



CENTRAL SQUARE  
FOUNDATION

# SYSTEMIC DRIVERS OF FOUNDATIONAL LEARNING OUTCOMES



**1** About Central Square Foundation

**2** Acknowledgements

**3** Expert Voices

**4** **Introduction:** Report Overview and Objectives

**5** Research Methodology

**6** India's Foundational Learning crisis and its impact

**7** Diagnostic Framework

**8** **Classroom Factors:** Student Readiness, Pedagogy and Instructional time

**9** **Managerial Factors:** Goal Setting, Academic Support, Monitoring & Parent Engagement

**10** **Structural Factors:** Politics and Policy, Capacity, Budgets, Incentives and Mindsets

**11** Case Studies on FLN Programs

**12** Our Recommendations



**CENTRAL SQUARE  
FOUNDATION**

**Central Square Foundation (CSF)** is a non-profit organisation working towards ensuring quality school education for all children in India. Since 2012, CSF has partnered with the government, the private sector, non-profit organisations, and other ecosystem stakeholders to improve the learning outcomes of children, especially from low-income communities. CSF is driven by its mission to enable the school education system to adopt solutions that are scalable, sustainable and effective so that all children get equal access to opportunities needed for leading a better life.

To learn more, please visit: [centralsquarefoundation.org](https://centralsquarefoundation.org).

Disclaimer: Central Square Foundation has prepared this report. As full disclosure, CSF has awarded grants to Rocket Learning, Saarthi Education, Language and Learning Foundation, Room to Read and Madhi foundation which are covered as case studies of best practices in this report. The report is furnished to the recipient(S) for free distribution and use. The authors have made their best efforts to ensure the accuracy and completeness of the information in this report but make no representations or warranties therein and expressly disclaim any liabilities based on such information or omissions. Each recipient should, therefore, conduct her or his analysis of any information contained in this report.

We are grateful to numerous individuals and organizations for their contribution to the report. This report would not have been possible without their time, effort and invaluable feedback.

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This synthesis, based on CSF's enquiry and engagement with states in the last two years, is a very valuable contribution to the literature on improving learning outcomes. It paints a rich picture of the many factors that lead to poor learning outcomes, a welcome rebuttal to simplistic views that reduce poor learning to single factors such as teacher qualifications or teacher absenteeism. It thus wards us off the temptation of pursuing simplistic responses. This is complicated stuff and because it is, we will get things wrong, which is why keeping ourselves honest by reviewing the data regularly is critical. This is hard stuff, but failure is costly: it is measured by millions of children failing to meet their aspirations.

**-Girindre Beeharay, Senior Advisor, Global Education at Bill and Melinda Gates Foundation**



The National Education Policy (2020) laid out the critical goal of universal acquisition of FLN in all primary schools by 2025. Many states have attempted to address this issue before, but learning outcomes have remained low. The first step to improving future attempts is to understand why this problem exists. This report by CSF presents a comprehensive evidence backed view of factors driving India's low learning outcomes in early grades and outlines pathways for improvement. As States and UT's gear up to design and implement effective programs to raise foundational learning outcomes, they must look at the evidence on breakdowns occurring in their own systems. Policies and programs designed to tackle these critical challenges will have the greatest chance of improving learning outcomes for children in India.

**-Sandhya Rani, former Commissioner of School Education, Andhra Pradesh**

India has almost achieved universal enrolment of children in primary schools. The focus of the government has now shifted to retaining children by providing quality education in schools. Despite several education reform initiatives being undertaken by many states, learning assessments have highlighted that foundational literacy and numeracy levels- children's ability to read with comprehension, write and do basic mathematical operations, are low across India.

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This document is a synthesis of current evidence on key factors driving low foundational learning outcomes in India

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This report is focused on factors impacting FLN outcomes in government schools, for details on drivers of low outcomes in private schools please read our [State of the Sector Report on Private Schools](#) in India.

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## Who should read this report?

- 1 **Policymakers in state or central institutions** (e.g. Education Ministers, Secretaries, Directors, Commissioners, District Education Officers, District Collectors) who are at the forefront of designing and implementing effective reform strategies in school education
- 2 **Teachers, School Leaders and other stakeholders** in the system who are at the frontline of delivering education reforms
- 3 **Practitioners, Civil Society Organizations, Consultants and Researchers supporting governments with education reform**



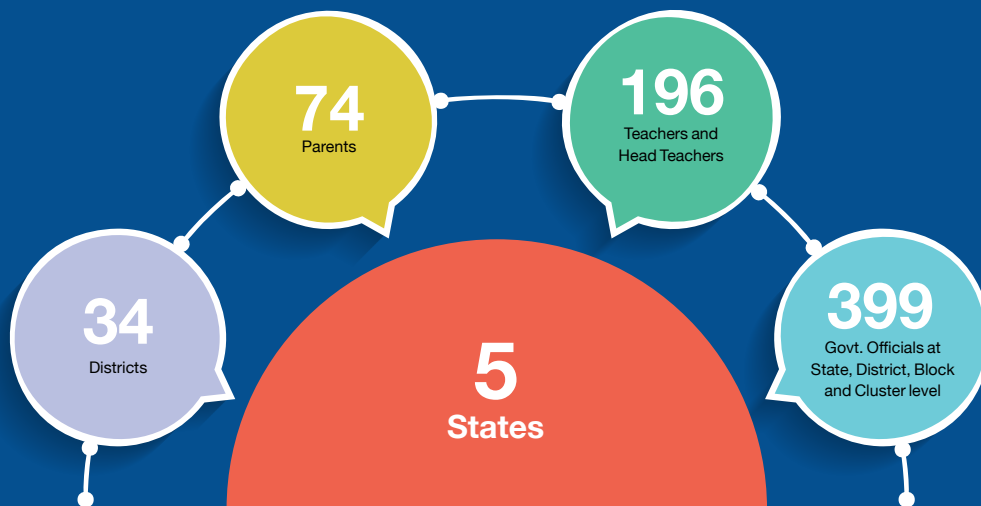
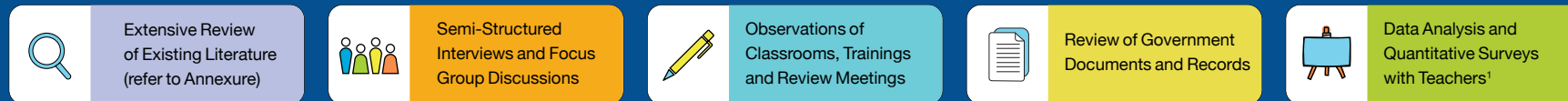
## Why should you read this report?

- 1 **To build a strong understanding of evidence** on the current functioning of education systems, key bottlenecks and **challenges faced** in improving the quality of foundational learning outcomes
- 2 **To learn from** a curation of case studies on **promising interventions tried in Indian states and other countries**
- 3 **For guidance on designing or implementing effective programmes** to improve foundational learning outcomes



# Research Methodology

This document has been created through a combination of secondary and primary research activities outlined below:



1. 400 surveys were only conducted in one of the 5 states

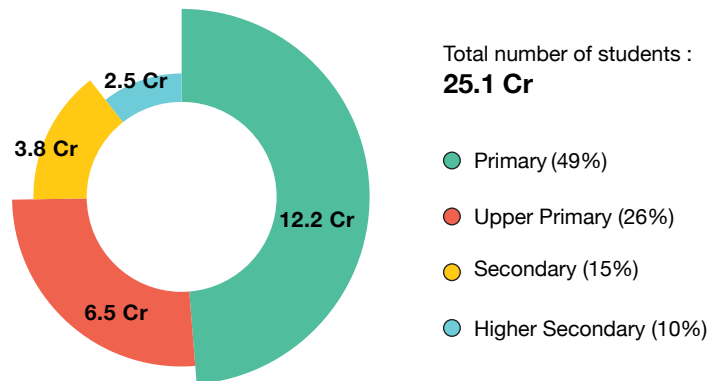
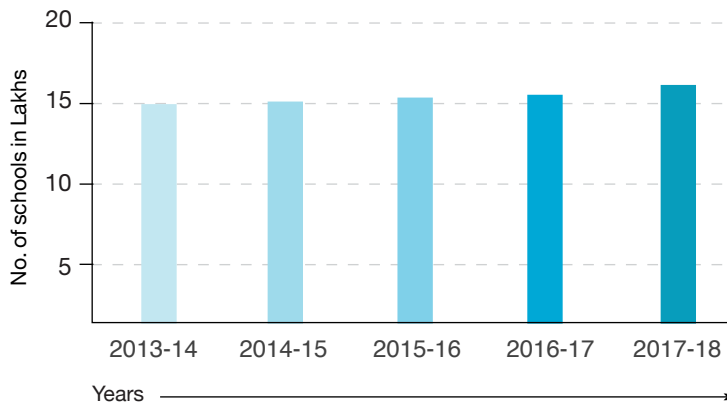




India has 25 crore children attending 15 lakh schools, taught by 92 lakh teachers



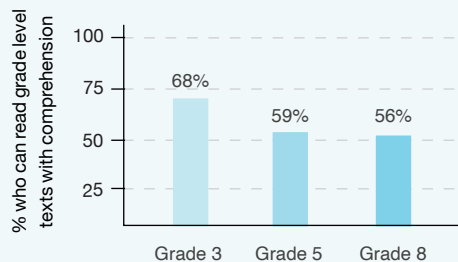
Half of India's school going children are in primary grades



## Foundational learning levels in India are low...

The National Achievement Survey (NAS) 2017 conducted by NCERT highlights poor attainment in early years

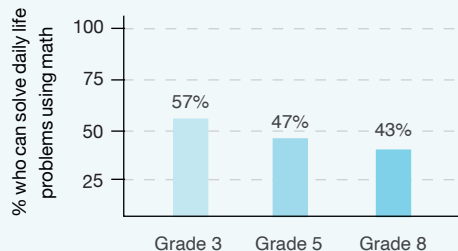
% who can read grade level texts with comprehension



**32%**

Students in grade 3 **can not** read small texts with comprehension

% who can solve daily life problems using math



**43%**

Students in grade 3 **can not** use basic math to solve daily life problems

## ...and have been declining further

The decline can be seen through Class 5 scores across subjects from 2012 to 2015:



Language

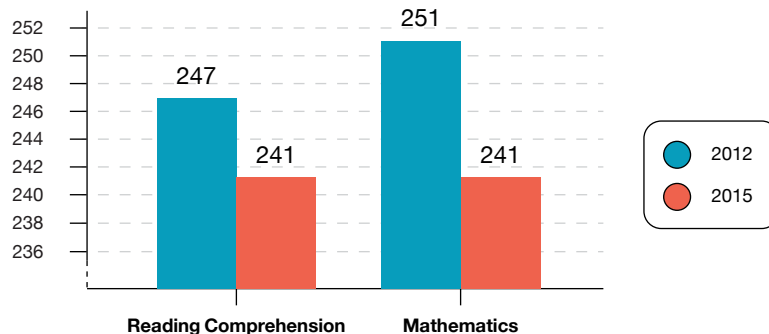
**2.5% decrease**



Mathematics

**4.15% decrease**

Average achievement scores, NAS Class 5 (Cycle 3 and 4)

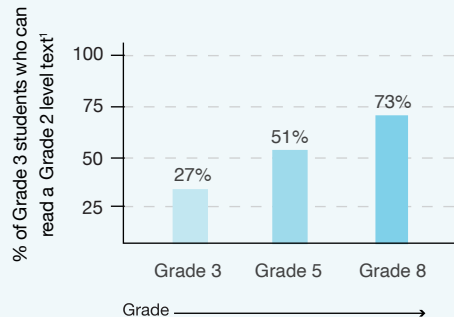


# Independent surveys confirm the low levels of foundational learning in India

11

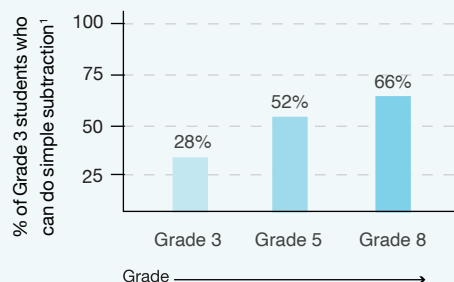
According to the Annual Status of Education Report (ASER) 2018

Foundational learning levels in India are low...



**73%**

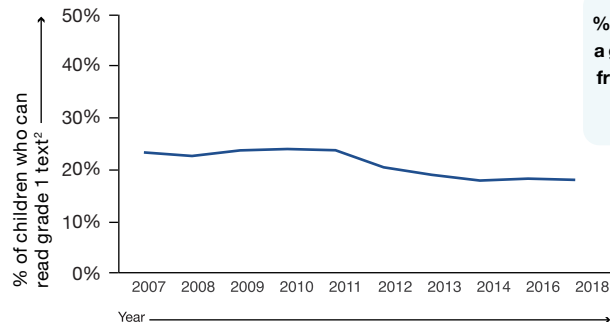
Students in grade 3 in schools in rural India can not read grade 2 text



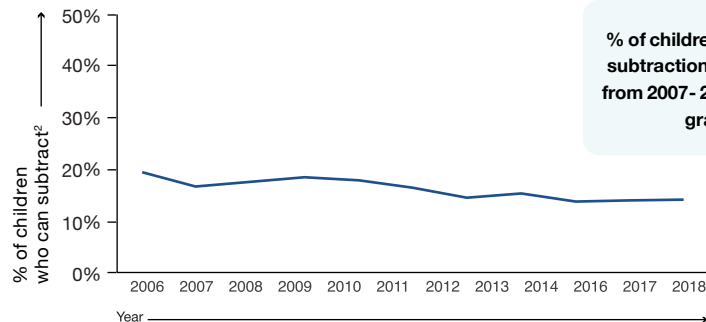
**72%**

Students in grade 3 in schools in rural India cannot do subtraction

...and declining further



% of children who can read a grade 1 text has declined from 2006- 2018 across all grades<sup>3</sup>



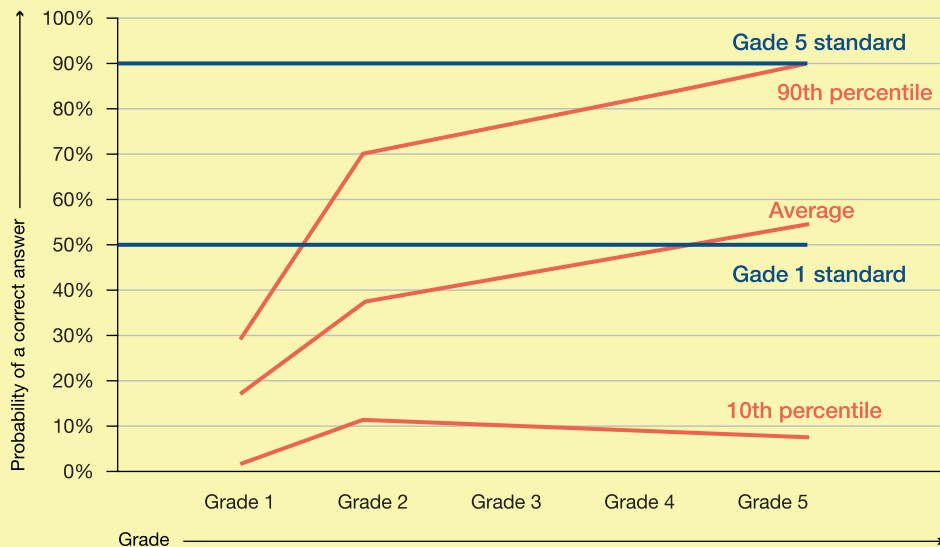
% of children who can do subtraction has declined from 2007- 2018 across all grades

1. ASER 2018, Data includes both Govt. and Private Schools 2. Analysis from ASER Data Query Module 3. Percentage of children who can read a grade 1 text declined until 2016 with a small increase in the last two ASER cycles (i.e. 2016 and 2018)

# Foundational skills are gateway skills, children who fall behind early rarely catch up as their learning trajectory flattens after Grade 2

12

Probability of a correct answer on a math test, by grade, relative to curriculum standards - AP, India<sup>1</sup>



**Only a small fraction of learners can keep up with the curriculum (top ten percentile); bottom ten percentile appear to learn very little from school**

- 1 Average student in grade 5 only reached grade 1 standards
- 2 Low performing students in grade 5 were no more likely to answer a grade 1 question correctly than those in grade 2<sup>2</sup>

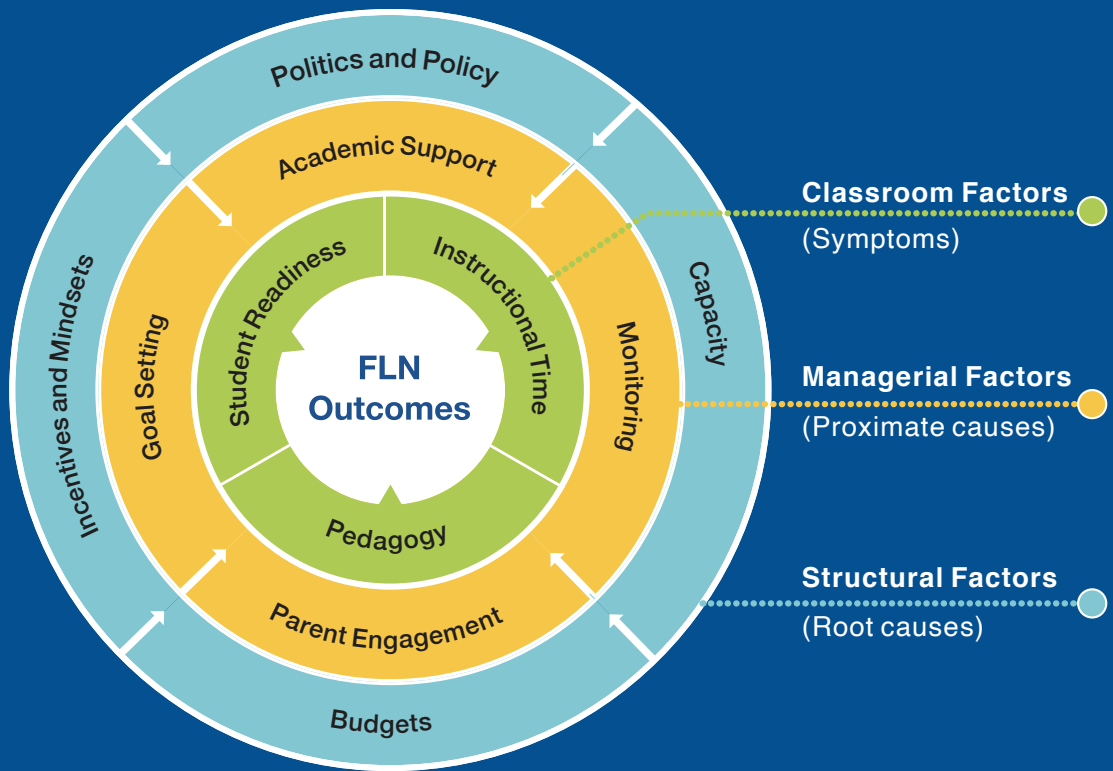


Early reading and math skills are a strong predictor of later school performance<sup>2</sup>

