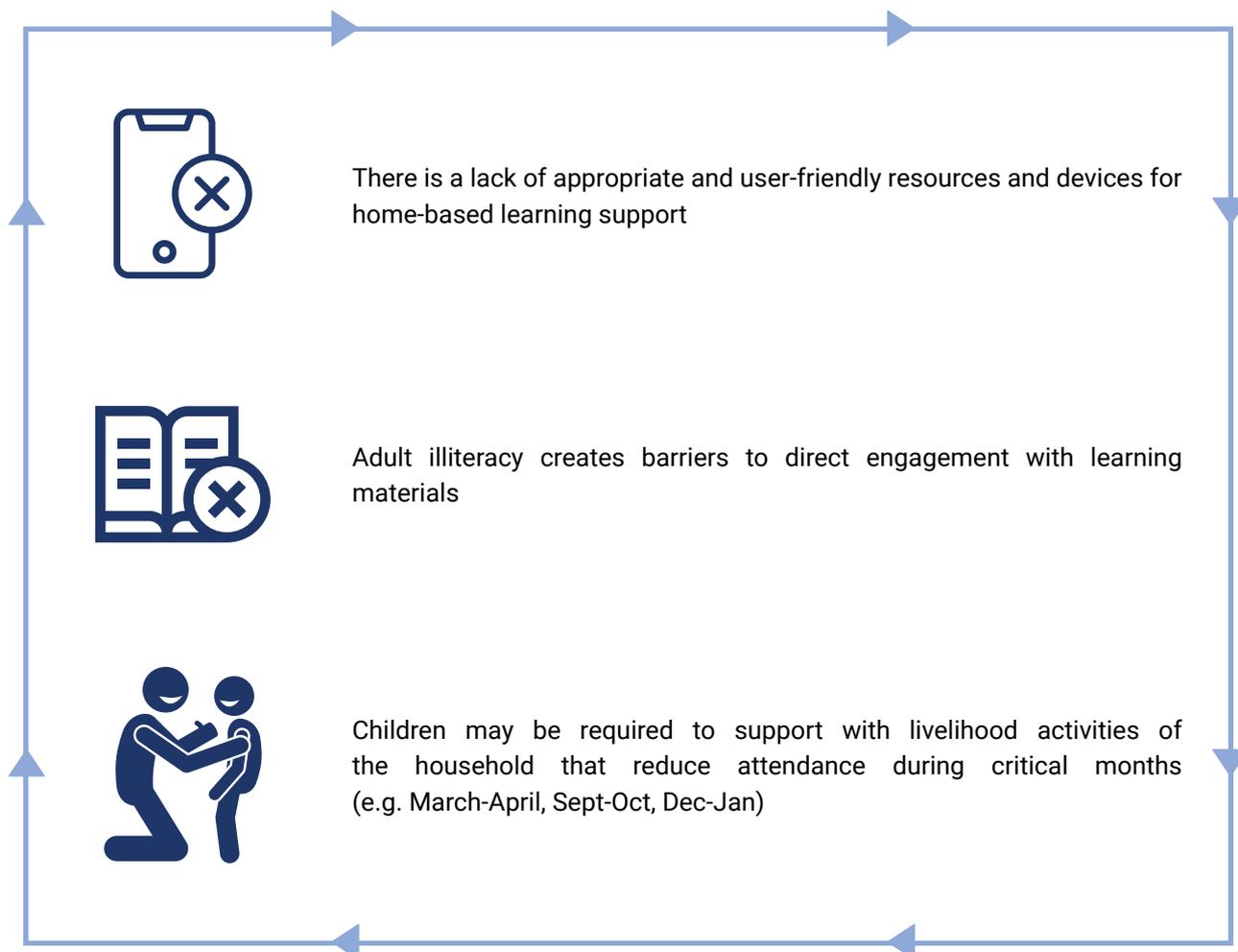


Figure 4: Behavioral Barriers to FLN - Access and System Barriers

2.4 Behavioral Facilitators

Parents believe in the value of education, specifically tangible advantages such as being able to read bank passbooks and the ability to take up jobs that require literacy (e.g. shopkeeper)

Parents feel that school quality has improved and their interactions with teachers have increased post-Covid

Covid-19 helped catalyze some parents to be more involved with supporting learning at home

CHAPTER 03

INTERVENTION DESIGN

To address the barriers identified in the diagnostic exercise, we focused on incorporating the following behavioral principles in our interventions:

Providing clarity on the role parents can play

The diagnostic revealed that parents were unclear of the role they can play in their child's FLN journey and felt overwhelmed when asked to contribute to it. Our interventions were thus designed to highlight the role parents can play as good 'coaches'. Coaching, unlike teaching, does not require strong technical skills. The primary role of the coach is to motivate, assess, and build consistency. Parents were expected to become good coaches by engaging with their child's education, assessing their child's progress, motivating them to learn, and arranging support for them in appropriate ways.

Making the task easy for parents

Parents perceived engaging with their children as a complex and time-consuming task. We designed our interventions to make the task of engaging with FLN easy for parents by providing them with simple tools or resources, thereby, reducing their cognitive load. They were also given easy to use heuristics to assess and monitor their child's progress on FLN skills.

Generating confidence and improving self-efficacy among parents

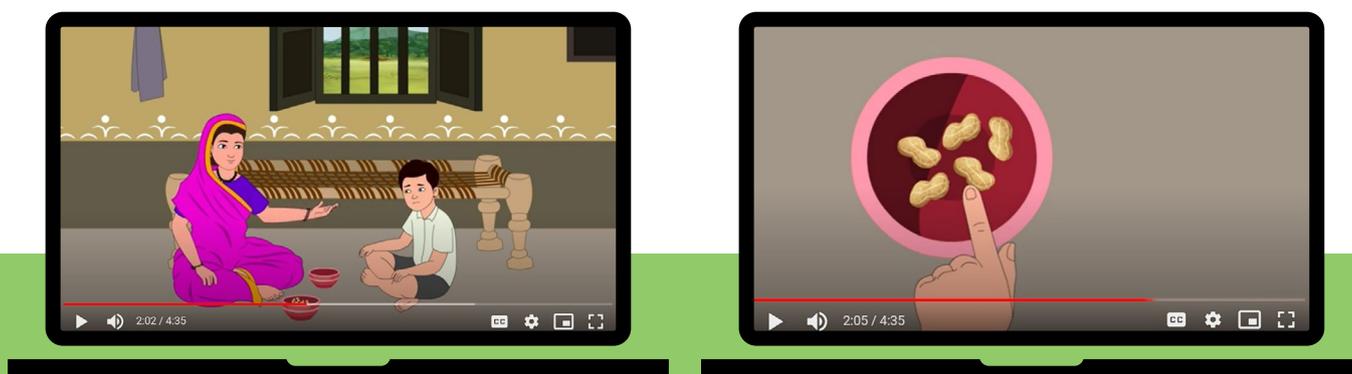
Parents from weak economic backgrounds with low literacy levels had limited self-efficacy to engage with their children on FLN. Motivational messages designed using behavioral principles were combined with easy-to-use tools to engage in FLN activities to build parents' confidence to support their children.

3.1 Onboarding Videos

To orient parents towards the role they can play, a set of four [animated videos](#) were developed in collaboration with [Imperium Edutech](#) that provided information about the following:

- The importance of foundational learning
- Learning goals for children in Class 1 to 3
- Parent's role in their child's FLN progress as coaches
- Examples of activities parents can use to monitor their child's progress on FLN

The videos use relatable characters, such as Mr and Mrs Kumar, who are parents to young children and have low literacy levels. These videos provide information to the parents through an engaging narrative. Since the characters have been designed to be from a similar background as the parents in our study, they serve as role models for the parents. Through the video series, parents watch the characters facing similar obstacles as themselves (e.g. low confidence to engage) and successfully overcoming them. The characters demonstrate how parents can support learning at home through consistent engagement with their children by conducting simple and fun activities for 15-20 minutes every day. The videos also depict how acquiring FLN skills in early years help children in higher grades, support them in real life situations (e.g. reading a bank passbook or checking change received at a store) and set them up for future success as adults.



Principle Addressed

- Goal Demonstration
- Framing the role as that of an assessor/coach
- Outlining role with clarity
- Generating confidence among parents through a relatable narrator

Figure 5: Onboarding Videos Highlighted the Role Parents can Play as 'Coaches'

3.2 WhatsApp Interventions

We developed [videos](#) with instructions on conducting simple FLN based activities that parents could do with their children as part of their daily routine using household items. A total of 40 bite-sized videos with progressively increasing difficulty levels were developed or adapted from existing Rocket Learning content. Five videos were shared each week for a period of two months on WhatsApp groups with parents. [Solution videos](#) or pictures were also shared with parents, so they had access to answers for questions included in the videos. The aim of the videos was to make it easy for parents to engage with their children, provide parents with simple ways to assess progress on FLN, and build their confidence. The activities were aligned with competencies being covered in schools, as per the state's academic plan.

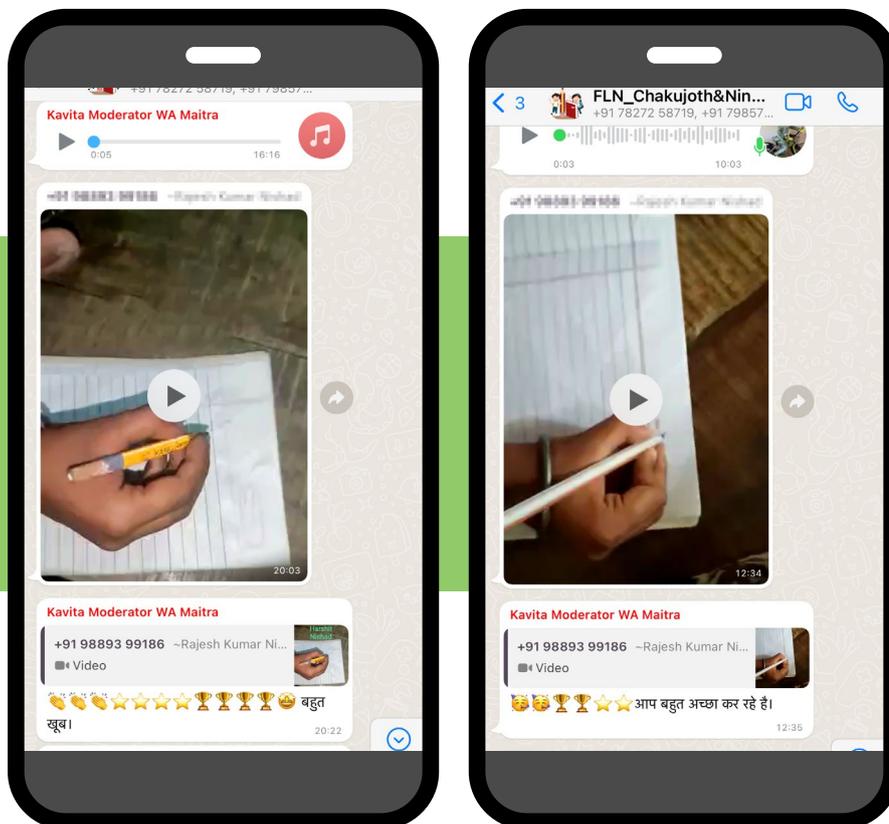


Principle Addressed

- Making it easy
- Reducing cognitive load
- Generating confidence among parents

Figure 6: Bite-sized Videos Demonstrating FLN Activities were Shared on Parent WhatsApp Groups

Parents were encouraged to share videos or photos of them doing the activities with their children in order to leverage social/peer effects to increase engagement. They also received motivational messages and reminders to complete activities and fill a progress tracker twice a week. The motivational messages were normative messages to help build confidence, commitment, social norms, and to clarify the role of parents as coaches. Reminders were shared as text messages and voice notes over the WhatsApp groups to ensure that all parents could access them



Principle Addressed

- Social/peer effects to encourage engagement
- Providing motivation through feedback

Figure 7: Parents Shared Photos and Videos of them doing Activities with Children

At the end of every week, report cards were shared with the group to track the number of activities parents had completed with their children in that week. The report cards served a dual purpose. They allowed parents to track progress and also helped motivate their peers to increase their engagement.