**Children who fall behind early have difficulty catching up in later grades.**



# Diagnostic Framework

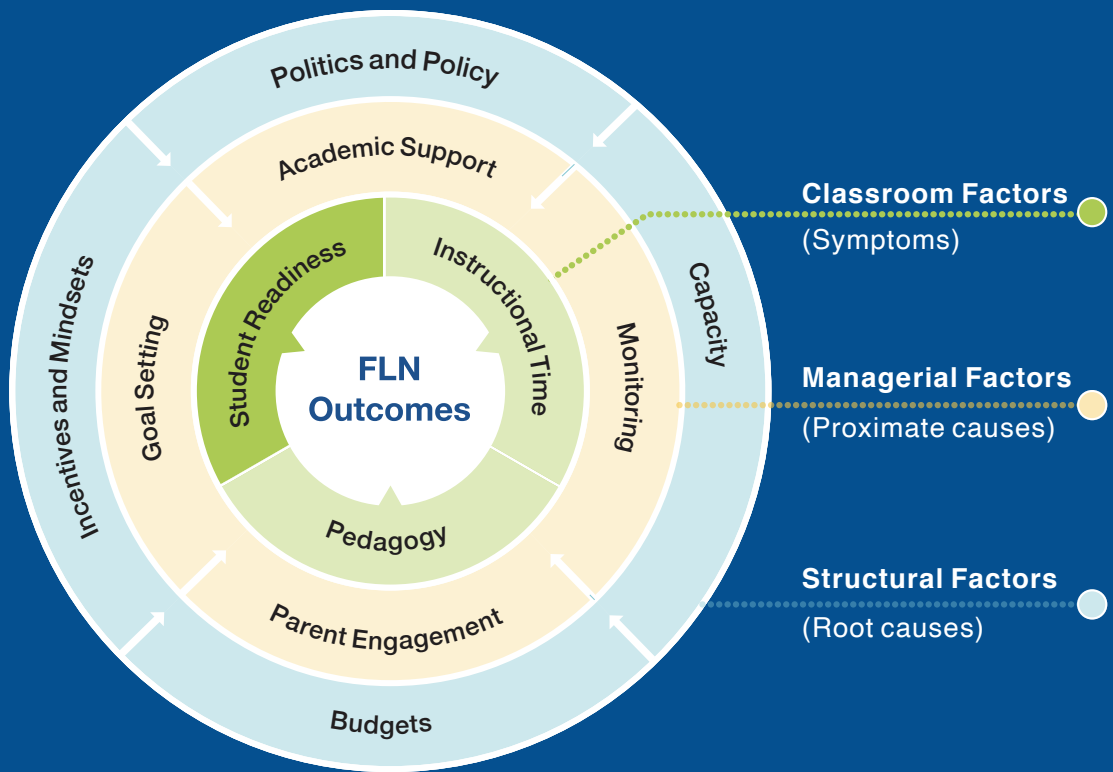


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A set of interdependent factors operating at 3 levels- Classroom, Managerial and Structural, as represented by each of the concentric circles, lead to low foundational literacy and numeracy outcomes

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# Classroom Factors: Student Readiness



# Student Readiness: Key Insights

1



Children have low school readiness levels when they enter the school system

2



Early childhood education services are not prioritized in the ICDS System

3

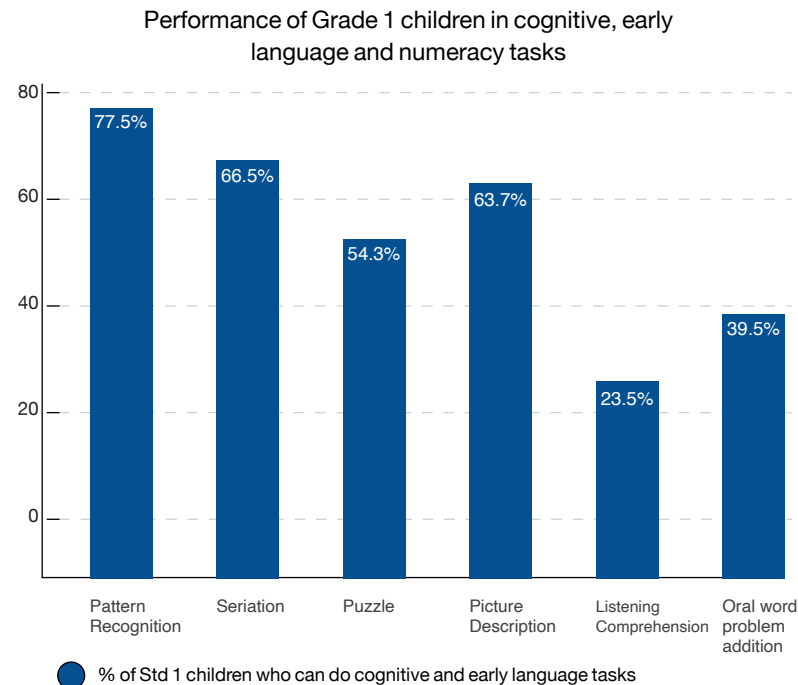
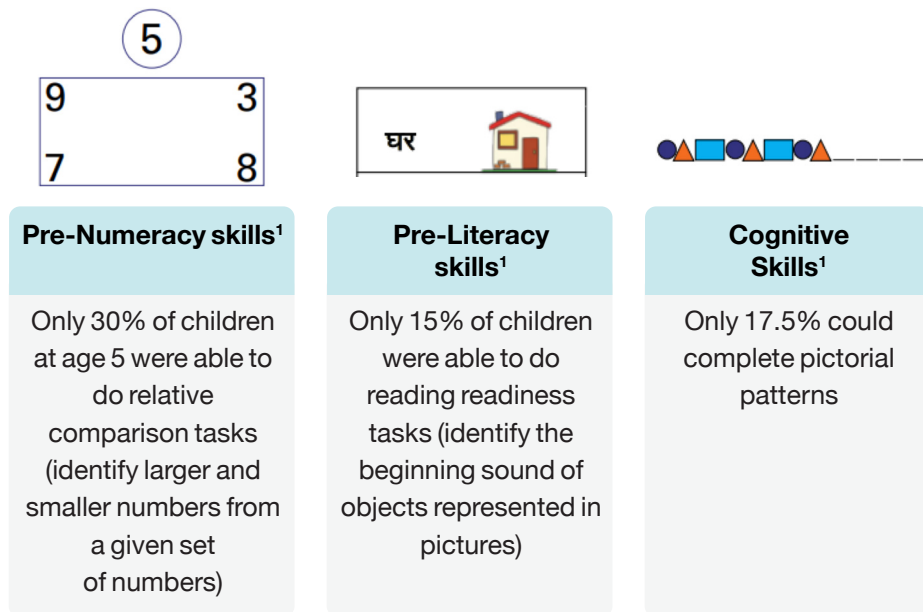


Curriculum and Pedagogical practices in preschool programmes are not developmentally appropriate

# 57% of children who enter the school system have low school readiness levels

16

Children enter the school system without acquiring necessary pre-literacy and pre-numeracy skills



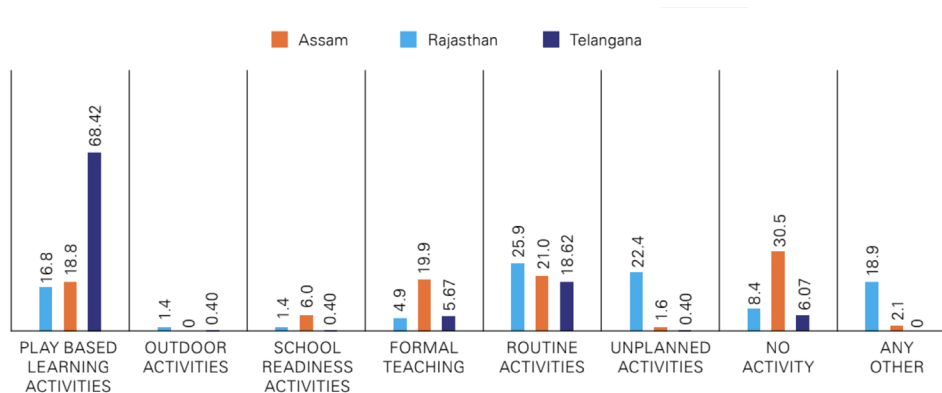
Source : ASER 2019: Early Years



## ICDS has been unable to deliver quality ECE at scale

- 6 different services under ICDS most of which are expected to be provided by one Anganwadi worker along with a helper
- While pre schooling is available free of cost through ICDS scheme, the focus of ICDS tends to be primarily on nutrition and health thereby compromising the quality of ECE<sup>1</sup>
- Classroom observations of **165 Anganwadis across 3 states** indicate that children spend a large amount of time sitting around with no planned activity<sup>2</sup>
- Additionally, a lot of time is spent on routine activities such as room cleaning, register work, meal preparation and distribution.<sup>2</sup>

% Time spent on different activities in Anganwadis by state<sup>2</sup>



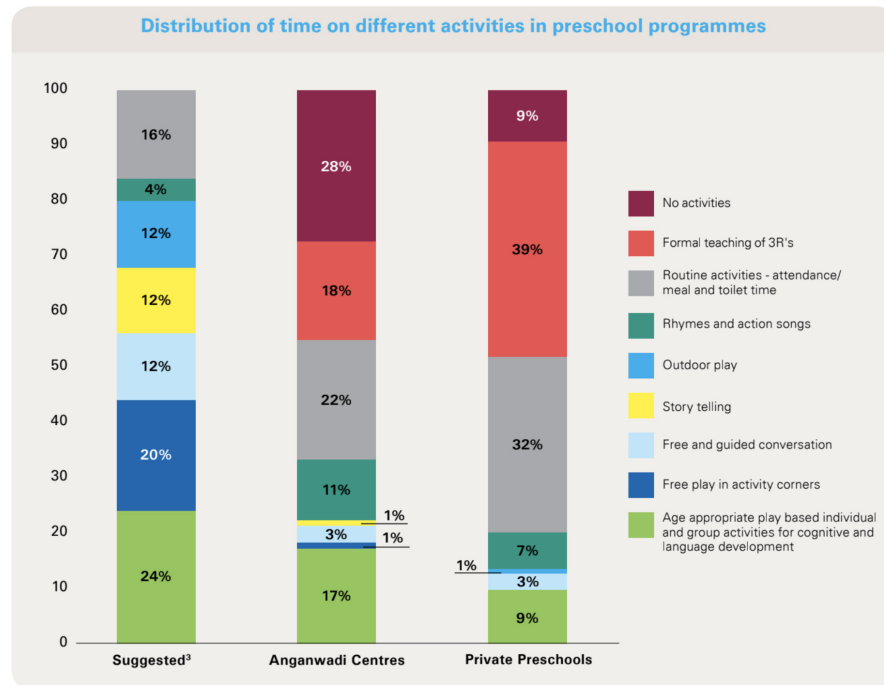
**~25% to 56% of time across 3 states was spent on routine activities or children sitting idle**

# Curriculum and Pedagogical practices in existing preschool programmes are not developmentally appropriate

18

## Anganwadi Centres and Private Preschools do not provide developmentally appropriate education<sup>1</sup>

- Curriculum followed in pre-primary schools (both govt. and private) is a downward extension of primary school curriculum<sup>2</sup>
- Disproportionate focus on teaching formal academic skills such as reading, writing and arithmetic, especially in private preschools<sup>3</sup>
- More than **80% of teachers** in private preschools and Anganwadi workers had no previous training<sup>3</sup>
- The nature of supervision and support provided to AWWs is more admin in nature which could be a key driving factor in the quality of ECE provided<sup>3</sup>



Source: Kaul et al (2017)

# Case Study: School Readiness Programs in Gujarat and Karnataka

19

Year: 2018 | Location: Gujarat and Karnataka | Scale: 5000 children in Grade 1 | Partners: Akshara Foundation<sup>1</sup>, UNICEF, CSF

An accelerated 40 day School Readiness Programme (SRP) was launched by the Dept. of Education at the start of Class 1

## Program Objectives:

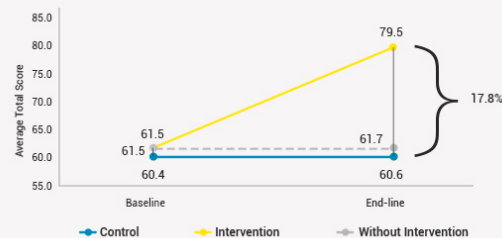
- Smooth transition of students to class 1
- Inculcate right mindsets, skills and knowledge among teachers
- Improvement in pre-literacy and pre-numeracy skills of students

## Learnings from the program:

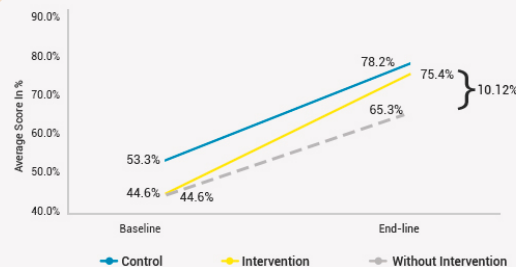
- Improvement in student engagement levels in classrooms
- Improvement in pre-literacy and numeracy skills

## Challenges:

- Low integration with existing Grade 1 curriculum led to teachers feeling overburdened as they had to teach both Grade 1 content and conduct the SRP
- Limited engagement and awareness of the program among resource persons and head teachers



**17.8%** positive change in cognitive development in comparison to control group in Karnataka



**10%** positive change in cognitive development in comparison to control group in Gujarat

1. Akshara Foundation was the technical partner in Karnataka and UNICEF in Gujarat

# Case Study: Parental Engagement and Teacher Training to improve Early Childhood Education in Ghana

**Context:** The Government of Ghana introduced two years of pre-primary education in their school education system in 2007. Majority of their kindergarten teachers were not trained with many having only completed schooling upto primary grades. Parents were unaware of developmentally appropriate pedagogical practices and often pressured teachers to use inappropriate teaching practices (e.g rote teaching through repetition of letters and numbers)

## In Service Training

- Teachers and Headteachers were provided a 5 day training and 1 day refresher after 4 months
- Focus was on experiential training to help teachers adopt play based teaching techniques and encourage a positive classroom environment

## Parent Awareness Sessions

- 3 educational sessions (one per term) were held for parents during parent teacher meetings in schools
- Videos were screened followed by discussion on topics of play based learning, parents role in supporting children learn and teacher-parent communication

## Impact

- Program was run in 160 public and primary schools in 2015-18 and average cost per child was \$21
- Improvement in school readiness (with effect size of 0.11 on pre-literacy, pre-numeracy and 0.18 dwt on socio emotional skills) levels in 1<sup>st</sup> year
- The parental awareness interventions were not effective in improving children's outcomes



# Case Study: Preparing children in pre-primary grades to start and succeed in primary school through the holistic Tayari program in Kenya

**Goal: Improve early reading, numeracy and executive functioning skills among 4-6 year olds**

## Intervention

**Scale: 600 centres , cost per learner** enrolled was **\$14.01** overall

### Intervention Components

- **Teaching Learning Material:** Focus on development and use of child-centred instructional materials (e.g charts, flashcards, counters and materials developed by teachers using low cost locally available resources). Each learner was provided with workbooks. The teacher guides were aligned to national curriculum and linked to learning materials
- **Teacher Training:** Training provided to increase active learning and instructional time
- **System Capacity Building:** Training for officers and instructional coaches in the use of tablets to supervise and mentor teachers in improved pedagogy approaches
- **Health Support:** To reduce frequency of illness among learners and improve attendance, health support was provided by community volunteers. The focus was on improving health and hygiene aspects like hand washing, proper latrine use and point of use of water treatment

## Impact

- Overall programme had a standardized effect of 0.33 (i.e. at least 62% of schools in treatment group scored higher than the average school in the control group)
- The packages involving teacher training and classroom instruction components plus an instructional materials component improved overall school mean scores by 0.34 and 0.31 SD respectively in public ECDE centres and by 0.52 and 0.42 SD respectively in APBET centers

# Case Study: Hiring a local community member as ECCE facilitator in AWCs

**Context:** The government of Tamil Nadu, offered a one-time grant to AWCs to hire an Early Childhood Care and Education (ECCE) facilitator to assist the AWW with preschool education. A rigorous evaluation was done to show the impact of adding an extra ECCE worker on learning outcomes and health of children (aged 3-5)

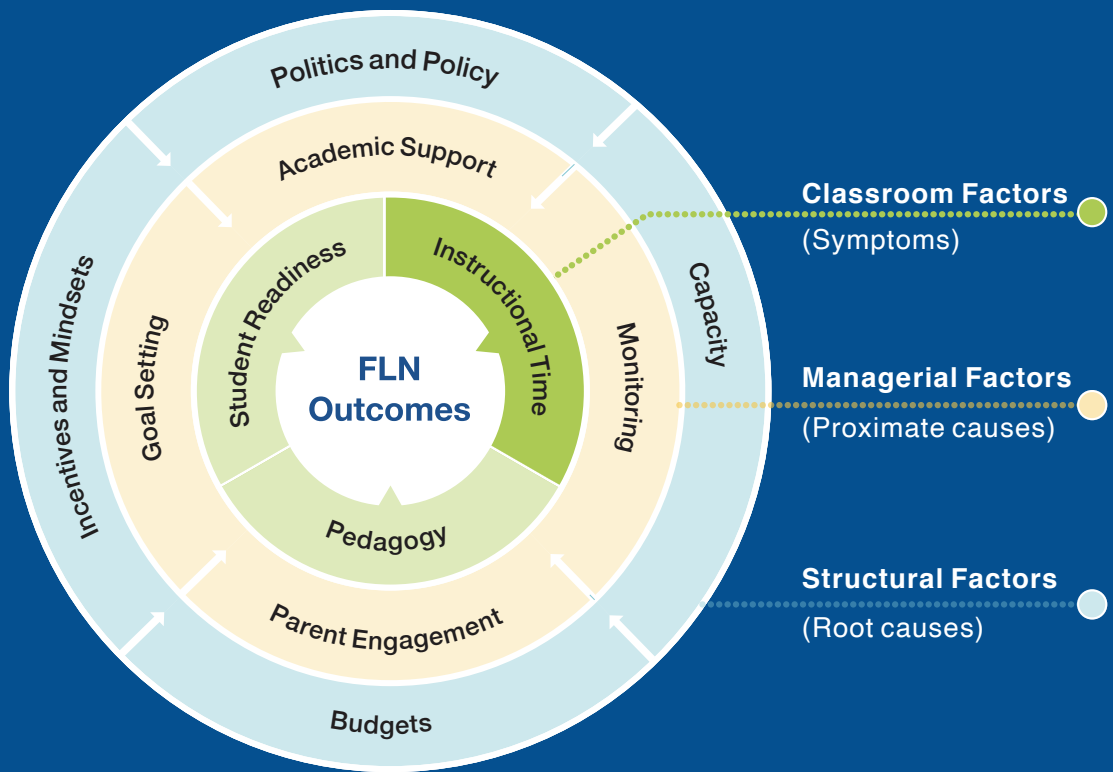
## Intervention

- Experiment conducted across a sample of 320 anganwadi centers in 4 districts of Tamil Nadu representative of a population of 60 million people
- Half of these centers were randomly sampled to receive an extra facilitator focussing on early childhood education
- The facilitator was scheduled to work half a day and focus on preschool instruction and was paid half the salary of a regular worker (i.e Rs. 4000 per month)
- Government of Tamil Nadu developed manuals for facilitators and provided one week of training to facilitators to implement this curriculum

## Impact

- **Adding a worker doubled net instructional time** in treated centers (from 38 to 76 minutes per day)
- Led to 0.29 and 0.46 standard deviation **increases in math and language test scores** after 18 months for children who remained enrolled in the program
- Children in treated centers were 3.1 percentage points less likely to be severely malnourished and treatment reduced stunting by 4.8 percentage points
- Based on estimates of relationship between preschool interventions and impact on adult earnings coupled with nutritional benefits would result in a benefit/cost ratio between 16 and 20.