Week		प्रगति पत्र					School Name
नाम	सोमवार	मंगलवार	बुधवार	गुरुवार	शुक्रवार		
Ram							
Afzal		★	★				
Anuj	★	★	★	★	★		
Sanchita	★			★	★		
Bunty				★	★		
Vishal	★						

Figure 8: Report Card Sample

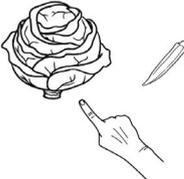
3.3 Parent Workbook

Parents without access to smartphones were given a workbook comprising 40 DIY-style activities they could do to engage with their children and assess their FLN skills. The activities were presented as a series of instructions that parents could follow to engage with their child on FLN topics. The workbook primarily had visual elements and illustrations. It also had a toll-free number that low-literate parents could use to listen to [audio instructions](#) by entering the relevant page number. A subset of parents also received daily interactive voice response system (IVRS) calls with pre-recorded activity explanations and motivational reminders. The workbook was designed in collaboration with [Commonplace](#), and all the workbook content was aligned with the state developed textbooks and teaching-learning material.

टोल फ्री नंबर: इस खेल को सुनने के लिए **18002030580** पर कॉल करें

खेल 03 बड़े छोटे में अंतर पहचानो

(i) रसोई से कोई दो फल या सब्जी लाएं
(ii) अपने बच्चों को यह फल या सब्जी दिखाएं
(iii) उससे बड़ी सब्जी या फल पहचानने को कहें




निष्कर्ष: मेरे बच्चे ने _____ बड़े फल/सब्जी सही से पहचाने।

Toll-free number that parents with low literacy can use to call and listen to the activity

If the main activity is easy for a child, parents were given ideas to increase the level of difficulty for the task

Assessment line to reinforce the 'assessors' role of parents

Principle Addressed

- Making it easy
- Reducing cognitive load
- Generating confidence among parents

Figure 9: Parents without Whatsapp were Given Workbooks with Easy FLN Activities to do with their Child at Home

The workbook incorporated a variety of behavioral design principles, such as commitment devices, progress trackers, and [motivational messages](#) to build confidence. At the beginning of every week, parents were asked to write down the number of hours they would spend on FLN activities with their children. At the end of every week, the workbook had a progress and attendance tracker.

खेल मूल्यांकन

खेल	खेल 01 ?	खेल 02 ?	खेल 03 ?	खेल 04 ?	खेल 05 ?
दिनांक					
खेल	खेल 06 ?	खेल 07 ?	खेल 08 ?	खेल 09 ?	खेल 10 ?
दिनांक					
खेल	खेल 11 ?	खेल 12 ?	खेल 13 ?	खेल 14 ?	खेल 15 ?
दिनांक					
खेल	खेल 16 ?	खेल 17 ?	खेल 18 ?	खेल 19 ?	खेल 20 ?
दिनांक					

सप्ताह 01

मैं सरल भाषा और गणित जान खेलों में इस हफ्ते _____ घंटे लगाऊंगा/लगाऊंगी।



Figure 10: Activity Tracker and Commitment Device

दिनांक: _____

सप्ताह 01: लक्ष्य प्राप्ति

पिछले हफ्ते बच्चे की स्कूल में हाजिरी: _____

पिछले हफ्ते कितने गृहकार्य दिए गए: _____

पिछले हफ्ते कितने गृहकार्य पूरे किये: _____

पिछले हफ्ते पुस्तिका के खेलों और गृहकार्य में दिया गया समय: _____

परीक्षा विषय व परिणाम: _____

यह खेल आपको आपके बच्चे को शिक्षा स्तर को पहचानने में मदद कर सकते हैं। यह खेल खेलें और अपने बच्चे की प्रगति का पता लगाएं। ऐसे ही आगे बढ़ते रहें।



Figure 11: Weekly Tracker for Parents to Simplify Tracking the Child's Engagement in School and FLN Activities with Motivational Reminders to Build their Confidence

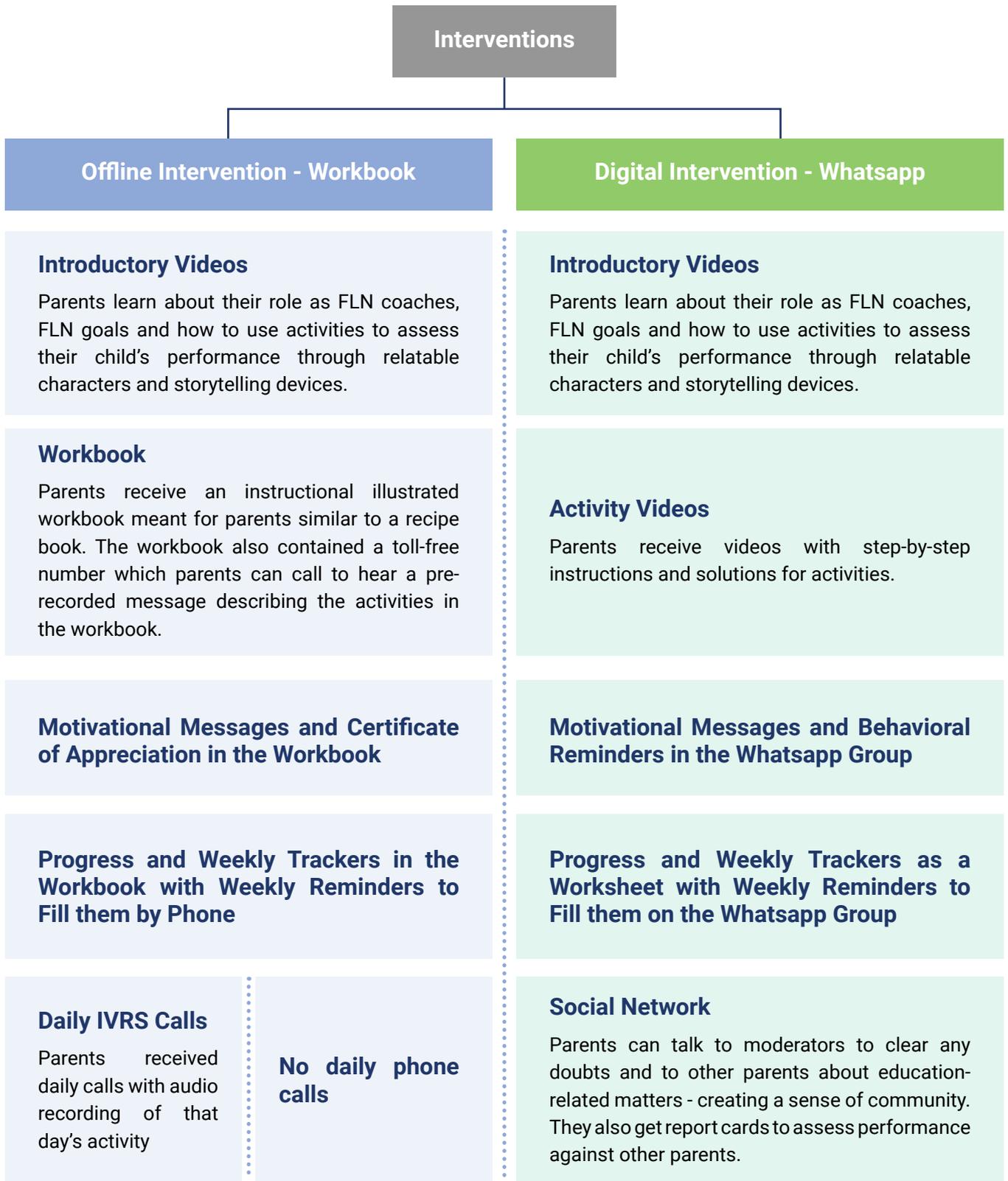


Figure 12: Intervention Summary

CHAPTER 04 _____

INTERVENTION DEPLOYMENT

The interventions were deployed over a period of eight weeks through the following channels:

Introductory/Onboarding Videos

The onboarding videos were shown to parents in treatment schools by enumerators and CSBC/CSF team members after a baseline survey was conducted with the parents. Parents were shown the videos in batches of three to six using laptops. These videos were shown to parents who received both types of intervention – i.e., WhatsApp and workbook.



Photo credits: Neel Karnik

Figure 13: Video Demonstration Session

Workbook Intervention

After screening the introductory videos, parents without WhatsApp were assigned to the Workbook group and given one copy each to take home with them. ARPs walked the parents through the workbook, its purpose, and how parents could use it to engage with their children. The session also included a demonstration of the use of the toll-free helpline number listed in the book if parents faced any difficulty in reading text in the book and required audio support. They were also shown how to use the progress trackers in the workbook. Prior to the delivery of the intervention, the project team had conducted training for ARPs to familiarize them with the workbook and how to demonstrate its use to parents. In some cases, if ARPs were not available, the demonstration was conducted by field staff hired and trained by members of the CSF-CSBC team.



Figure 14: Workbook Demonstration Session

WhatsApp Intervention

Parents with access to WhatsApp were added to WhatsApp groups of their school and shown how to use the videos and other content shared on the group. The demonstrations were conducted by field enumerators hired and trained by CSF and CSBC. Parents were encouraged to watch the videos to learn simple activities they could do with their kids for 5-10 minutes every day and post a video or photo of the same in the WhatsApp group. Moderators also explained the tracker sheet to the parents, which was to be used to keep track of their child's attendance and progress as well as record the outcome of activities they did with their children. The groups were moderated by a team of enumerators hired and trained to share intervention content on a daily basis, answer any questions posted by parents, and encourage parents to participate. The moderators also sent motivational and reminder messages every week and recorded parent engagement data for monitoring purposes.

MONITORING AND EVALUATION

A randomized controlled trial was conducted to evaluate the effect of the intervention on parents' engagement in children's FLN education. Parents of students from Class 1 to 3 in government schools from Bahraich and Chitrakoot districts of Uttar Pradesh were eligible to participate in the study. Schools in each block were randomly assigned to control or treatment groups and parents were assigned to workbook or WhatsApp treatment groups based on their access to smartphones. The recruitment criteria, experiment flow, and results are explained in detail in the following sections.

5.1 Sample Recruitment

The districts were selected from Aspirational Districts in UP based on their range of performance in language and Math assessments³ and the willingness of district administration to participate in FLN initiatives. Three blocks per district were chosen in consultation with the district education administration and Piramal Foundation. All primary schools from these blocks were asked to share data on grade-wise enrollment and number of parents with WhatsApp access. The final list of three blocks were selected (Mau in Chitrakoot, Huzurpur and Fakharpur in Bahraich) based on the following criteria:

- Operational feasibility for data collection
- Enrollment
- Smartphone availability

Based on the data submitted by schools from these blocks, a subset of 20 schools with enrollment closest to the median total enrollment in the block were selected. With inputs from the district administration on accessibility, 15 schools per block were finalized for the study and randomly assigned to treatment or control groups. All parents of children in Class 1 to 3 from these schools were invited for the baseline survey by teachers. After taking their consent, a total of 30 parents per school were enrolled in the study on a first come first serve basis. Upon reaching the desired target of 30 parents per school, recruitment was closed. Only one parent per child was allowed to participate. For endline surveys, the same 30 parents were invited by teachers and enumerators. Parents were given stationery kits at baseline and endline as a token of appreciation for participating in the surveys.