# Classroom Factors: Instructional Time



# Instructional Time: Key Insights

1



**Instructional time in primary schools is limited**

2



**Teacher Absenteeism reduces effective instructional hours**

3



**Teacher involvement in non academic duties reduces instructional time available for teaching and learning activities**

4

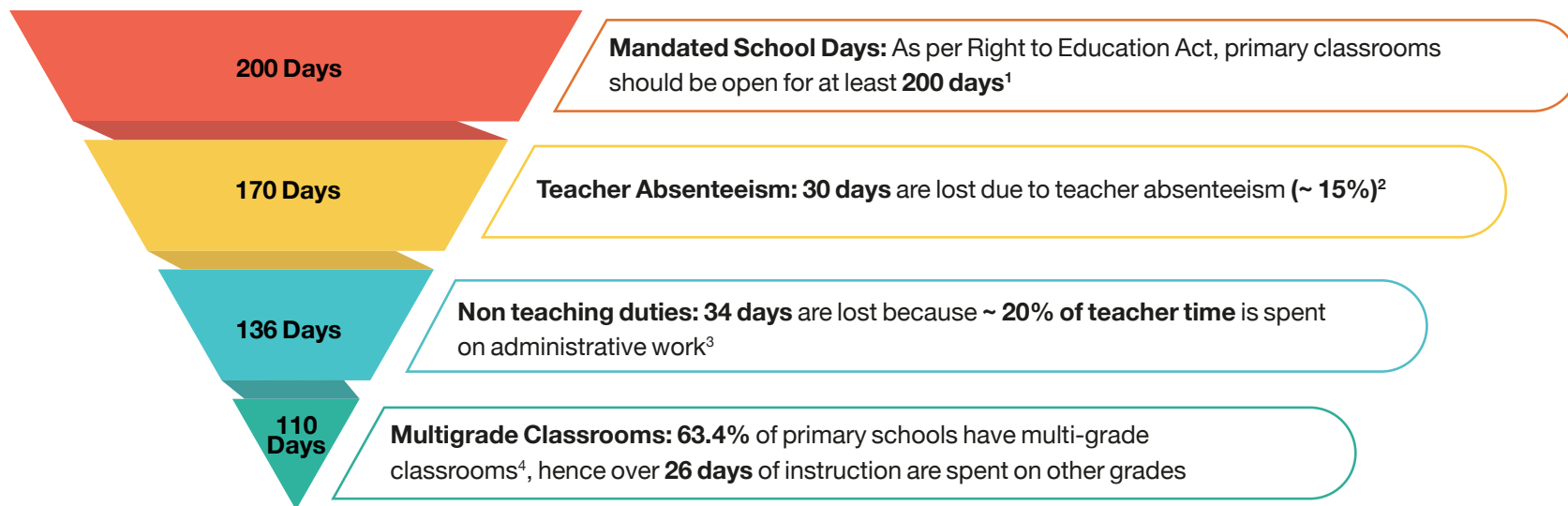


**Student Absenteeism reduces instructional time available for children to acquire foundational skills**

5



**Large number of multigrade classrooms reduces teaching time available per grade in primary schools**



~ 110 days of grade appropriate instruction per year is available for acquisition of foundational literacy and numeracy skills.

1 Right to Education Act (2009) | 2 ASER 2018, conservative estimate chosen but absenteeism ranges from 15% to 30% | 3 CSF State Diagnostics, most conservative estimate chosen but secondary research range is 26%-48% | 4. Estimate on multigrade classrooms from ASER 2018; Calculation based on conservative estimate that 70% of time teachers are focusing their attention on one grade in a multigrade classroom (Sankar and Liden (2014))

# Teacher Attendance in government schools is low

Teacher Absenteeism ranges from 15% to 30% based on different studies

Study	Year	Teacher Absenteeism
Azim Premji Foundation	2017	18.9% (overall) and 2.5% (absence without reason)
ASER	2018	15%
Muralidharan et al	2016	23.6% with 48% teachers being absent for unauthorized reasons
Sankar et al	2014	14% (includes leave for official reasons, personal leave and unauthorized absence)
Bhattacharjea et al	2011	30%
MHRD (independent study)	2006	26%
World Bank	2002	25%

## Teachers report that 20-42% of instructional time is lost due to non teaching duties

- Teachers from three states reported that on average 20% of instructional time is spent on non teaching duties<sup>1</sup>
  - Non teaching duties include register maintenance, data collection, mid day meal management, distribution based on schemes etc<sup>1</sup>
  - An analysis of circulars sent to schools in one state revealed that 33 circulars were received in one month with instructions related to non academic matters<sup>2</sup>
- 
- **42.6%** of a teachers' time goes in "non-teaching core activities" (e.g surveys, election duties, immunization campaigns and record keeping) and **38.3%** of time was spent on school management<sup>3</sup>
  - Half of regular teachers in Government schools were on duty but not in school on an average for 5-7 days in a year as they were deputed on other work<sup>4</sup>
  - On another 7-8 days, teachers were on duty but not in school because they were attending trainings and meetings<sup>4</sup>

1 Self reported data from 117 teachers interviewed across three states 2. CSF State Diagnostics 3. NIEPA Study on teachers from 4 states as cited in CPR and DCPCR (2019) 4. Sankar and Liden (2014),

# Student Absenteeism reduces instructional time available for students to acquire foundational literacy and numeracy skills

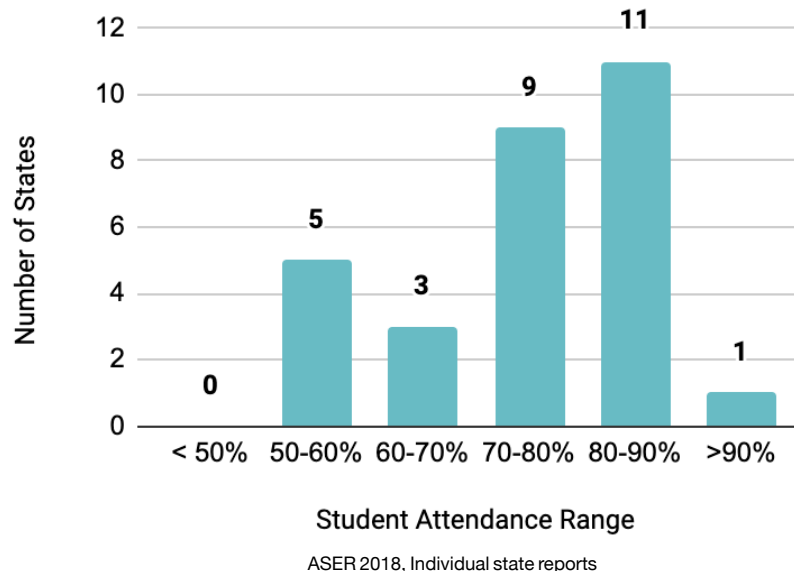
Student attendance is low in government schools with variation across states

## Several studies report low student attendance

- **72.4%** attendance rate in rural primary schools across India<sup>1</sup>
- Only **66%** of enrolled students were present during visits across 3 states<sup>2</sup>
- Average attendance across 20 states was **68.5%**<sup>3</sup>

## Reasons for student absenteeism reported as<sup>4</sup>

- Involvement in household work (e.g care of siblings)
- Child labour due to poverty
- Temporary migration
- Ineffective teaching, poor student performance and parental indifference
- Parental perception of irrelevance of content covered in schools



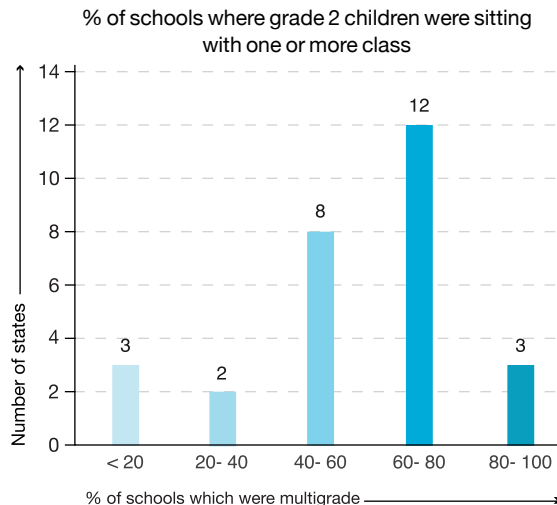


# Large number of multigrade classrooms reduces teaching time available in primary grades

High prevalence of multigrade classrooms, but most teachers teach only one grade at a time



## High prevalence of multigrade classrooms

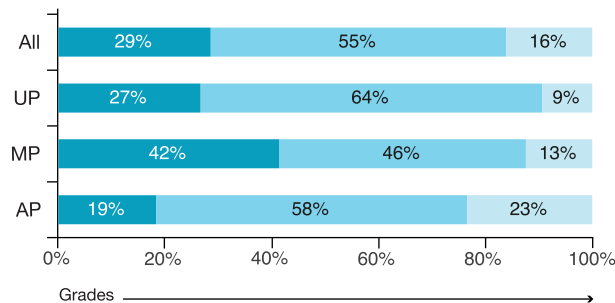


ASER 2018, Individual state reports



## Most teachers teach one grade at a time

Grades teachers address in a multigrade situation<sup>1</sup>

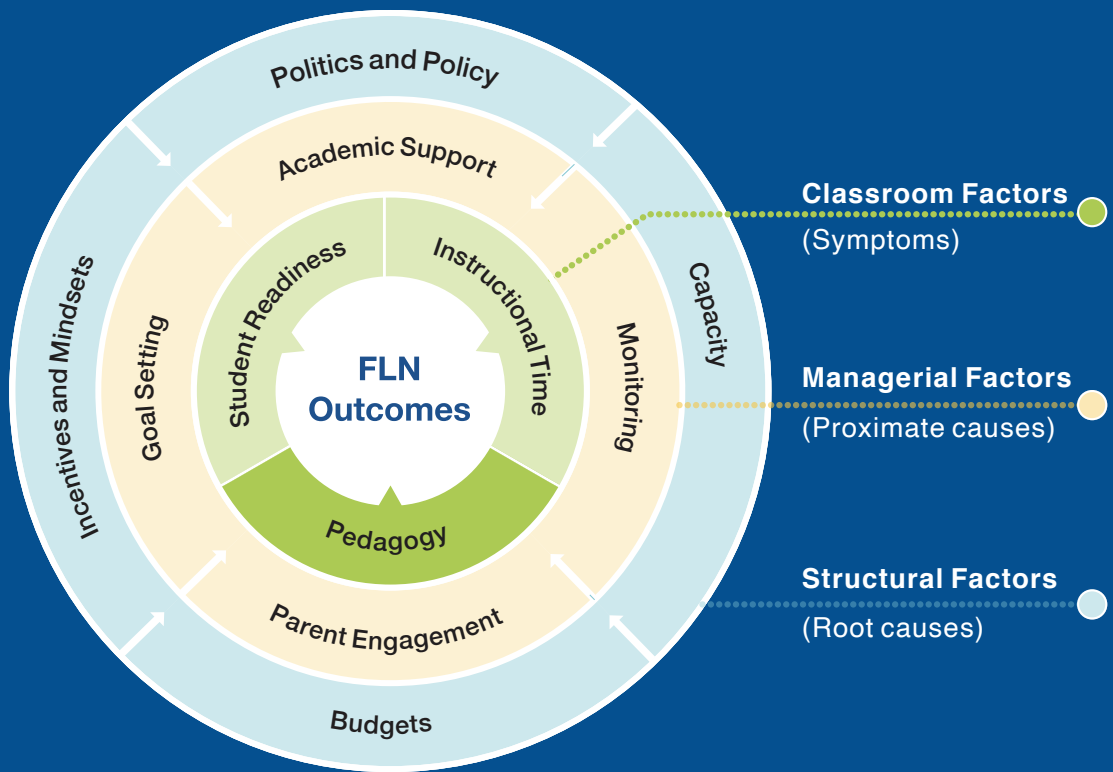


● Both grades together
 ● Grade under observation
 ● Other grades

**~70% of the time, teachers focus their teaching only on one grade<sup>1</sup>**

**More students in such settings were off task in the grade that was not being taught**

# Classroom Factors: Pedagogy



# Pedagogy: Key Insights

1



**Heavy reliance on traditional teaching and rote learning methods**

2



**40% of classrooms do not have a child friendly environment**

3



**Limited effort made to cater to diverse student abilities despite classrooms being heterogeneous**

4



**Multilingual teaching strategies are not used in classrooms**

Several studies show that passive and rote based pedagogy is the predominant mode of teaching and learning in primary classrooms<sup>1</sup>

## Expert and Policy Recommendations

Effective teaching and learning processes should include:

- (i) **Active learning:** An interactive classroom has a positive impact on student learning including building core skills in the areas of oral language, reading and math<sup>1</sup>
- (ii) **Focus on Child's context:** Teaching and learning processes should follow a sequence of moving from known to unknown, concrete to abstract<sup>2</sup>
- (iii) **Promoting higher order thinking and meaning making:** Higher order thinking should be developed by engaging children in open ended questions that require them to explain their thinking orally or in writing<sup>2</sup>

“Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred, discussion based, flexible and of course enjoyable” - NEP 2020

## Current Classroom Practices

**70% of teaching time is spent on traditional teaching or rote learning methods** such as reading aloud, recitation, copying from board or repeating in a study across 3 states<sup>3</sup>

**30% of time is spent on student centric activities** such as active learning, classroom discussions, creative activities, projects and remedial teaching<sup>3</sup> which experts recommend aid in developing FLN skills

**Only in 20% of classrooms teachers used local information to make content relevant for students<sup>4</sup>**

# A large proportion of primary classrooms do not have a child friendly classroom environment

40% of classrooms across 5 states did not show evidence of a single child friendly practice<sup>1</sup>

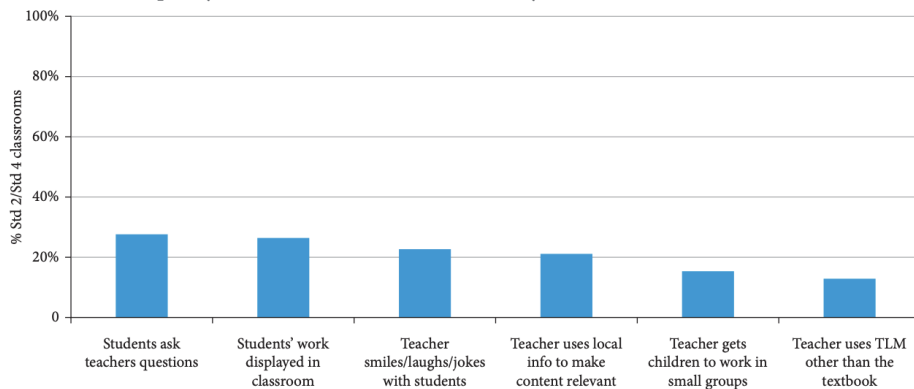
## Child friendly practices could improve FLN levels

An analysis of test data for ~29,000 students studying in Grade 2 and 4 indicates a strong correlation between child friendly classrooms and student learning outcomes<sup>1</sup>.

Children friendly classrooms are those with the below 6 indicators:

- Teacher smiles/laughs/jokes with students
- Students ask teachers questions
- Student work is displayed in classrooms
- Teacher uses local information to make academic content relevant for children
- Teacher uses TLM other than textbook
- Teacher asks children to work in small groups

Frequency with which individual 'child friendly' indicators were observed (%)



No. of indicators observed	0	1	2	3	4	5	6	Total
No. of standard 2/4 classrooms	660	462	282	152	100	39	11	1706
% of all classrooms	38.7	27.1	16.5	8.9	5.9	2.3	0.6	100

# Children enter primary schools at varying stages leading to heterogeneous classrooms across grades

- RTE recommends an entry age of 6 years for children in Grade 1 but this norm is not followed by all states (26 states and UT's allowed entry into Grade 1 at age 5)<sup>1</sup>
- A large number of 4 and 5 year olds are already in primary school, even when not enrolled. Additionally, a significant portion of 6 and 7 year olds are still in pre-primary schools<sup>2</sup>
- This exacerbates the heterogeneity in classrooms and requires teachers to cater to varied student abilities
- However, curriculum and school processes assume that children follow a linear age based path through the system

% of Children age 4-8 by schooling status and grade

Age	Not enrolled	Pre-primary	Std I	Std II	Std III	Std IV above	Total
Age 4	8.4	83.5	5.9	2.2			100
Age 5	3.9	70.0	21.6	4.5			100
Age 6	2.1	32.8	46.4	16.1	2.6		100
Age 7	0.8	10.2	28.3	44.1	14.6	2.0	100
Age 8	0.6	3.6	8.3	27.1	45.4	15.0	100

Source: ASER 2019, Early years

Despite classrooms being multigrade with heterogeneous learning levels, teachers make limited effort to cater to diverse abilities in classrooms



**Mono grade teaching strategies primarily used in multigrade classrooms**

**63% of primary schools have multigrade classrooms, where one teacher is responsible for two or more grades<sup>1</sup>**

In multigrade classrooms, teachers need to use effective teaching strategies such as single and mixed group activities

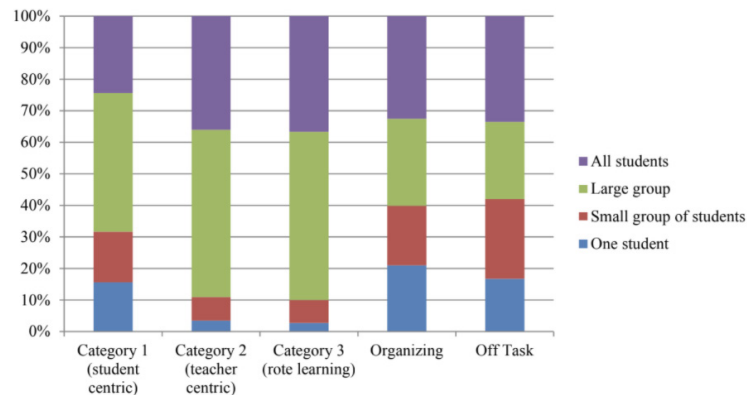
**However, studies show that 55% of the time the teacher was addressing one grade, 16% of time teacher was devoting to the other grade and only around 29% of the time teachers were handling all grades together<sup>2</sup>**

Students of the other grade that teachers weren't focusing attention on were usually off task<sup>2</sup>



**Limited time spent on catering to classroom heterogeneity**

Student groups teachers engage with during different tasks



Proportion of time spent on small group work, a strategy adopted to address varying needs was low across categories<sup>2</sup>

# Monolingual teaching and learning is the dominant practice despite heterogeneous home languages of students

36

## Influence of home language on LO

A study conducted in 2 southern states of India (each with a distinct official language) showed a strong relationship between the home language and second language (English) reading outcomes. Achieving a threshold level of reading skills in the home language enables the child to read in the second language more effectively<sup>1</sup>

Tribal children as well as other groups of children in India perform significantly better in mother-tongue-medium classrooms compared to their matched counterparts in classrooms where the Mol is another dominant language<sup>2</sup>

In India around 25 percent of children attending primary schools face a moderate to severe learning disadvantage because schools do not provide mother tongue based medium of instruction<sup>3</sup>

## Influence of home language on LO

- 1 High demand for english medium instruction from parents reduces the incentives for the state to provide pedagogically appropriate mother tongue based instruction<sup>3</sup>
- 2 Multilingual instruction is not covered in any of the current teacher training programs, neither in pre-service or in-service, which leaves teachers unequipped to implement teaching strategies appropriate for such environments<sup>4</sup>
- 3 Lack of resources and instructional materials available in local languages. Even if they are made available, they are often of poor quality and treated differently from other textbooks and materials<sup>5</sup>



# Current beliefs in the system about teaching and learning do not aid in acquisition of foundational learning

37

## Policy and Expert views

Current policies and frameworks recommend a constructivist view of learning.