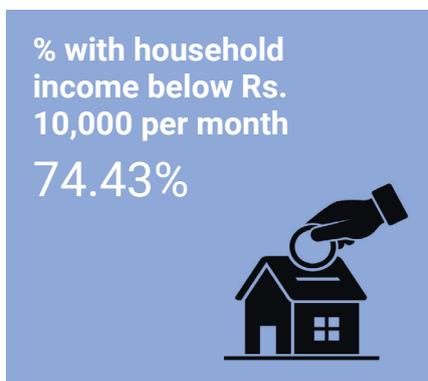
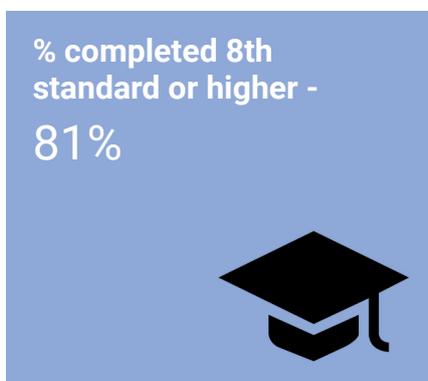
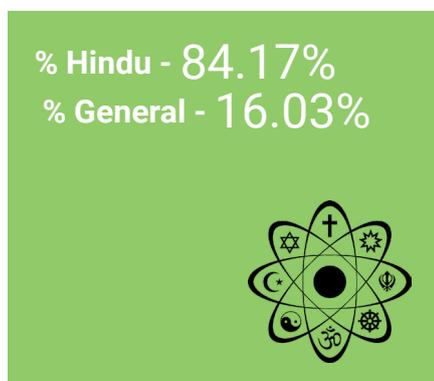
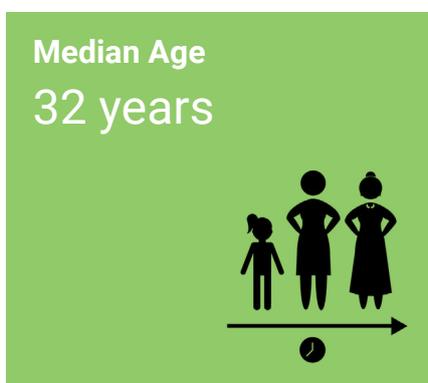
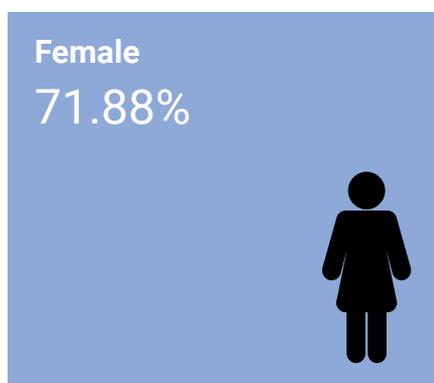
³ ASER 2018; NAS 2017

5.2 Sample Details

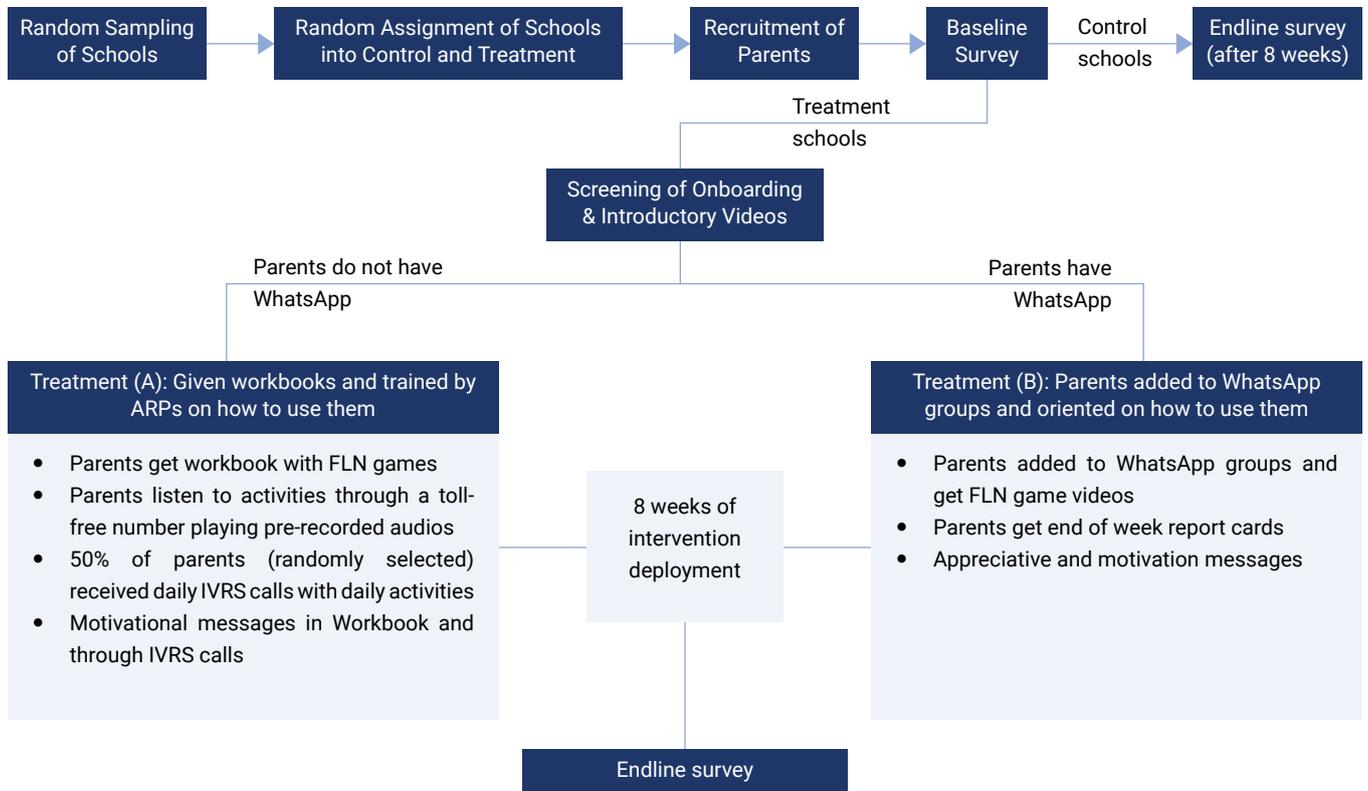
Table 1: Sample Size

Survey	Total Sample	WhatsApp	Workbook	Control
Baseline	1340	250	612	478
Endline	1017	200	466	351