- The NCF (2005) advocates for a child centred pedagogical approach that gives importance to children's experiences, their voices and their active participation.
- NEP (2020) states that -“..curriculum and pedagogy reform across all stages will be to move the education system towards real understanding and towards learning how to learn- and away from the culture of rote learning as is largely present today”
- Scholars recommend that children should be taught meaning making even while learning to read aksharas and words in early grades through a balanced literacy approach<sup>1</sup>
- Meaning making should not be delayed for children until lower order skills are in place

## Current beliefs in the System<sup>2</sup>

### Beliefs about pedagogy

- Rote learning and repetition are efficient ways to teach and learn language
- Lessons for early grade literacy do not require planning

### Beliefs about teaching and learning literacy and numeracy:

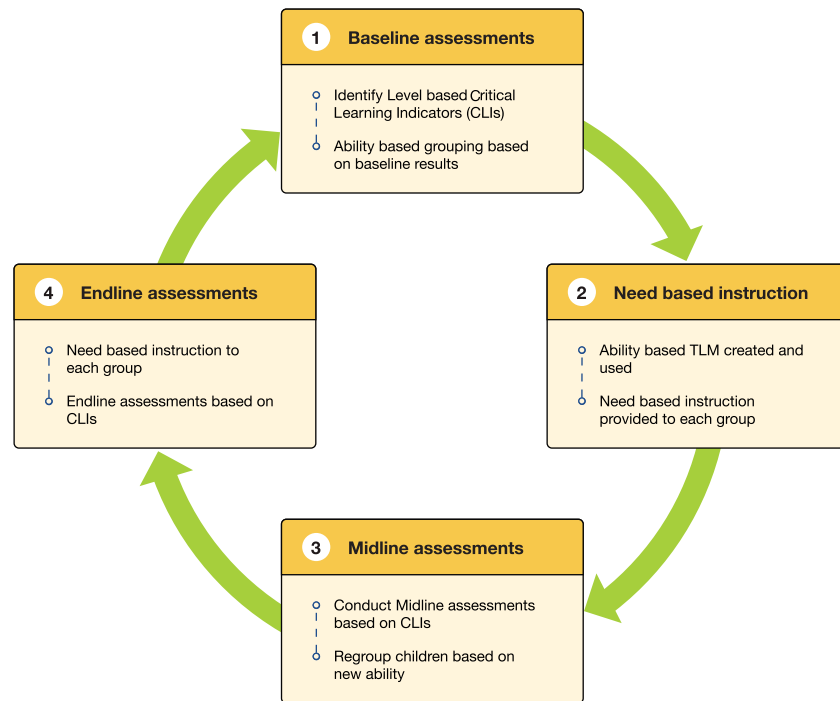
- Teaching should focus on learning to read and write only as children already possess oral language capabilities
- Literacy (reading and writing) should be taught in a sequential manner, first aksharas, then words, then sentences and then passages
- Children will be able to master numeracy concepts if a teacher demonstrates and asks them to practice repeatedly
- Learners home language are “impure” versions of the “pure” standardized school language

# Case Study: Multigrade teaching strategies by Tamil Nadu in partnership with Madhi Foundation

## Key Features:

- Critical Learning Indicators (CLIs) are identified and organized across 3 levels for language and numeracy  
*Example:*  
*L1: No. of children who can identify all basic 2D shapes;*  
*L2: No. of children who can identify all basic 3D shape;*  
*L3: No. of children who know the properties of all basic shapes*
- Indicators will be mapped to learning outcomes of the state curricular framework
- Level based workbooks are created and used so that each child has access to material based on their needs
- Teachers provide need based instruction to each group, then give instructions for group activities followed by independent activities

## Learning Cycle



# Case Study: Building literacy skills in students through a balanced pedagogical approach in Haryana in partnership with Language and Learning Foundation

LLF follows a 4 block model across 90 minutes to build foundational literacy skills in Haryana which is as follows:



## Oral language development

Interactive read aloud, conversations, oral games, local stories and poems



## Word recognition

Phonological awareness, sound-symbol association, blending and word reading, dictation



## Writing

Scribbling, drawing & writing for expression, composition



## Reading

Pretend reading, shared reading, guided reading and independent reading

Children, who are lagging behind in learning are provided additional support on daily, weekly and periodic basis.

## Break down of 90 minutes of instruction

Phase 1	Phase 2	Phase 3
Oral Language (20-25 min)	Oral Language (15-20 min)	Oral Language (15-20 min)
Reading (15-20 min)	Reading (15-20 min)	Reading (15-20 min)
Phonological Awareness (10-15 min)	Decoding (35-40 min)	Decoding (35-40 min)
Writing (10-15 min)	Writing (10-15 min)	Writing (10-15 min)

90 minutes each at beginning of the day

While activities for the blocks can be integrated and implemented, it is essential that children spend time working on each of the blocks on a regular basis

The the time allocated to each sub-block differs based on the learning requirements of the class. *For example, in earlier months of Grade 1, more time is allocated towards 'phonological awareness' and oral language development*

## Overview:

22.8% of Odisha's population is tribal with 62 tribes and 40 different languages. Odisha rolled out a multilingual education program across 1500 schools to improve tribal students literacy skills by leveraging mother tongue instruction in early grades.

The program uses the children's L1 (tribal languages) as the medium of instruction for the first three years in primary-level schooling.

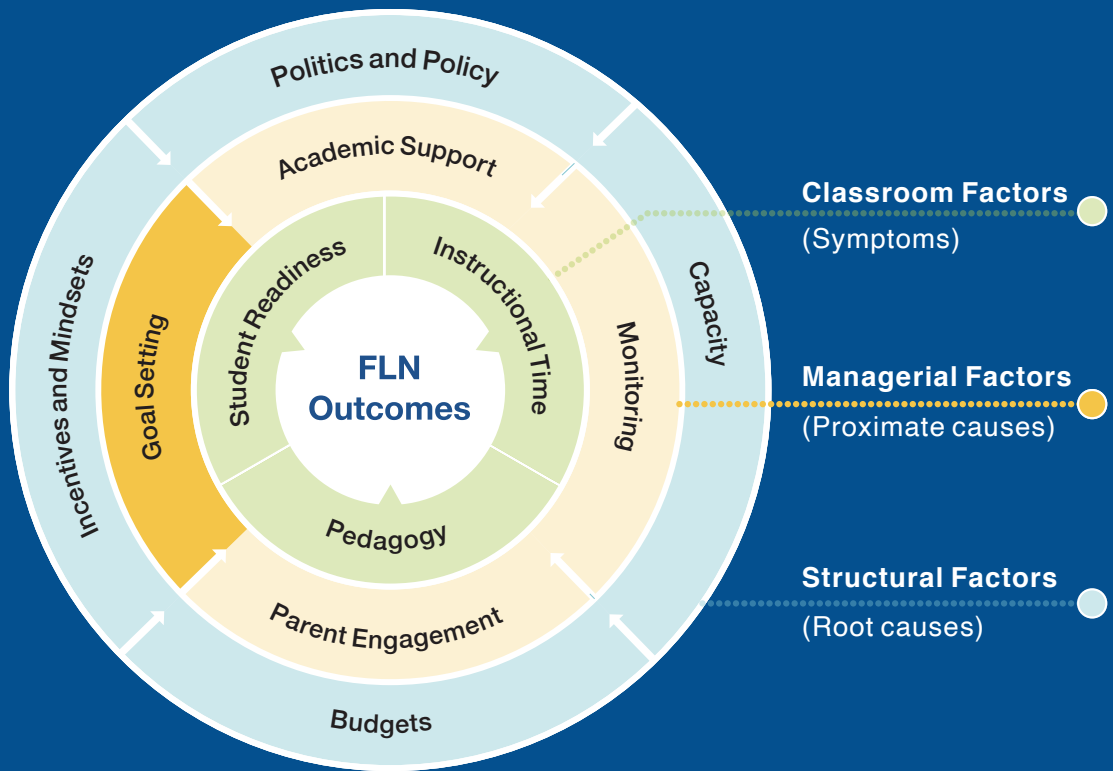
The state's school language (L2) is introduced as a language subject for the development of oral communication skills in the second year and for reading and writing skills in the third year of schooling. L2 is used as the medium of instruction from Grade 4, while the L1 continues as a subject until Grade 5<sup>1</sup>

## Key Features:

- **Textbooks designed in 21 languages for Grades 1-5:** Textbooks were designed with support from local teachers and community representatives
- **Supplementary TLM:** Storybook, big books and picture conversation charts accounting for local context
- **Teachers recruited from the same L1 background as children :** Teachers were trained for 15 days on the curriculum, approach, material
- **Community involvement:** Storytellers, village elders and mothers involved in school activities
- **Trained Resource personnels:** To provide adequate support to the teacher in implementation of the program

**Impact:** NCERT's evaluation in 2011 found better student learning levels in schools that implemented the programme along with improvement in student attendance, student participation and teacher satisfaction

# Managerial Factors: Goal Setting



# Goal Setting: Key Insights

1



**Learning is not the primary goal of the education system**

2



**Stakeholders are not aligned on learning goals**

3



**Foundational Learning is not prioritized across the education system**

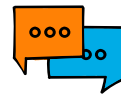
## Syllabus completion is prioritized over student mastery

- Despite high learning gaps, teachers focus on ensuring all the material in the syllabus is covered so that students can be 'exam ready'<sup>1</sup>
- There is a systemic perception that the role of a teacher is to finish the prescribed syllabus instead of to ensure all children learn
  - "If teachers are able to show that all chapters given in the syllabus for the year have been 'taught', that is considered enough towards completion of their primary responsibilities"<sup>1</sup>
  - Teachers expressed their understanding of performance in these terms- "I am well aware of the learning levels of my students.....but I still have to complete the syllabus in time"<sup>2</sup>
- Syllabus completion is tracked during school monitoring visits by officials which signals to teachers that it's an important goal
- Children who are unable to keep pace with the syllabus are often left behind as the teacher moves on to the next chapter even if all students have not mastered the previous chapter

## High focus on administrative tasks

- Stakeholders across the system prioritize administrative tasks
- 54% of a BRC's time and 50% of a CRC's time is spent on administration and planning activities<sup>3</sup>
- Officials prioritize administrative duties such as data collection, reducing time and bandwidth for academic monitoring and support functions<sup>4</sup>
- The lack of clearly defined metrics of performance in the system has led to stakeholders pursuing non-academic work to signal performance to their superiors<sup>5</sup>

LO frameworks are created but there is no shared focus among stakeholders in achieving goals



## LO frameworks exist in states

- In 4 states where field studies were conducted learning outcome frameworks were created, printed on TLM and disseminated to schools<sup>1</sup>
- In one state, classrooms were also expected to put up a chart of LOs on their walls, this was checked during monitoring visits
- However in all 4 states, none of the stakeholders interviewed reported the same learning goals that students need to achieve by grade 3

## What should a child learn by Grade 3?

Children should learn at least 50% of grade syllabus

*-Teacher*

Students should know counting upto 100, basic addition and subtraction by grade 3

*-Head Teacher*

By grade 3, a child should know how to read and write their name, parent's name and address

*-District Official*

Children should master at least 80% of syllabus

*-Cluster Official*



## Higher focus on learning in later grades

- Student performance is regularly measured and tracked systemwide by states for secondary and higher secondary grades (i.e grade 10 and 12) through board exams
- The same focus on improving learning outcomes does not exist for early grades. Most **states do not invest in measuring and tracking achievement of basic competencies in primary grades**<sup>1</sup>
- During the Covid-19 pandemic, majority of states in India reopened schools only for secondary or higher secondary grades, primary and pre-primary grades were the last to open despite evidence suggesting low transmission risk among children<sup>2</sup>
- Increasing focus on quality of learning in early grades is likely to improve student performance in later grades



## Lack of prestige among primary teachers<sup>3</sup>





- In 1 out of the 5 states where primary research was conducted, teaching grades 1 and 2 was considered a low prestige post by stakeholders
  - The key drivers behind this were:
    - (i) Teaching younger grades was considered laborious
    - (ii) No career progression pathway for teachers
    - (iii) Difference in pay scale between primary and secondary teachers
- “Teacher fighting is intense for not teaching Grades 1 and 2”*  
- BEO
- “If we become a primary school teacher then we will be stuck teaching lower grades and will never progress”* - Teacher

1. This is likely to change in the near future due to NEP recommendations on exams for grades 3, 5 and 8; 2 European Centre for Disease Prevention and Control (2020), C and Lynda et al (2021)

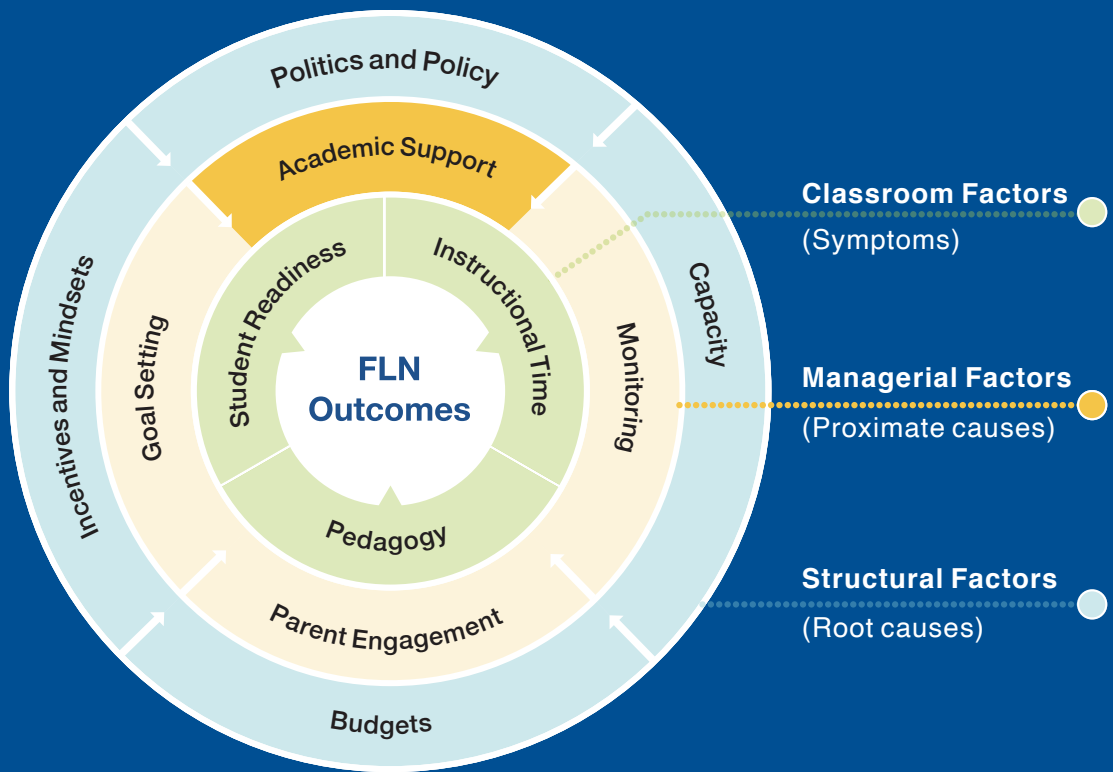
3. CSF State Diagnostics

Sharply defined goals that help drive decision making and ensure system alignment

<div>  <span>Prerna Lakshya</span>  </div>					
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<b>Hindi</b>	<b>Word Identification</b> 5 correct words identified [62%]	<b>Oral Reading Fluency with recall</b> 20 correct words per minute (CWPM) [54%]	<b>Oral Reading Fluency with recall</b> 30 correct words per minute (CWPM) [72%]	<b>Silent Reading Comprehension</b> 75% questions answered correctly (short paragraph) [64%]	<b>Silent Reading Comprehension</b> 75% questions answered correctly (long paragraph) [70%]
<b>Maths</b>	<b>Number Identification</b> 5 correct numbers identified [62%]	<b>Single Digit Addition &amp; Subtraction</b> 75% questions answered correctly [68%]	<b>Addition/ Subtraction with carry over</b> 75% questions answered correctly [45%]	<b>Multiplication</b> 75% questions answered correctly [67%]	<b>Division</b> 75% questions answered correctly [65%]
<b>80% of primary school students to achieve the above objectives by 2022</b>					

Key Channels	
 <b>Voice blasts</b>	
3L+ voice blasts	3L+ IVR calls ~65% recall
 <b>Online orientations</b>	
100+ orientations	11 cadres
 <b>DIKSHA Quiz</b>	
3.16L+ teacher enrollments	8.5/10 avg. score
 <b>District level campaign</b>	
YouTube videos	Creative posters

# Managerial Factors: Academic Support



## Academic Support: Key Insights

1



Existing Teaching Learning Material does not support with student acquisition of basic literacy and numeracy skills

2



In Service Trainings are carried out in an ad hoc manner and are not designed to align with learning goals and teacher needs

3



Cascaded model of delivery dilutes the quality of training received by teachers

4



Training is lecture based and involves minimal participation from teachers

5



DIETs have been ineffective in providing decentralized training

6



Academic Coaching provided to teachers is ineffective due to capacity constraints

# Limited availability of age appropriate Teaching Learning Materials in classrooms to support with acquisition of foundational literacy and numeracy skills

Textbooks are the primary tool used by teachers and learners in early grades

## Low availability of TLM other than textbooks

- Scholars recommend that children need exposure to a wide variety of materials to build foundational skills<sup>1</sup> as they aid in building conceptual understanding of abstract concepts and make learning more engaging for children.
- Textbooks for primary grades are available in most classrooms<sup>2</sup>. **2 out of 5 states report a delay in delivery of textbooks to schools** (Avg delay of 3-5 months every year<sup>3</sup>)
- Apart from textbooks, no other TLM is typically used in classrooms. In a study, **only in 10% of classrooms teachers were using TLM other than textbooks**<sup>4</sup>
- **One third of teachers across 3 states reported unavailability of teacher guides, story books, mathematics kits, maps/atlas/globes and other TLM**<sup>5</sup>

## Limited use and adoption of existing TLM

- While textbooks exist in most classrooms, teachers don't always use them. In a study, **only 41% of teachers observed were using textbooks during classroom observations**<sup>5</sup>
- Teachers tend to use the least time or effort intensive suggestions provided in TLM and avoid complex suggestions.