5.3 Sample Characteristics



5.4 Experiment Flow



5.5 Intervention Monitoring

Different types of data were collected and tracked to understand if parents in treatment groups were engaging with the interventions. The data tracked was mainly-

- Engagement with WhatsApp intervention content
- Calls made to toll-free helpline
- Engagement on IVRS calls

5.5.1 Engagement with WhatsApp intervention content

Overall, about 23.41% of parents shared intervention related content at least once on WhatsApp groups set up for each school. Trends observed on WhatsApp group engagement were as follows:

- In Fakharpur, parent engagement peaked in week two at 31%, with about half of the parents sharing intervention related content.
- Parent engagement was highest in Huzurpur block with nearly 31% of parents sharing intervention related content on the WhatsApp group in week one and a high proportion of parents sharing intervention content throughout the trial.
- Engagement rate in Mau was comparatively lower - peaking at 15% in week 3, with only 5% of parents sharing intervention related content.

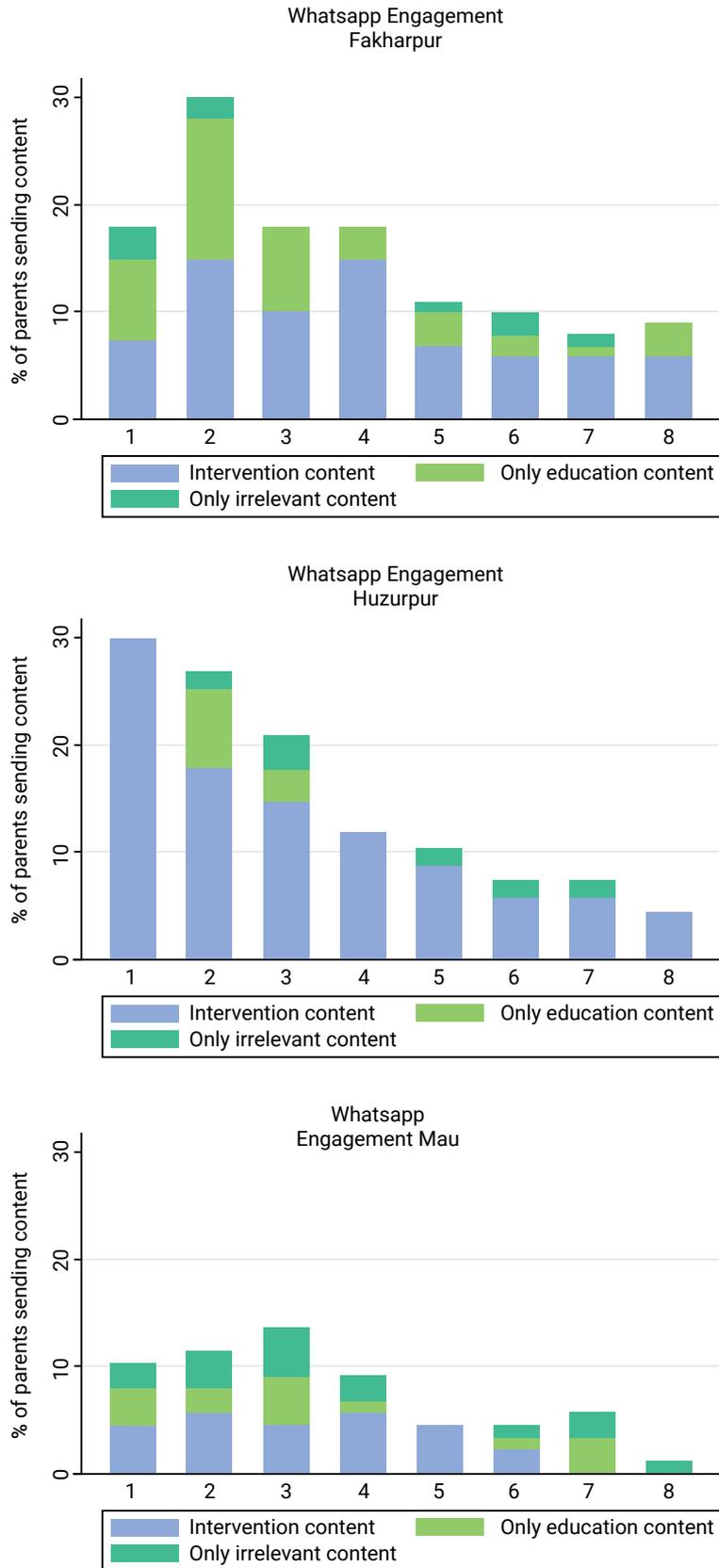


Figure 15: WhatsApp Engagement Across the Three Blocks

While this data provides a sense of the number of parents actively participating in the WhatsApp group, it is an imperfect measure of overall engagement with the intervention: some parents may have done these activities with their children but were unable or unwilling to share photos or videos on the WhatsApp groups as proof of their engagement.