For example, in one state, “all suggestions that were provided to include children's home cultures and environments in language learnings were completely ignored and teachers continued to teach selections in rote-recitation style to students”<sup>6</sup>

# Teaching Learning material used in schools is not effective in supporting students acquire basic literacy and numeracy skills in early grades

Existing TLM promote rote learning and assume students learn literacy skills in a linear fashion<sup>1</sup>

## Existing TLM promotes rote learning

- TLMs have instructions for teachers that promote rote memorization of skills instead of oral language development through classroom discussions on the topic

*E.g- For a poem, the prompt in the teacher guide of a state is to get children to read the poem after him/her<sup>1</sup>*

- Curricular materials often don't have space for classroom talk and creative expression in written or oral form<sup>2</sup>
- Words that can enable children to make connection to their home environments are not present at all in first 6 months, rather TLM consists largely of rhythmic or sanskritized words<sup>2</sup>

## Negligible emphasis on parallel processing of literacy skills

- Scholars recommend that children should be taught to make meaning even when they learn to read letters and decode words in early grades<sup>3</sup>
- But, the common belief among government actors is that in the early years the focus should be on reading and writing letters and words accurately and in the higher grades focus on comprehension<sup>3</sup>
- Curricular materials used by states encourage linear acquisition of literacy skills (i.e Grade 1 textbooks focus mainly on learning letters and matras, comprehension is covered at the end of Grade 2)<sup>4</sup>

# Teaching Learning material used in schools is not effective in supporting students acquire basic literacy and numeracy skills in early grades

**Textbooks provide limited opportunities to reinforce learning and their pacing is too fast<sup>1</sup>**

## Low opportunities to reinforce learning

- There is limited focus on synthesising an experience provided in a concept in the textbook

*E.g- In addition- opportunities to clearly consolidate meaning of addition, rules of addition, vocabulary of addition is missing in the textbook*

- Many concepts like sequencing, before-after, missing numbers are covered in number sense domain in Grade I, but sufficient practice exercises are not provided to reinforce the same.

## Fast pacing of curricular materials

- The ordering of chapters does not allow for strong inter relationships to occur

*E.g: Measurement which is the first chapter in the textbook for grade 1 requires previous knowledge like more/less, ascending/descending which is covered much later in the state textbook<sup>1</sup>*

- Too many concepts are built too quickly like length, height, distance, weight in measurement in Grade I and do not go deep enough to build conceptual clarity

1. CSF State Diagnostics, Analysis of language and numeracy textbooks and teacher guides in one state

# Poorly designed learning outcomes lead to a lack of clarity in the system on what student learning looks like

## Key issues with the LOs<sup>1</sup>

- Learning outcomes are too broad
- Mapping of LOs to textbook content is not clear
- Progression of learning outcomes is incorrect
- Prerequisites for learning outcomes are missing

## Illustration: Current Learning Outcome progression

LO-M1.02: “Working on Numbers 1-20” is broken into sub LOs as follows

M1.02.1	1 से 9 तक की संख्या को विविध प्रकारों से लिखने पर भी पहचान पाना।
M1.02.2	कंकड़ या बीज की सहायता से 1 से 9 तक की संख्याओं को गिनना।
M1.02.3	चित्रों में 20 तक की संख्याओं को बोल कर गिनना और मान बताना।
M1.02.4	गिनती को बीच-बीच में पूछने पर भी बताना।
M1.02.5	एक से एक मिलान कर सकते हैं।
M1.02.6	पहले और बाद के पूर्व ज्ञान को लागू करता है और 20 तक की संख्याओं में ज्यादा कम बताना एवं 20 तक की संख्या तुलना करना, ज्यादा या कम बता पाना एवं बड़ी संख्या, छोटी संख्या
M1.02.7	संख्याओं में इकाई दहाई बताना।
M1.02.8	शून्य की पहचान व शून्य कब लिखते हैं बताना।

The prerequisite to this LO-M1.02 is to **establish one-to-one correspondence between objects (M1.02.5)** and compare one collection with the other (concrete and pictorial) which shows up later in the progression

Skills of **number conservation, cardinality, ordinality, counting forward and backward** and **matching** are missing from the progression

The prerequisite objectives of **number grouping into 10s and 1s** before decomposing is missing



# Assessment design encourages rote learning, promotes teaching to the test and limits data use

## Low quality of assessments leads to limited tracking of student learning outcomes

### Weak assessment design due to low technical capacity

- **Only 3 out of 20 states** in a study **designed** standardized assessments that were **competency linked** with high quality questions aligned to learning objectives<sup>1</sup>
- Most assessments test only grade level content which leads to floor effects in the data thereby limiting its use (i.e. if a child is not grade level proficient, the current design does not help a teacher identify the current learning level of a child)<sup>2</sup>
- Teachers are rarely trained on how to design assessments using high quality items<sup>2</sup>
- An analysis of census assessments conducted in 10 Indian states indicates that summative assessments are designed to test student memorization of textbook material<sup>2</sup>

### Limited use of assessment data due to weak test design and structures

- **14 of 20 states did not have appropriate data usage and dissemination mechanisms** in place<sup>1</sup>

## Cycle of assessment and improvement in learning<sup>3</sup>



### Purpose of assessments<sup>3</sup>:

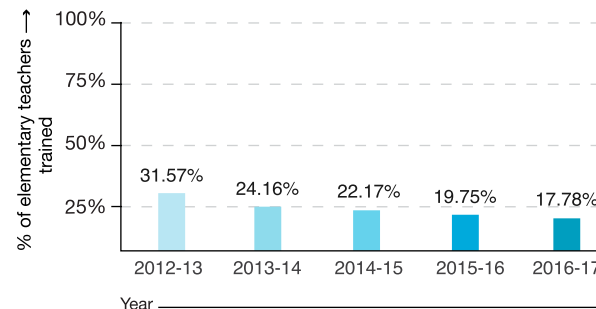
- Regular checks of learning progress
- Identifying learning gaps for individual students
- Follow up with corrective, additional measure

# In-Service Trainings are designed in an ad hoc manner without taking into consideration teacher needs

## Research Findings

- 3 out of 4 states reported that **trainings are designed without conducting a teacher need analysis**. Only one state used assessment data (from NAS 2017) to identify training needs<sup>1</sup>
- States do not have a policy in place for in-service trainings and most trainings are conducted in an ad-hoc fashion<sup>2</sup>
- There is a higher focus in the system on the percentage of teachers trained than what topics or how teachers need to be trained<sup>3</sup>
- Teacher training modules/curriculum are created without considering needs of teachers<sup>4</sup>
- Trainings are used mainly to transfer central or state policies to teachers and the focus is rarely on building capacity to teach
- Lack of planning and limited budgets leads to infrequent and ineffective trainings being provided to teachers

In service training for elementary teachers<sup>5</sup>

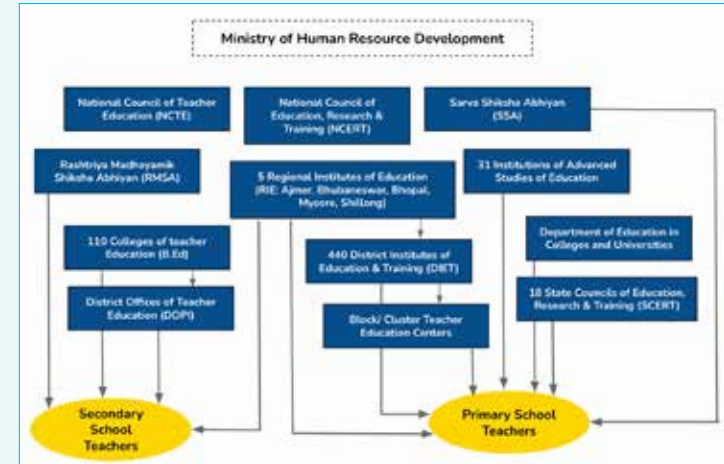


**Less than one third of elementary teachers are trained every year and this number has been declining further year on year**

## Dilution in training quality through cascade approach

- Training received at the Mandal/Cluster level is not what it was envisioned to be at State/National level, teaching content ends up being diluted as it moves to the lower levels<sup>1</sup>
- The presence of too many agencies and institutions in the cascade structure makes consistency difficult and leads to multiple mixed messages being delivered to teachers<sup>2</sup>
- Teacher educators often fail to recreate training in the way they received it because they rely on their own experience of traditional and theory based teaching<sup>2</sup>

## Institutions Involved in Cascaded Structure<sup>2</sup>



- Teachers find little practical application of training received in their classrooms<sup>1</sup>. **Only one third of teachers reported that the in service training they received was useful<sup>2</sup>**
- In a survey conducted with 400 teachers in a state-
  - 75% of teachers reported that trainings are lecture based and rarely focus on demonstration and practice<sup>3</sup>
  - Only 36% of primary teachers could recall being trained on topics such as child-centred pedagogy and enabling child friendly classrooms<sup>3</sup>
- Teachers are expected to use child-centred pedagogy and activity based learning techniques in their classrooms, yet they are themselves trained using traditional lecture based techniques<sup>4</sup>. In a training session on activity based learning, teachers were observed being lectured to by the Master trainers, the concept was being taught through didactic means<sup>5</sup>
- **In all 5 states no evaluation or assessment was conducted** by the state post trainings to understand training effectiveness and collect teacher feedback. This leads to consistent delivery of poor quality trainings<sup>3</sup>

- DIETs were intended to train 50 teachers every month, but reviews indicate that majority of them haven't been able to achieve this<sup>1</sup>
- DIETs were set up to enable decentralized training of teachers in response to local needs, however in practice this doesn't happen<sup>2</sup>
- Training courses come pre-designed to DIETs from the state or national level, which leaves them with little reason to determine local development needs of teachers<sup>2</sup>
- In 2 states, an assessment of the capacity of DIETs revealed high vacancies, as seen on the right. This shortage of staff in DIETs reduces their capacity to provide high quality in service trainings<sup>3</sup>

**Vacancies in DIETs against sanctioned posts<sup>3</sup>**

	State 1		State 2	
	Sanctioned (per DIET)	% Vacancy	Sanctioned (per DIET)	% Vacancy
DIET Principal	1	60%	1	50%
Vice Principal	1	65%	N/A	N/A
Senior Lecturer	6	80%	7	0%
Lecturer	17	60%	21	82%

**1**

## Academic field support provided to teachers is ineffective

- Only 42% and 52.6% of Head Teachers reported they were fully satisfied by the support provided by BRCs and CRCs respectively<sup>1</sup>
- Analysis of school visit registers across 5 states used by officials to share feedback indicates<sup>2</sup>-
  - Feedback provided to teachers is focused on compliance with rules (E.g. “records are maintained by teachers” or “teachers are teaching in groups”)
  - Feedback is often vague and not timely (E.g “Put in more committed efforts to improve learning levels”)
- In a survey conducted with 400 teachers in one state, 66% teachers reported that they receive feedback mostly on procedural aspects (e.g grouping children and maintaining academic records) as opposed to 26% who reported they receive feedback on pedagogy<sup>2</sup>

**2**

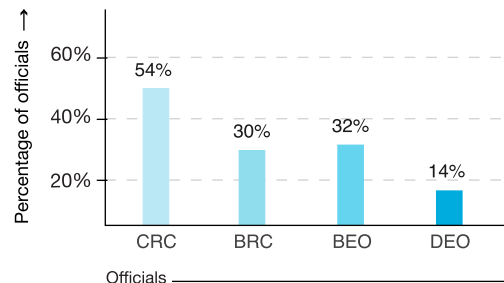
## Disproportionate focus by block and cluster officials on administrative vis-à-vis academic tasks

- 54% of a BRC’s time and 50% of a CRC’s time is spent on administration and planning activities<sup>3</sup>
- There is a widespread perception in the system that cluster and block officials are “post masters” rather than academic facilitators as originally envisioned under SSA. This is due to the fact that they spend majority of their time on data collection and delivery<sup>4</sup>

## 3 Inadequate capacity building of CRCs and BRCs

- To provide effective academic support to teachers, middle management officials need to be trained on topics such as effective pedagogy, classroom observations, people management, data driven decision making etc.
- However, as seen in the figure on the right, most officials do not receive training on being appointed. The lack of training leads to ineffective mentoring and support being provided to teachers.

Percentage of officials who received training on being appointed<sup>1</sup>



## 4 Disempowered CRCs and BRPs

- In many states CRCs are hired from the teaching cadre and are not part of the education administrative service. They are often several years junior to the teachers they are expected to mentor and monitor. Due to this, teachers find it difficult to accept their authority<sup>1</sup>
- Additionally, in most states the positions for CRCs and BRPs are held through short term contracts. The short nature of their role reduces their credibility in the eyes of teachers who seldom act on their suggestions and feedback<sup>2</sup>

**Context:** The Government of Madhya Pradesh and Peepul have partnered to conceptualize, design and implement CM Rise which began before as Digital Teacher Training program leveraging the national platform DIKSHA to deliver bite sized, modular training courses for the teachers. This has since evolved into a three year teacher professional development program.

## Course structure



**Pre-Work:** An initial 'hook' to engage participants to get them thinking about the course subject



**Course session:** Core training course explaining a critical, bite-sized piece of knowledge (subject / non-subject) and linking it to classroom reality



**Post-work:** Exercises that involve self-assessment and application of acquired learnings

## Data driven support

Sl. No.	District	Enrolment	Completion
1	Bhopal	12345	8765
2	Indore	9876	5432
3	Gwalior	6543	3210
4	Jabalpur	4321	2109
5	Bhind	3210	1098
6	Dewas	2109	987
7	Ujjain	1098	876
8	Khajuraho	987	765
9	Chhatarpur	876	654
10	Shajapur	765	543

*Daily district wise dashboard being sent out showing status of enrolment and completion*

Large-scale data analytics to derive insights on programme access, usage and impact.

- Targeted support to low-performing districts
- Monthly discussion forums and cadre of mentors created to provide academic support

## Ensuring uptake and institutionalisation



Structured and collaborative process of course creation with the CM Rise team. DIETs and other government institutions leveraged for course review and approvals.



Government institutions leveraged for communication. Course launch with a teaser intro video and visual posters to build excitement, clarity and set right expectation.



DIETs and DRGs led youtube sessions organised to support discussion and classroom implementation of the digital courses.



# Case Study: Continuous Professional Development of Teachers, Block and Cluster Officials by Language and Learning Foundation



## Development of Mentor Cadre

**Course Objective:** To enable cluster and block officials to provide effective academic support to teachers through trainings, school visits and monthly meetings

**Duration:** 3 months

### Components:

- Modules (Self-reading)
- Assignments
- Conference calls
- Quiz (online)
- Face to Face workshop

LLF Course Alumni (CRC,BRCs,DIET faculty) provide support to 10 -15 teachers

**Reach:** From 2017-18 to 2019-20, 825 Academic Resource Persons (ARPs) in Chhattisgarh and Haryana and an additional 124 participants (100 teachers in Bihar and 24 partner org officials-from Pratham) have undergone the course.



## Ongoing Teacher Engagement

**Course Objective:** Improve understanding and classroom practices of language and literacy teaching in early grades

**Mode and Duration:** 9 month blended distance learning model in Hindi

**Support:** Mentors (Part time LLF consultants) provide continuous support to 15-20 participants through the course; LLF coordinators to Mentor ratio is 1:10

**Components:** Modules with QR coded audio and video resources, group conference calls, field based assignments, online quiz for each module, expert calls and sessions, online discussion forums, final online test after completion of all modules.

**States:** Bihar, Chattisgarh, Uttar Pradesh, Haryana and Rajasthan

**Incentives:** Certificate of completion and excellence certificates for high performing participants

**Impact:** 498 participants; third party evaluation in 2018 showed the following areas with significant improvement in scores: oral language development, active engagement of children, nature of writing tasks and multilevel teaching practices



## Online courses

Online courses have emerged to be an important mode of capacity development of both mentor cadre and on-going teacher engagement.

**Duration:** 4/5 weeks duration

**Reach:** 8500 Resource personnel ( state, district , block and cluster level) and DIET faculty members in states of Chattisgarh, UP, Haryana, Bihar and Gujarat as of May 2021.

# Case Study: Sample Teacher Training structure by CSF designed to impart conceptual knowledge, demonstrate practice and ensure teacher engagement

1

## Modular content

- Every course is divided into smaller modules of 5-10 mins each
- First Module of every course **explicitly shares the learning objectives** for that course

2

## Theory & See it

- Content of each course is focused on conceptual understanding and associated classroom practices.
- To achieve this objective, a variety of tools are used including **classroom demonstrations, teacher-student conversations, and student led activities**

3

## Name It & Do it

- Training modules have a **'check for understanding'** strategically placed for each concept and activity
- This ensures **conceptual clarity** and **drives teacher engagement**

4

## Recap and Retention

- Every module ends with a **recap of important learning points** covered in that module
- These learning points are **reiterated** at the start of next module, **to ensure retention**

**Context:** Providing adequate children's storybooks will be the single biggest positive contribution for improving children's literacy in early primary classes<sup>1</sup>. Evidence from many contexts shows that effective access and use of reading materials are one of the highest impact and most cost-effective ways of improving literacy (Global Reading Network).