5.5.2 Engagement with workbook through toll-free number and IVRS

A toll-free number was set up with the help of Exotel (a cloud telephone service). It had pre-recorded messages for each page that parents could listen to if they needed help navigating the workbook. The data on engagement with the helpline is outlined below:

Table 2: Data on Engagement with the Helpline Number

Indicator	Total
Number of parents assigned to Workbook group at Baseline	612
Number of Calls Made (excluding baseline times)	1213
Number of Unique Phone Numbers that called (excluding baseline times)	142
Number of Unique Identified Participants	98 (20 Chitrakoot, 78 Bahraich)
Average duration of the calls made by parents (excluding baseline days)	31.5 seconds

Of the 612 parents assigned to the workbook group, 50% were assigned to an IVRS group. Daily IVRS calls were set up with audio recordings of that day's activity. This helped us understand if the effort of calling the toll-free number could act as a barrier for parents to easily engage with their children on FLN. Each number was called a maximum of three times or until the call was picked up, whichever came first. This was set up with the help of the same cloud telephony company (Exotel) that set up the toll-free number. The table below shows the number of calls that were connected and completed. Calls connected refers to the calls that were picked up by parents while calls heard completely refers to the calls in which parents listened to the entire recording. Approximately one-third of calls that connected were heard fully by participants.

Table 3: Data on IVRS Calls

Indicator	Total
Number of Calls Made	228954
Number of Calls Connected	6192
Number of Calls Heard Completely	2519

5.6 Evaluation Design

The primary outcome of interest was the impact of the interventions on parents' engagement with FLN. This was measured through four primary outcome variables:

⁴ The number of calls made was much higher than connected as each phone number was called thrice if the call was not picked up.

Primary Outcome: Parental time spent on education related activity with their children

Outcome Variables:

- 1 **FLN Price:** Price placed on FLN
- 2 **Vignette Score:** A constructed variable that describes how many of 10 situation based questions parents answered correctly
- 3 **Vignette Confidence Bias:** A constructed variable measuring confidence relative to accuracy. Bias > 0 is overconfidence and < 0 is underconfidence
- 4 **Self reports:** Time spent with children on FLN

Outcome Variables:

Choose between learning an FLN activity that you can do with your child for 30 mins or Rs. 200 (real stakes through lottery)

If Amir can identify all the numbers shown to him on his mother's phone and can put them in ascending order, what should his parents do next?

How confident are you about your previous answer?

How much time do you or your husband/wife spend on average with your child doing school related activities (e.g homework, revision etc) in a week?

Figure 16: Primary Outcomes

We also measured the impact of our interventions on secondary outcomes, such as parents' knowledge and importance given to FLN. This was measured through three secondary outcome variables:

Secondary Outcomes: (i) Parental knowledge (ii) Salience of FLN

Secondary Outcome Variables:

- 1 **Total Knowledge Scores:** Number of questions on knowledge of FLN answered correctly out of 4 questions
- 2 **Knowledge Rankings:** Question about sequence of learning skills, question asked in endline only
- 3 **Importance Ratings:** Importance rating (on a scale of 1 to 5) of contribution of FLN, parents and teachers to child's future life; and how much they intend to contribute to their child's education

Sample questions:

Rahul is a student in Grade 1. Rahul could read a short text on cars. Which of the following skills should Rahul have in order to be able to answer simple questions about the story orally?

What order do children learn these skills? Think about what comes first: Write short words, Write letters, recognize letters, Write full sentences

On a scale from 1 to 5, how important do you think parental involvement in the child's education is for a child's success in the future?

Figure 17: Secondary Outcomes

We conducted empirical tests to determine whether the control and treatment groups differed on observable variables such as demographics and also tested for differential attrition among the groups at endline. As the groups did not differ significantly from each other, we estimated the treatment effects on outcomes using variants of the following equation:

$$y_i = \beta T_s + \gamma_1 y_i^B + \gamma_2 X_i + \delta_b + \varepsilon_s$$

Where,

- y_i is the relevant outcome for participant
- T_s is an indicator variable capturing whether the participant is assigned to the relevant treatment or control. The randomization was conducted at the school level. Participants with access to WhatsApp in treatment schools formed the WhatsApp treatment group and those in control schools formed the WhatsApp control group; Workbook treatment and control group were correspondingly formed with participants without access to WhatsApp.
- β is the coefficient of interest. It captures the effect of the treatment on the outcome.
- y_i^B is the outcome for participant at baseline
- X_i are the demographic controls – Age and gender of the participant and child, education and employment of participant and spouse, household income and size, religion, caste, indicators for respondent are primary guardian and has their own mobile at baseline
- δ_b are the block fixed effects
- ε_s are the standard errors, clustered at the school level

5.7 Evaluation Results

Our analysis of the evaluation data revealed that both the workbook and the WhatsApp intervention had a positive impact on parent engagement outcomes.

Table 4: Summary of Results for WhatsApp Intervention

Whatsapp Group	Regression Specification	Coefficient	Treatment Mean (Control Mean)
FLN Price	OLS	2.606	Rs. 191.80 (Rs. 186.50)
Primary Outcomes	Vignette Score - Accuracy	1.16	30.55% (27.2%)
	Vignette Confidence - Bias	-0.047	0.50 (0.55)
	Self-reported Time Spent	Ordinal Logit	1.586

Table 5: Summary of Results for Workbook Intervention

Workbook Group		Regression Specification	Coefficient	Treatment Mean (Control Mean)
Primary Outcomes	FLN Price	OLS	13.69	Rs. 192.61 (Rs. 180.69)
	Vignette Score - Accuracy	Logit	1.065	28.29% (26.97%)
	Vignette Confidence - Bias	OLS	-0.005	0.51 (0.52)
	Self-reported Time Spent	Ordinal Logit	1.119	3-5 hours/ week (3-5 hours/ week)

5.8 Discussion

Our primary outcome was parents' engagement with their children on FLN, which we measured in several different ways. Firstly, we asked participants how much time they spent with their children on FLN-related engagement. This self-reported measure is likely to suffer from social desirability bias. As participants were aware that the study is about FLN, they may exaggerate the time they spent with children on FLN activities. This is indicated by the mean response for both treatment and control groups being the highest option.

To tackle this, we designed two other measures for parents' engagement: FLN price and vignette scores. We asked the participants about their willingness to pay for 30-minutes of instruction on FLN activities that they can do with their children. The choice was implemented for a randomly selected subset of participants, incentivizing the parents to reveal their true preferences. For this measure, we see an increase in the willingness to pay by Rs. 13.69 for the participants in the workbook treatment.