## Story weaver: Key Features

- Repository of high quality, openly licensed multilingual storybooks sourced from global publishers
- 33955 storybooks available in 293 languages with 1.1cr + total reads
- Every book is freely available in multiple formats can be read online, offline, downloaded, printed and even repurposed
- Translation and versioning tools help customize the books for localized requirements

<b>Tulika Book</b>	Tulika Book is an independent publisher that seeks to make more multilingual books with an array of genres accessible to more children. They produce books for children of all ages
<b>Tara Books</b>	Tara Books is an independent book publisher committed to provide high quality books with historical and cultural significance for children to use.
<b>Katha</b>	Katha uses storytelling to get children reading and learning by providing access to stories on themes that are relevant to their lives. Katha further works more specifically on: <ul style="list-style-type: none"><li>○ Community engagement by empowering community to read</li><li>○ Supporting teachers in proper way to use textbooks and literature in classrooms</li></ul>
<b>Google Read Along</b>	Read Along is a free reading app for Android that helps children have fun while they learn to read. <ul style="list-style-type: none"><li>○ Read Along has an in-app reading buddy that listens to your young learner read aloud, offers assistance when they struggle and rewards them with stars when they do well – guiding them along as they progress</li></ul>

# Case Study: Structured Lesson plans and teaching learning materials with ongoing training and monitoring (1/3)

## Importance of Structured Pedagogy

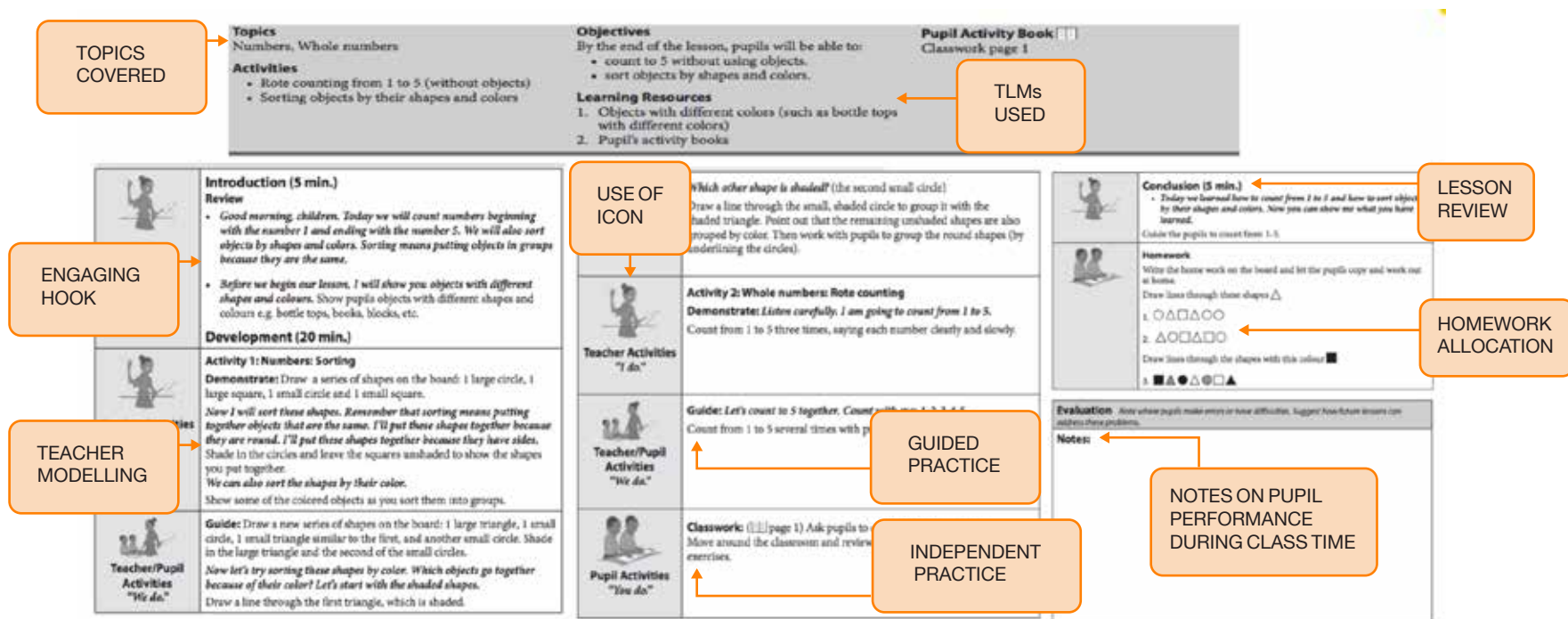
- A Structured pedagogy approach involves providing teachers with guidance on lesson delivery through structured tools (e.g teacher guides and lesson plans) along with practical training to deliver such material<sup>1</sup>
- In contexts where teacher knowledge of content and pedagogical skills are weak, structured pedagogy has shown to have a positive impact on learning levels<sup>1</sup>
- A review of 216 programs across 52 LMICs by 3ie indicate that Structured Pedagogy is known to have largest and most consistent impact on student learning, with an effect size of 0.14 for mathematics and 0.23 for literacy<sup>2</sup>

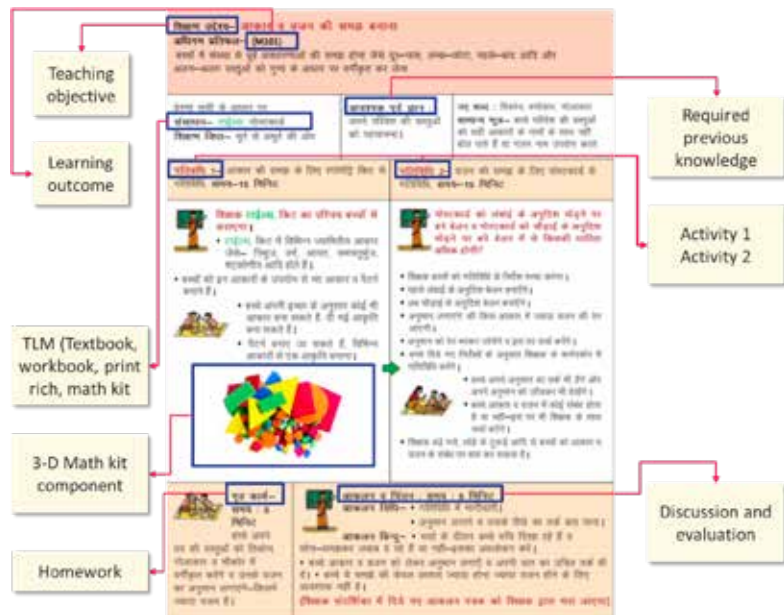
## Programs with Structured Pedagogy Components

Gambia's literacy and numeracy program across 169 villages was evaluated through a randomized control trial yielded learning gains of 3.2 SD. The intervention had 3 components- (i) Scripted lesson plans (ii) After school lessons delivered by locally hired para teachers and (iii) Regular teacher monitoring and coaching<sup>3</sup>

An evaluation of Kenya's Primary Math and Reading Initiative compared the benefits across 3 types of interventions- (i) Teacher professional development and teacher instructional support and coaching (ii) Revised student books at 1:1 ratio in addition to PD and instructional support and (iii) Structured teacher lesson plans added to student books, PD and instructional support.

The results of the RCT showed that the third combination of the intervention- PD, instructional support and coaching for teachers along with 1:1 student books and structured teacher lesson plans were most effective at improving learning<sup>4</sup>





## Structured Pedagogy Components in Mission Prerna

- **Teacher guide and student workbooks:** Guide contains weekly planning templates and daily lesson plans. The workbooks are mapped to the textbook structure
- **Print rich TLM linked to learning outcome framework and guides:** Conversation cards, poems, posters and math manipulatives have been developed
- **Teacher training:** To enable teachers to adopt the new pedagogy and use TLM, the state has been providing teachers digital training

**Context:** Children in South Africa do not have access to good quality home language learning resources and teacher capacity to teach early-grade reading in African languages is low. Funda Wandé aims to bridge this gap by providing access to learning resources and teacher professional development.

## Intervention

### Features of Funda Wandé intervention:

- **Teaching and learning material:** Teachers are provided with lesson plans integrated from a set of Funda Wandé materials, graded reading material, baseline assessment booklet and other resources. The lesson plans are aligned with the national curriculum.
- **Teacher coaching and professional development:** Expert coaches who are experienced in foundation-phase literacy observe teachers in their classrooms, provide targeted support and lesson role modelling.
- **Head of Department (HOD) training:** HODs are trained to take over the role of expert coaches. They are trained through a two-year Funda Wandé course at a local university.

## Impact

- After one year of implementation, results from a randomized control trial evaluation show that the programme improves student reading proficiency by 0.17 standard deviation.
- Learning gains translate to between 20 and 27 percent of a year's worth of learning for Grade 2 learners
- Learning gains translate to between 33 and 58 percent for Grade 1 learners

# Case Study: DIKSHA (Digital Infrastructure for School Education)

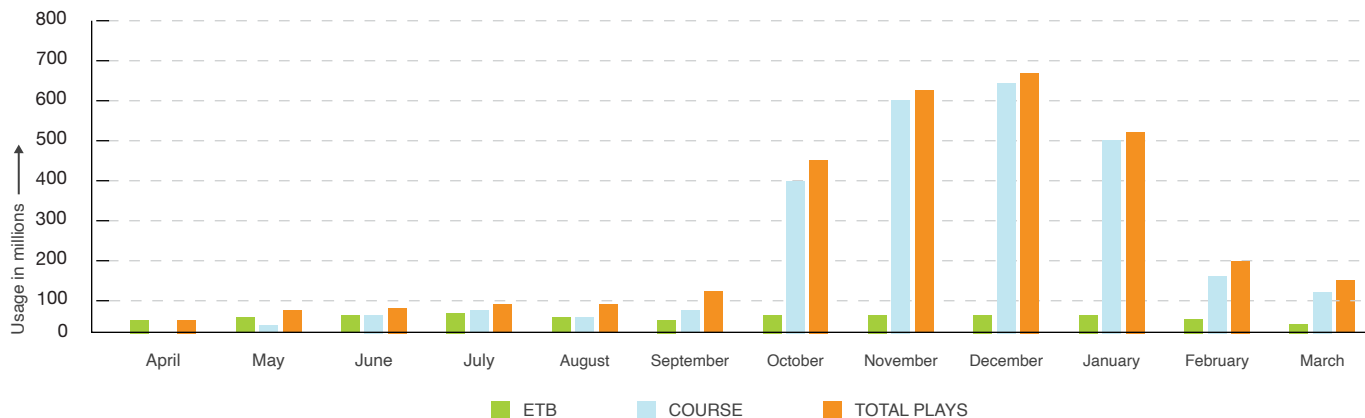
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**Context:** Launched in September 2017, Diksha is an initiative of the National Council of Educational Research and Training (Ministry of Education, Govt of India) that offers engaging learning material, relevant to the prescribed school curriculum, to teachers, students and parents.

## Key features:

- Content for teacher preparation and classroom transaction
- Sharing of best practices amongst teachers
- Capacity building for teachers and school leaders
- Tools for teachers to create new or modify existing content
- Enable Centre and States to make announcements

Diksha Usage AY 2020-21



- 27x increase in the usage of DIKSHA
- AY 2019-20: 110 Million
- AY 2020-21: 2.98 Billion
- 87% of usage from Teacher training courses
- 2 Billion+ plays through NISHTHA
- Total Plays - 2.98 Billion
- ETBs - 398 Million
- Course - 2.58 Billion



**Context:** TicTacLearn is one of the largest open-source repositories of high-quality, multilingual curriculum aligned with digital learning resources (~12,000 videos, aligned item bank, etc.) available for everyone, free of cost.



**12000+ Videos and 1050+ Hrs of Content** for Maths (I-X) and EVS & Science (III-X)



**6 Languages** (Hindi, English, Marathi, Telugu, Odia, Gujarati)



**Open source**



**NCF and NCERT mapped**



Each video topic to have a linked **practice item bank**



**Animated and of High quality**

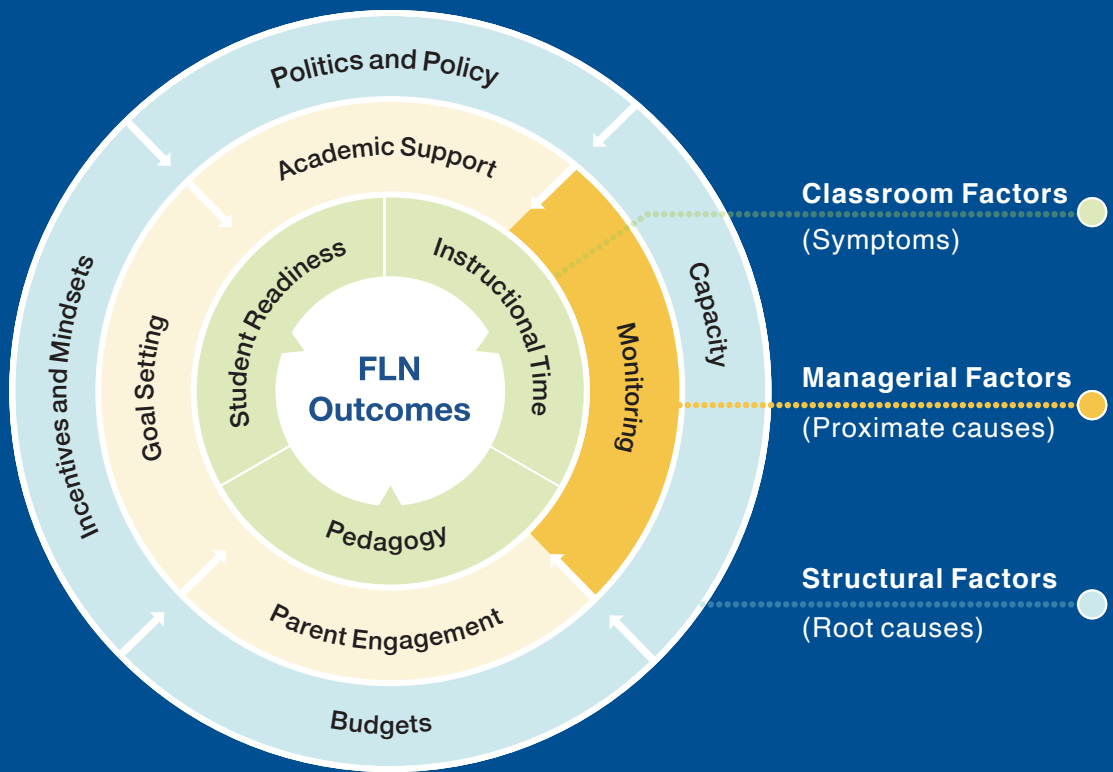


**Byte sized (4-5 min) & pedagogically sound** math topics broken into three parts- hook and knowledge, illustrative examples, and misconceptions; EVS & Science videos follow storytelling approach

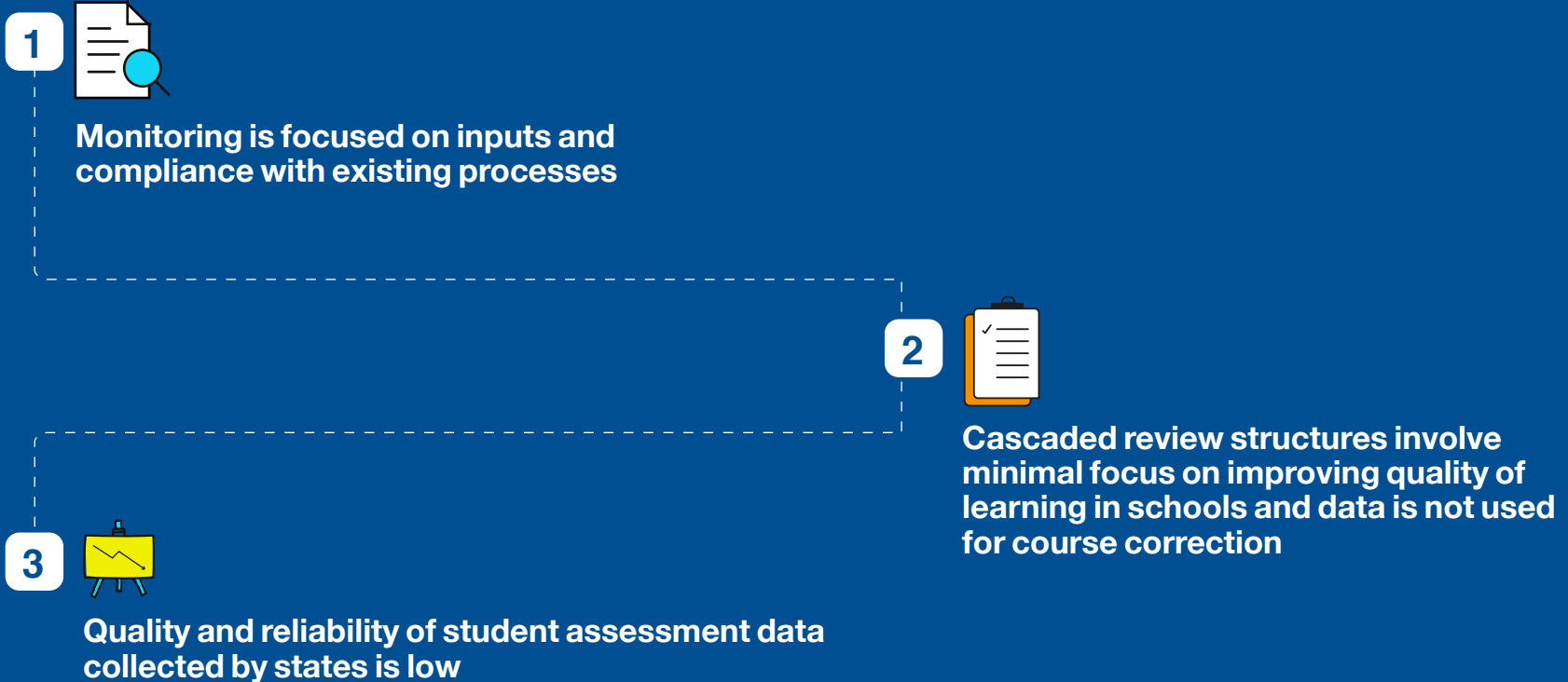
TTL is the preferred content partner for home learning programs in 8 States. TTL content is uploaded on multiple platforms such as Youtube, Diksha, Dailyhunt, Gurushala and Facebook etc

**52 million views with 110k+ subscribers since launch in April 2020**

# Managerial Factors: Monitoring



## Monitoring: Key Insights



## 1. Monitoring function is viewed as a data collection exercise by all stakeholders

- 62% of CRCs and 49% of Head Teachers report that monitoring has become a data gathering exercise<sup>1</sup>
- Stakeholders are expected to fill in a large number of pre-designed formats for monitoring purpose (e.g the number of pre-designed forms that CRCs and HTs across states need to fill range from 7-17 and 15-24 respectively<sup>2</sup>)
- Time Studies conducted show that Block and Cluster Officials (BRCs and CRCs) prioritize collecting data around inputs over academic monitoring and support during school visits<sup>3</sup>

## 2. Officials focus on complying with existing processes during school visits

- During school visits officials spent most of their time checking registers that teachers were expected to maintain, checking student notebooks and filling up monitoring forms (digital or paper based)<sup>4</sup>
- Analysis of the written feedback shared by officials during school visits reveals that there is a clear obsession with process compliance (“Records are being maintained by teachers”, “Teachers are teaching in groups” were the most common written feedback recorded by cluster/block officials)<sup>4</sup>

*“CRC, BRC only ask about MDM, school facilities and any date requests; they never place emphasis on learning parameters of schools.” - HM*

*“In one week I get 100s of circulars or instructions on things to do. All this is not part of my job chart “  
- CRC*

## 3. Monitoring tools are poorly designed and do not track critical learning indicators that impact learning outcomes

- In 4 of 5 states the indicators in the tool were largely focused on inputs (e.g infrastructure, attendance and enrollment)<sup>1</sup>
- Existing monitoring tools typically don't track quality of teaching practices and learning levels from spot assessments - 80% of indicators in school monitoring tools were related to inputs, infrastructure and compliance with rules.<sup>1</sup>
- Information on classroom practices and student progress is either not collected or not recorded in monitoring formats during school visits. For example, in a study, 50% of BRCs and 48% of CRCs did not include scores from random tests conducted for children during visits in school monitoring format<sup>2</sup>
- Many indicators or questions in the formats are subjective in nature or do not include a criteria to measure, leading to random responses by officials.
  - In Odisha, it is expected that the response to the question “Is the overall classroom environment conducive to learning?” be Yes or No, however, there is no criteria for officials to assess “conductive”<sup>2</sup>
  - In HP, a format asks to describe the existence of ‘teacher problem’ without defining it<sup>2</sup>

# Cascaded Review Meetings involve minimal focus on improving quality of learning outcomes in schools and data collected is not used for course correction

74

## Minimal focus on quality of learning in Review Meetings

- Monthly review meetings conducted at the cluster level are focused on giving instructions to teachers on filling data formats, marking attendance and having tea and snacks, with limited discussion on academic matters<sup>1</sup>
- In 3 out of 4 states, review meetings conducted regularly at block or district level were ad-hoc in nature and the content was heavily focused on submission of data, programs or upcoming events. Improvement in learning outcomes was rarely discussed<sup>2</sup>

## Data collected during school visits is not used for diagnosis and course correction

- In 2 separate block review meetings observed in a state, there was no use of the data collected by cluster officials from school visits for any discussion on improvement of learning levels in schools<sup>2</sup>
- Agenda of review meetings relates to routine administrative matters and data collected from school visits is rarely discussed<sup>3</sup>



Experimental evidence from Indian states suggests that **paper-based census assessment data is distorted and significantly higher**, when compared with the audit retest and similar tablet based tests<sup>1</sup>

**Madhya Pradesh** conducts an annual standardised test - Pratibha Parv

- An RCT experiment that compared students' reported responses in the official Pratibha Parv test with responses on independently proctored retest found that the official assessment results were substantially inflated
- **Doubling of reported achievement levels** was observed as greater proportion of students answered the same question correctly in the official test, when compared with the retests

Another experimental pilot in **Andhra Pradesh**, where the assessment included **paper and tablet variants** found-

- The **paper based data was inflated by 20%**, despite external invigilation
- **Tablet based data was reliable**

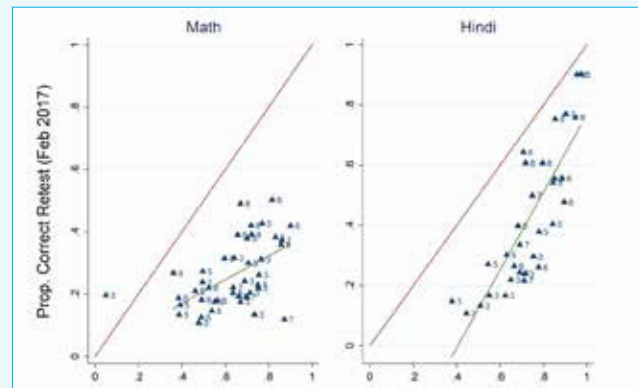
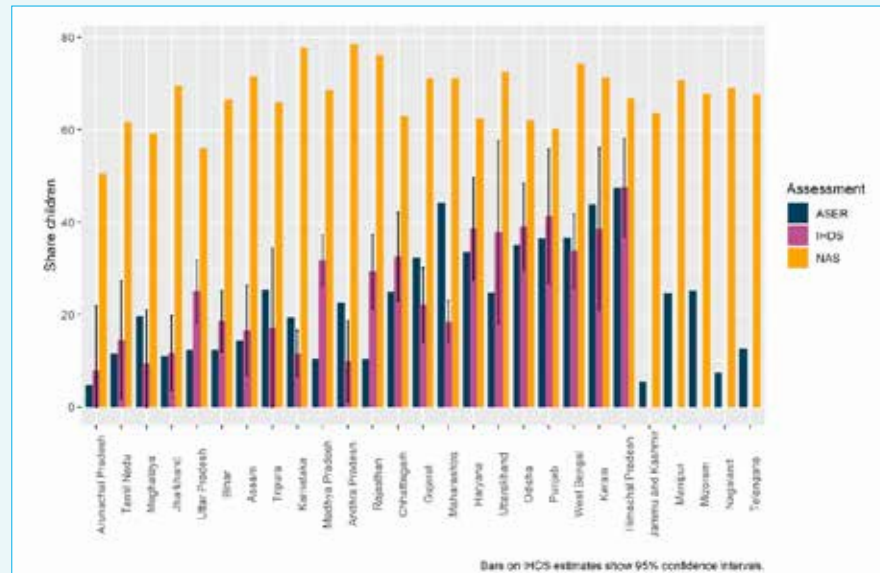


Fig: Comparative data for Math and Hindi from Pratibha Parv

- **NAS state averages are significantly higher** than ASER and IHDS state averages<sup>1</sup>
- State ranking based on NAS data display **almost no correlation with ASER or IHDS or net state domestic product per capita**<sup>1</sup>
- Scores for assessments administered in schools could be artificially inflated even when there are little to no consequences for having high/low scores<sup>2</sup>

Average score on ASER, IHDS and NAS<sup>2</sup>



1. Johnson and Parrado (2020); ASER figures represent the share of rural class 3 students attending government schools who can read a class 2 text from ASER 2018. IHDS figures represent the share of rural class 2, 3, and 4 students attending government or private aided schools who can read a class 2 text. NAS figures represent the share of rural class 3 students attending government or private aided schools who have achieved the two class 3 language learning outcomes according to NAS 2017" 2. Muralidharan and Singh (2018)



# Misaligned incentives due to perceived high stakes of assessments and weak state capacity, make it challenging for the system to collect reliable assessment data

77

## Misaligned incentives

- Our analysis of student assessment guidelines of one state revealed consequences such as entry in teacher service books or revocation of middle management contracts for low performance of schools in census assessments
- But, stakeholders who were interviewed report that there wasn't a single instance of these consequences stated on paper ever being implemented<sup>1</sup>
- Perceived high stakes of assessments create misaligned incentives for actors as they fear negative attention from the media, management or political leaders if student performance on assessments is low

## Weak state capacity

- Externally conducted assessments or retests might address the misaligned incentives challenge, but would require financial outlay which governments perceive as expensive
- While tech based solutions seem promising<sup>2</sup>, governments may not have the fiscal capacity or willingness to prioritize investments in renting or procuring hardware to improve assessment data reliability
- Post facto analysis of assessment data through computer analytics to detect patterns of cheating would require high technical capacity that may not exist within departments


# Case Study: Monitoring tools and protocols that focus on classroom processes and student learning in Tamil Nadu to enable academic coaching for teachers

78

## Key Features of TNVN Monitoring App:

- **Offline Functionality:** Allows stakeholders to download details before school visit
- **Bilingual Content:** Questions in Tamil and English
- **Teaching and Learning Process:** Questions to track data on teaching quality and student progress through assessment banks built into application
- **Randomised selection:** Classroom, teacher and student selection are randomised
- **Integrated with EMIS:** Data is retrieved from state MIS for coaches to corroborate with actual attendance in schools
- **Interactive dashboards** across different levels of state machinery to visualise data

## Monitoring protocols

- 1  Visiting official observes and records data
- 2  Learning data accessed and analysed through dashboard
- 3  5 levels of officials receive customised auto-generated reports for their jurisdiction
- 4  Review meetings conducted at all 5 levels once in 3 months to analyse data and take action

**Overview:** Tangerine Coach is a tool that is used by coaches or academic supervisors during school visits to provide academic support to their teachers



Aggregated Data View

## Key Features:

- **Coaching feedback reports:** Generates reports by analyzing data from classroom observations, rapid assessments of students and classroom surveys that can be used for immediate feedback or progress monitoring
- **Alignment with Teacher Manuals:** Questions for teacher observations are mapped to Teacher Manuals
- **GPS Enabled:** Time and location of visits can be tagged to verify school visits
- **Data Aggregation:** The data can be uploaded to a central server where its aggregated and viewed as per district, region or subject
- **Countries that use it:** Kenya and Sierra Leone



### BEN KAPTEN FYM

Subject	Class	Stream	Observation Start Time
Kiswahili	1	0	May-21 06:31

Hide feedback

Based on your classroom observations and student assessment, the following are some of the areas the teacher needs to work on. You may focus your discussion on the top 3 items.

#### AP: Word Blending

Use the pocket chart or blackboard to point under the letters as you say the sounds, and sweep your finger under the letters as you say the word. The order of this activity is "I do, We do, You do"

Watch: Word Blending with teacher Linda. If the teacher is having issues with the sounds, watch "English Sound Video with

Feedback report to guide conversation

# Case Study: Collecting reliable data on student performance through the state machinery by leveraging technology

- **Tablet based census assessments** were administered to **all Grade 4 students** (in pvt. and Govt. schools) by Andhra Pradesh's Department of School Education, in collaboration with CSF and J-PAL
- **Advantages of tablet based assessments** include centralised visibility on testing, greater degree of randomisation of questions, answer tracking and automated evaluation.<sup>1</sup>

## Key highlights and results:



Grade 4 students were assessed on key competencies from grade 1 to 4 in English, Maths and Telugu



326 Cluster Resource Persons administered the assessment using 3,500 tablets provided by the state. 35,000 students were assessed in 10 days, through a time-table generated by a scheduling software.



Comparative school ratings could be given to parents and schools based on this assessment

**The evaluation** found that paper scores from the control group were found to be **inflated by ~20%**, whereas tablet scores **were almost the same as external audit**<sup>2</sup>

1. OECD and The World Bank (2015) 2. Singh (2020) Note: Challenges of scaling tablet based assessments include hardware availability and costs associated with renting tablets

# Case Study: Computer Based Testing in Indonesia to move to a culture of learning from a culture of misreporting data

81

## Problem statement

- Widespread culture of cheating on national exams in Indonesia
- Integrity index that measured cheating based on suspicious answer patterns found that 33% of schools had suspicious results

## Intervention

- Indonesia introduced Computer Based Testing for Grade 9 and 12 National exams with built in controls that helped minimize cheating

## Advantages of using technology

- Monitoring of geo location and time stamps
- Low chances of score tampering, as response are auto submitted
- Makes copying harder since students see one random question on the screen at a time
- Reduces chances of teacher support since multiple children are seeing multiple different questions
- Captures clickstream data, allowing post-facto analysis for suspicious patterns

## Impact<sup>1</sup>

- Test scores decline dramatically after the introduction of CBT with school-level means declining by 0.4 standard deviation
- Spillover effects, exam scores of schools that continued with paper based testing also reduced (when all schools around a school taking paper based exams switched to computers, average paper based score decreased by 9 points and integrity index increased by 21 points in the district)
- Culture shifted from that of misreporting data to a culture of learning

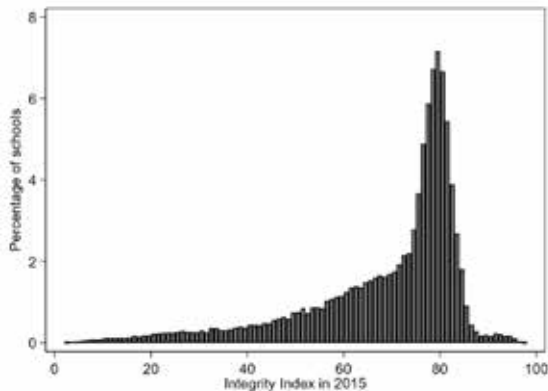
## Intervention

Develop algorithms to **detect patterns in data to flag suspicious schools** most likely to have inflated data.

The schools where there is sufficient evidence for substantial inflation can be supported by awareness exercises and extra academic support

## Examples of suspicious data patterns

- **Response homogeneity:** Identical answer strings of same mistakes
- **Counter-intuitive performance** such as scoring high on difficult items while low on the easier items
- Significantly **high mean and low standard deviation**



In Indonesia, Ministry of Education and Culture (MoEC) carried out pattern analysis to create an integrity index (Higher value > Higher integrity > less cheating)<sup>1</sup>

34% of schools 2015 got less than 70 as the integrity score

**Overview:**

An hour long mathematics contest for Grades 4,5 and 6 students is conducted with the help of educated volunteers from the villages

**Evaluation**

The evaluation of papers is done on the spot by education volunteers in the presence of Gram Panchayat members and parents, ensuring transparency.

**Result**

Top three scorers from each grade are felicitated with financial rewards. GP members, parents, SDMC members, donors, and the village community are invited to the prize distribution ceremony.

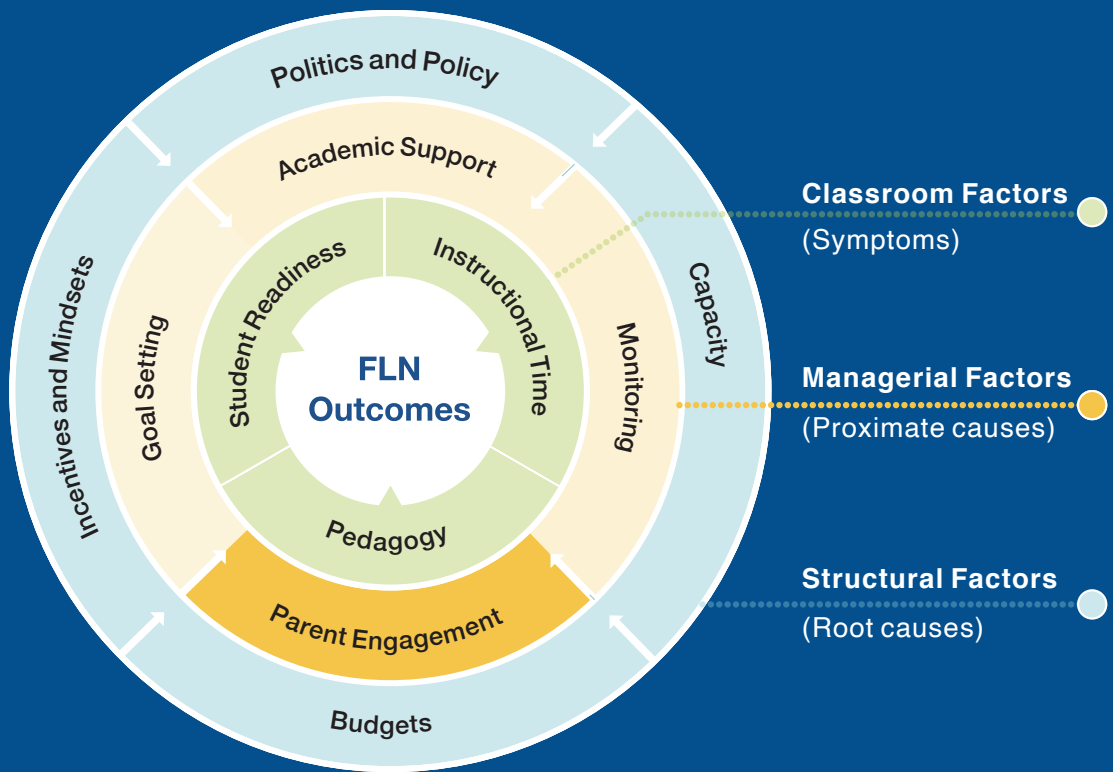
**Participation rate (2016-17)**

- Over 25,000 parents, 5,000 SDMC members, and 6,000 youth participated and 9,200 donors contributed Rs. 10 million approximately in cash and kind.
- 521 contests were held and 70,000 children took the test.
- About 45% of children across the three grades were grade competent.

**Community response**

- Instances were reported of groups of parents visiting the schools the next day to question the authorities.
- Elected representatives said that the results were an eye opener and the 'all-is-well' myth was destroyed.

# Managerial Factors: Parent Engagement





## Parent Engagement: Key Insights

1



Effective parental involvement can foster better learning levels, child behaviour and social skills

2



Low self efficacy, limited knowledge, availability of tools and reliable information hinder parental involvement in FLN

3



Parental engagement initiatives like SMCs have been ineffective in improving the quality of learning in schools

**1**

**Positive Impact on learning and school progress**

Greater parental involvement in children's learning positively affects the child's school performance, including higher academic achievement <sup>1</sup>.

**2**

**Improves child behavior and social skills**

Parent engagement in children's learning not only improves a child's morale, attitude, and academic achievement across all subject areas, but it also promotes better behavior and social adjustment.<sup>2</sup>

**3**

**Learning at school is not sufficient**

The school system is already stretched thin and hence the involvement of parents and the community becomes even more critical to provide necessary extended academic support at home.

# However, there are challenges that hinder effective parental engagement

1

**Lack of clarity in the role parents can play in child's learning<sup>1</sup>**

Poor understanding of learning goals and ambiguity around methods to facilitate learning limit the scope of parental engagement with the child's learning needs at home

2

**Absence of reliable assessment information<sup>2</sup>**

Parents do not receive reliable information on student performance from schools on a regular basis. In absence of awareness of children's learning levels, support from parents is more ad-hoc in nature and less structured

3

**Lack of home based resources<sup>3</sup>**

Parents lack effective home based resources that can provide them meaningful ways of engaging with the child's learning at home

4

**Low self efficacy<sup>4</sup>**

Parents, especially those who come from low socio-economic background, often do not perceive themselves as capable and effective in the parenting role



## **Voices from the ground**

*"During our school meetings we are not told about my child's performance. They just tell me to pay attention to my child's work at home"*

*"My wife doesn't go to school. She feels very embarrassed going to school because she herself is not educated. Where both parents are not educated it becomes very tough. If my wife was educated she could do so much more"*

*"If we got some support at home, some books or resources to help us teach at home then I can help her more at home"*

# Most parental engagement initiatives in the past have been accountability focused and have not succeeded due to structural reasons

## Poor performance of SMCs

- 28% schools in the country do not have SMCs, 36% SMCs do not prepare School Development Plans (UDISE 17-18).
- In 3 out of 4 states, less than 25% of the SMC members reportedly were involved in the process of making SDPs.<sup>1</sup> SDPs are focused on school infrastructure, rather than addressing issues of learning.<sup>2</sup>
- Selection of members in SMCs is undemocratic as they are often chosen by headmasters and teachers. Parents neither are aware of their membership, nor do they know about the decisions that are passed by SMCs.<sup>3</sup>
- More than 60% of the SMC members in 5 states suggested that more training should be conducted to increase the awareness of committee members about their roles and responsibilities<sup>4</sup>.