We also designed a set of 10 story style questions which described a child's FLN skills in context of day-to-day life and asked respondents for the ideal steps parents should take next. Each of the possible options corresponded to a reasonable action by the parents, but with different levels of engagement with FLN instruction. Thus, there was no obvious socially-desirable answer. Instead, the questions tested whether the parents answered with a course of action that took the opportunity to inculcate FLN engagement in daily activities. The mean vignette score was 30.55% for parents in the WhatsApp intervention group and 27.20% for parents in the control group. Being in the WhatsApp group increased the odds of narrative vignette accuracy by 1.16 times (significant at 10% level).

We also used the vignette questions to measure the effect of the intervention on parents' confidence regarding their role in FLN instruction. We asked the parents how confident they were that their answer was correct i.e., whether the option that they chose as the next step was the most appropriate for all the vignette questions at baseline and endline. A variable was constructed to measure the confidence of parents vis-a-vis the accuracy of their answers. The confidence bias measure, which is the difference between average confidence over the vignette questions minus average accuracy, was then calculated. A negative value on this variable denotes under confidence while a positive value denotes overconfidence. At baseline, we see that parents are overconfident. There is a significant decrease in the overconfidence for the WhatsApp group at the endline. Note that this effect could be driven by the increasing accuracy in the vignette questions.

Several secondary outcomes assessing the FLN knowledge of parents as well as the importance parents place on

education, FLN, and different factors contributing to FLN engagement were collected during the surveys. However, we observed no significant results for either workbook or WhatsApp interventions. There was one exception: for the WhatsApp group, parents were significantly more likely to identify the correct order in which numeracy skills should be learned as compared to those in the control group. These outcomes were included to explore possible mechanisms through which the intervention might have worked. For example, by making the parents more knowledgeable or raising the perceived value of FLN. It is worth noting that importance ratings suffered from social desirability bias like other self-reported outcomes as discussed above. We do not observe a change in the knowledge score of parents (except for the ranking of numeracy skills by WhatsApp group) suggesting that the interventions might be affecting behavior through other mechanisms.

From the above results, we conclude that both the interventions were successful in increasing parents' engagement with FLN through the value that parents placed on FLN engagement (for workbook group) and willingness to choose actions involving higher FLN engagement (for WhatsApp group).

RECOMMENDATIONS FOR SCALE

Through our study, we found that both providing the parents with the designed workbook or adding them to a WhatsApp group on which activities are shared regularly can positively affect parents' engagement with FLN. While implementing the interventions in other geographies, the intervention content will need to be contextualized by considering the following:

- Learning outcome framework used by the state as well as the learning goals children are expected to achieve in grades 1 to 3
- Alignment of FLN activities assigned to parents with the learning competencies being covered in schools based on the state academic calendar (e.g., if the child is learning addition in week eight in school then addition-related activity videos are shared with parents during that time period)
- The stories, poems and other material used in the videos or workbook would need to be replaced with similar content from the state's teaching learning material
- The competencies selected and activities designed for parents should be easy for them to incorporate in their daily routine at home with their children (e.g., asking children to count chappatis made for dinner)
- Incorporating local language and dialect into the onboarding and activity videos, voice notes, and the pre-recorded messages on the toll-free number

The implementation pathways listed below can be considered to operationalize a parent engagement model at scale. However, these pathways for delivery have not been tested in our study and will need to be adapted to suit specific contexts.

Table 6: Implementation Pathways

Implementation Pathways	Description	Current Use of Similar Pathways
Parent-Teacher Meetings	Parent teacher meetings (PTMs) held in schools could be used to orient parents about their role, demonstrate the use of tools to simplify engagement (e.g parent workbook), and follow up on progress made	Bihar conducted a statewide mega PTM in 2022 to discuss students progress. Parents were invited through home visits and IVRS calls
Gram Panchayat Events	With the support of the Panchayati Raj Department (PRI), Gram Panchayats can organize community events on FLN. The Gram Pradhan/Panchayat secretary or other community members can orient parents on their role and provide tools to support with engagement	The PRI department in Karnataka, in partnership with the Akshara Foundation, conducts Maths contests for children in the presence of parents and Gram Panchayat members
Volunteer Led Models	Local youth volunteers from the same village can be trained to onboard parents, orient them about their role in FLN, demonstrate the use of tools, and provide follow up support.	Tamil Nadu conducted an after school remedial program "Illan Thedi Kalvi" through locally hired community-based volunteers. A similar approach could be used to strengthen parent engagement.
Technology Led Models	Technology platforms (e.g WhatsApp) offer scalable ways to implement parent engagement interventions, where information on role clarity and tools to engage can be shared in the form of videos.	Rocket Learning (RL) partners with school systems to provide parents access to bite-sized video content to increase their involvement. Teachers add parents on WhatsApp groups and motivate them to stay engaged. RL's whatsapp bot sends out content to parents.

CHAPTER 07 _____

CONCLUSION

Behavioral barriers inhibit parents' involvement in their child's learning. Our study shows that parents' engagement can improve by providing parents clarity on the role they can play, reducing cognitive load of engagement by giving them simple tools, and using motivational reminders to build confidence.

We find that both the workbook and WhatsApp interventions positively affected parents. Giving parents workbooks with simple activities that they could do with their children increased their willingness to pay for learning how to effectively engage with their children by Rs. 13.69. Parents who received activity videos and reminders over WhatsApp groups increased the odds of their narrative vignette accuracy by 1.16 times more than control and showed a decrease in the confidence bias.

Based on the learnings from our study, we recommend that tools such as workbooks or videos containing simple instructional activities be shared with parents, along with motivational messages, reminders, and commitment devices etc. Existing structures such as parent teacher meetings, Gram Panchayat events, volunteer or technology-based models can also be leveraged to involve parents more meaningfully in their children's FLN achievement.





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