## Challenges

### Accountability focused initiative with misaligned incentives

SMCs have largely revolved around monitoring of schools and utilisation of funds which creates trust deficit and friction between schools and parents often resulting in dysfunctional committees

### Problem of collective action

The cost of engagement is concentrated with the parent members of SMCs but benefits are diffused across community. This results in perverse incentives for parents to actively engage and participate at the school level.

# Case Study: Rocket Learning's program to equip and motivate parents to support their children with learning at home

89

**Context:** Rocket Learning is a nonprofit with an innovative whatsapp based solution to build ECE and FLN skills, through school-home digital linkages impacting 100,000 children. They create digital communities of parents and teachers, in partnership with government school systems.

## Key Features of Package

### Approach

- Weekly competency-based content linked to state curriculum

### Contextual suitability

- Content is sent in local language
- Requires low data/time (photos/GIFs/ <2MB videos)

### Content sourcing

- Curating pre-existing high-quality videos and learning solutions

### Scaffolding

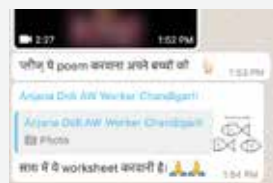
- Present learning tasks in small, easy chunks

## User flow on WhatsApp

- 1 Online teacher on boarding (orientation + training)
- 2 Teachers create WhatsApp group with parents
- 3 RL starts sharing onboarding videos with parents supported by teachers



- 4 Daily content and quizzes sent out as per calendar via the platform, reinforced by teacher
- 5 A week later: report cards with child progress sent to parents & teachers; this leads to increased response rates
- 6 3 weeks later, video compilations of the groups responses and badges are shared to sustain engagement



# Case Study: Empowering parents to support their children with learning at home by Saarthi Education

90

## Theory of Change

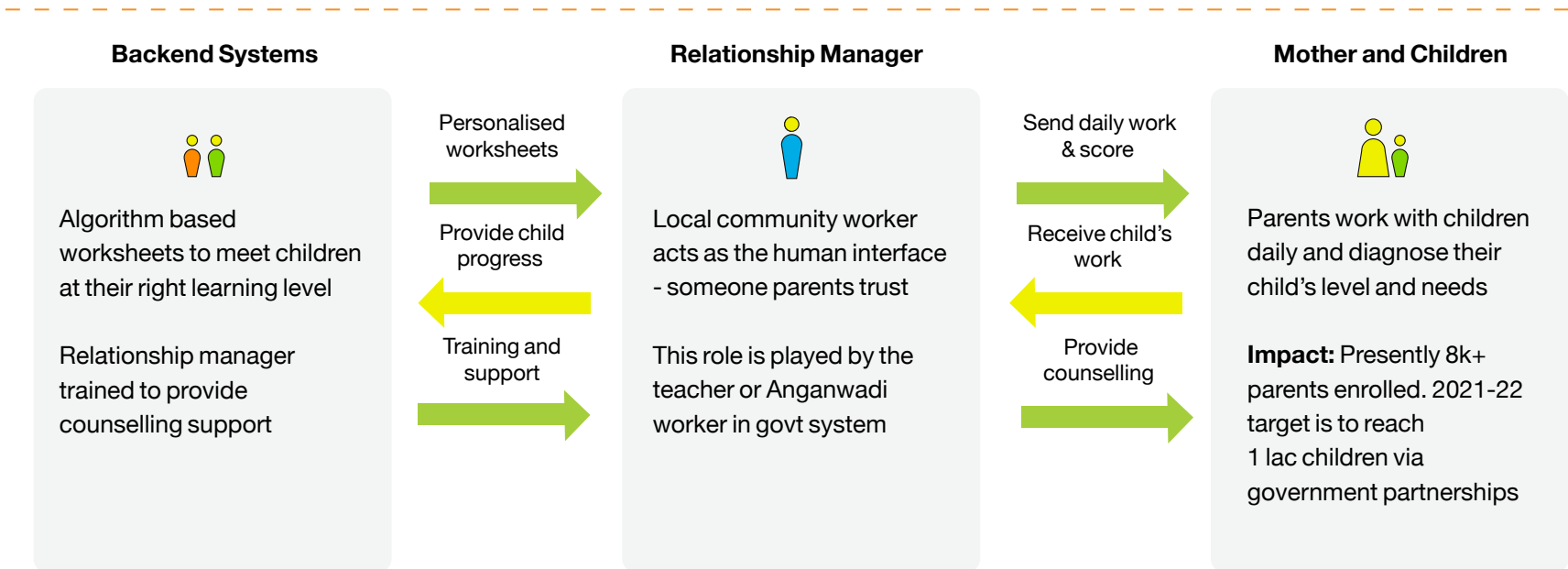
High quality resources



Parent awareness & support



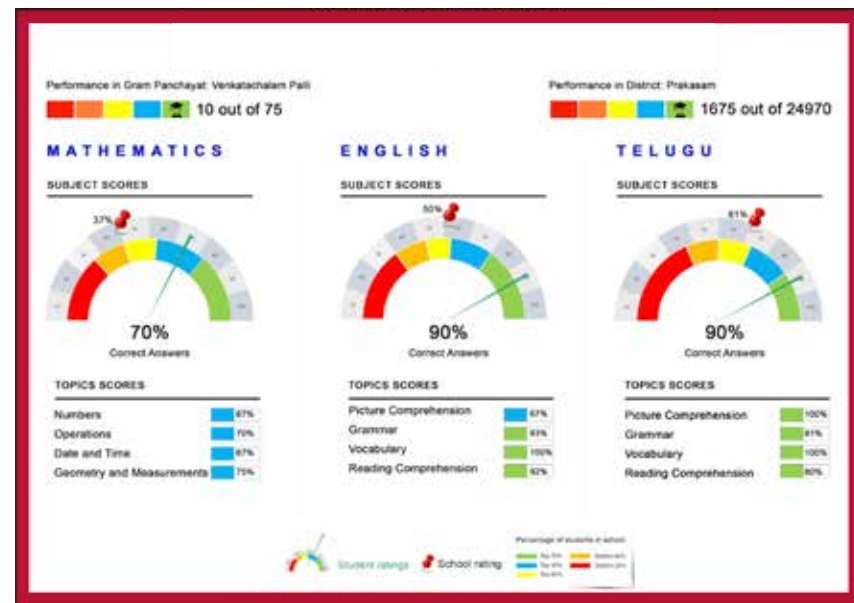
Improvement in FLN skills



**Context:** Distributing information to parents comparing the performance of schools on learning outcomes can nudge schools to improve quality

**Intervention<sup>1</sup>:** A South Asian experiment conducted across 112 villages disseminated report cards to parents and schools revealing their children's grades as well as the performance of different private and public schools, showed significant positive results

- 1 In treatment villages, the average test scores increased by 0.11 standard deviations, reflecting an additional gain of 42 percent over the test score increase in control villages.
- 2 Test scores for the average child in government schools rose by 0.09 standard deviations
- 3 Enrollment among primary-age children rose by 3 percentage points or about 40 children in each treatment village.



Sample report card with student and school level rating

# Case Study: Saajha's program to strengthen SMCs in partnership with Delhi Government



Strengthening  
SMCs and  
parental  
engagement

- Built capacity of SMC members across ~3000 govt schools of Delhi on RTE, SMCs Roles and responsibilities
- Intensively supported SMC of ~64 MCD schools in planning and implementation of School Vision Plan and Saajha Vishleshan Sabha to improve the learning outcome of children.
- A detailed guidebook cum workbook to support SMCs in taking proactive actions in collaboration with schools like Mega PTM and Admission
- Supported the Delhi government and schools on conducting interventions such as admission, reading mela in communities, Mega PTM etc.



Two way  
communication  
through regular  
public meetings

- SMC App - supported 1028 Delhi govt schools and district and zonal DDEs in adoption of the app to expedite communication and tracking of agendas.
- SMC sabhas across 47 constituencies covering 9.1L students have been conducted for parent representatives of all schools in a constituency. Departments linked to schools are brought together to discuss the issues and challenges. About 30% issues were resolved through the Sabhas and 40% issues are WIP.
- An incoming helpline no. started for parents to support them in order to resolve their queries related to their child learning. 5800 parents were reached out to, through call support last year out of which ~3000 parents were supported more than thrice in the year.

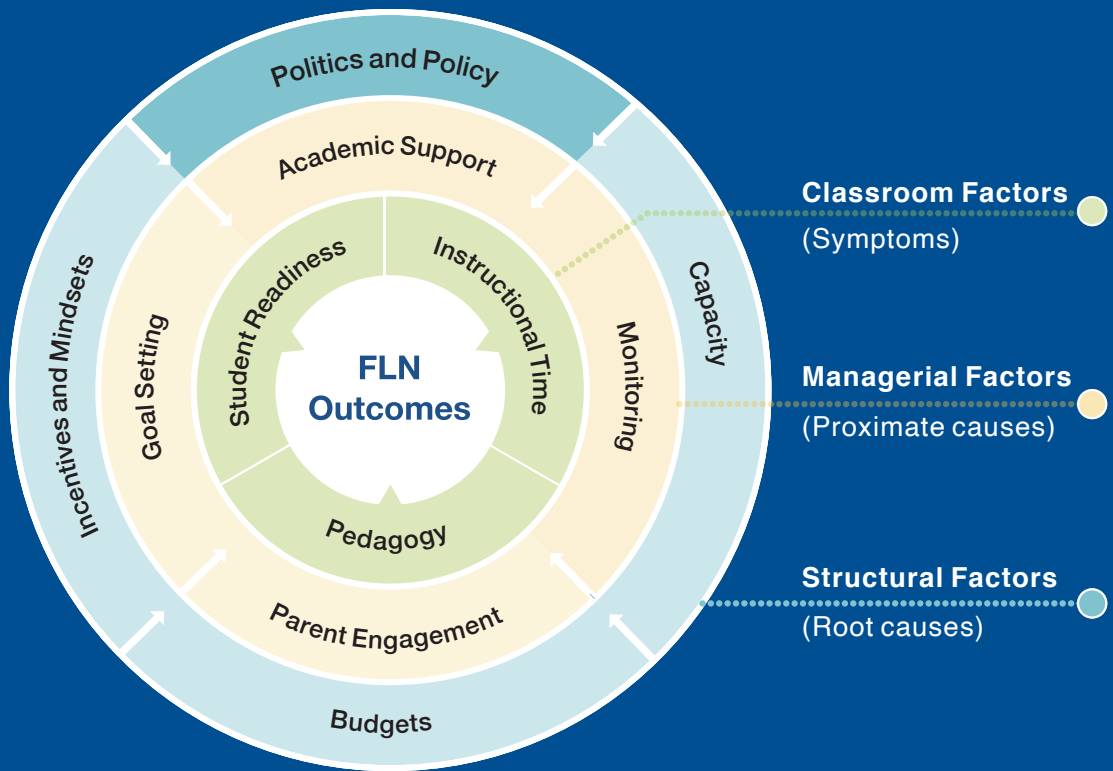


Regular learning  
support

- Initiated Saajha WhatsApp chatbot (a one-stop platform for parents) where parents can access information related to their child school and learning resources,. ~13,000 families were reached out to us via WhatsApp chat bot for their child's learning.



# Structural Factors: Politics and Policy



## Politics and Policy: Key Insights

1



The RTE Act is disproportionately focused on inputs over outcomes

3



Policies tend to be prescriptive, inhibiting decentralized decision making and implementation

5



Most Governments prioritize education reforms that are visible and easy to track (like infrastructure and enrollment) over quality of learning

2



Large number of small government schools have impacted fiscal capacity and weakened school governance

4



Political parties include education as one of the priorities in their manifesto, but this focus on improving quality remains on paper

6



Teacher Unions leverage their influence to negotiate terms of employment

## Input Orientation of the Right to Education Act (RTE)

- RTE mandates minimum input norms on infrastructure, pupil teacher ratios, teacher qualifications, salaries etc. that apply to both government and private schools
- Research indicates that in the past, the focus on providing these inputs had no impact on outcomes<sup>1</sup>
- Only in 2017, the Act was amended to reference learning outcomes that children can be expected to achieve<sup>2</sup>

## Implications of input orientation of RTE

- The prescription of norms for inputs in the RTE, even though research indicates these have minimal impact on outcomes, has exacerbated the pre-existing culture in the system of focusing on inputs and compliance with rules and processes
- The implementation of the RTE by ensuring or checking compliance with the prescribed input related norms is prioritized by state actors diverting attention away from the achievement of educational outcomes

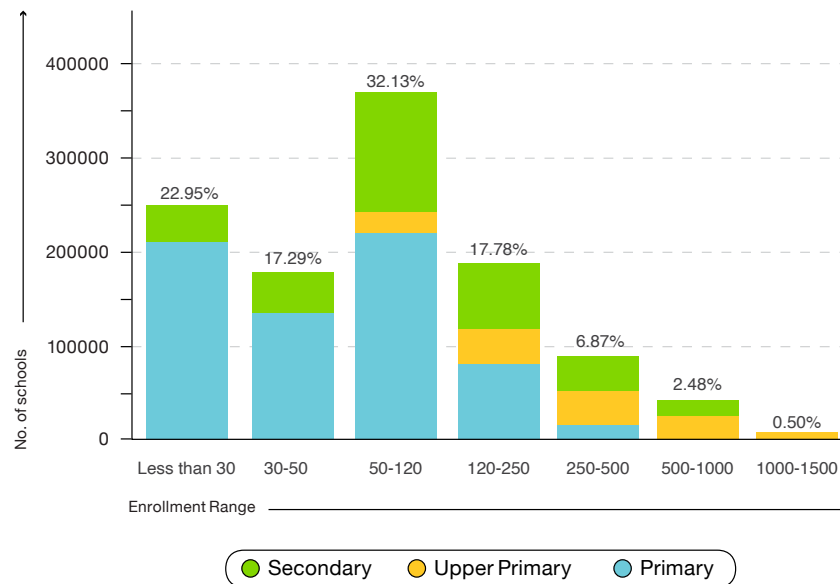
## RTE norms

Section 6 of the RTE Act mandates a primary schools (grades 1-5) to be at 1 km from each habitation and elementary schools (grades 1-8) to be at 3 km from every habitation

## Consequences of Section 6 provisions

- Percentage of small schools rose from 30.2% to 40.2% and percentage of tiny schools doubled between 2010-2018<sup>1</sup>
- Large number of single teacher schools (85,743)<sup>2</sup>
- High number of multi grade classrooms (63%)<sup>3</sup>
- Weak school management and governance
- Lower quality of expenditure due to higher cost per child

## Number of schools based on enrollment range



~4.3 lakh small schools out of a total of 10.6 lakh govt. schools<sup>4</sup>

## Policy focus on uniformity and standardization

- Laws such as RTE and Central Schemes such as Samagra Shiksha set national norms on input and processes that states are expected to comply with<sup>1</sup>
- These are driven by the belief that to ensure quality education is provided, standardization or uniformity among schools and systems is needed<sup>2</sup>

*Example: One of the norms of SS is “refresher in-service training upto 10 days for all teachers at Rs. 300-500 / per teacher per day”*

## Unseen effects of prescriptive policies

- Central priorities often take precedence over state needs and priorities even though evidence shows that context varies across the country and a one size fits all approach will not work<sup>3</sup>
- Limited state ownership to implement central interventions and solutions as they were not involved in the process leading to low impact of well intended policies<sup>3</sup>
- Centralized planning works well for logistical activities such as building schools but when it comes to activities such as teaching, agents require discretion to respond to context specific challenges<sup>4</sup>

## Impact of politics on education

- **Impact on policy:** “Class and ideological character of the political party in power would have a bearing on the nature of educational reforms”<sup>1</sup> such as, the curriculum framework, detention policy, language of instruction etc. Two important policy examples regularly impacted by politics in India are:
  - Policies on **language of instruction** like, the three language policy, compulsory english medium instruction, Multi-lingual education (MLE) programs in the past have been primarily affected by the political beliefs of the government
  - The **educational curriculum** does not operate in isolation, as a neutral category<sup>2</sup>. Globally, politics have tried to indoctrinate the masses with values favorable to them.
- **Recruitment and transfers of teachers** in many states often happens due to political reasons/interference.

## Impact of education on politics

- **Large teacher workforce and influence of teacher unions:** As of 2017–18, the total teacher workforce in India was more than 9.2 million strong<sup>3</sup>. Such a strong workforce that is spread all across the country, as primary schools are present every 1 km in India, collectively makes for a strong vote bank.
- **Teachers as politicians:** “Article 171 (3 c) of the Constitution of India gives teachers guaranteed membership of upper houses of state legislatures. As a result, a high proportion of the legislative councils (e.g. upto 24 percent in UP) are constituted by teachers”<sup>4</sup>. Additionally, teachers in private aided schools’, although government paid workers, are allowed to contest elections to the lower house

## Lok Sabha' 19 election manifesto of the two largest national parties hit the right issues of education quality, teacher training, budgetary allocation among other things

### Primary and Secondary Education

- 01 Having achieved access and equity in school education, our emphasis will now be on quality of learning. We have already identified learning outcomes for various classes and our priority in the next five years will be to ensure that children achieve these learning outcomes. We will focus on teachers training and capacity building as a key factor in achieving these learning outcomes.
- 02 We consider it our duty to provide a conducive environment for talented children in our country to facilitate them to unleash their talent. For this, we will initiate a 'Prime Minister Innovative Learning Program' to bring together such children for a certain period in a year in one place from all over the country and provide them with facilities and resources for them to excel. This would instill a culture of lateral thinking and innovation among them.
- 03 We will establish National Institutes of Teachers' training. These institutions would provide four-year integrated courses that would set the standards for quality teachers in our schools. We will also motivate States to replicate this model as it is our firm belief that quality teachers lay the foundation of quality learning.
- 04 We are committed to using technology in classrooms and in imparting education. We will move ahead to provide smart classes to our children in schools. To begin with, we will initiate this process in the secondary classrooms.
- 05 Kendriya Vidyalayas and Navodaya Vidyalayas have done yeoman service in the field of school education. In order to cater to the demands of more such schools, we aim to open another 200 such schools by 2024.

We are deeply concerned about the quality of education and poor **learning outcomes** as reported in the Annual Survey of Education Report (ASER).

promises to attach the highest importance to learning outcomes.

The **teacher** is the pivot around whom the entire system of education revolves. Teacher training and the continuing education of teachers are the key to quality instruction. promises to increase the capacity, number and quality of Teacher Training Institutes set up by the government. Regulation of Teacher Training Institutes will be the responsibility of the National Council for Teacher Education and their funding will be the responsibility of the University Grants Commission or its successor. A scheme for the periodic and continuing education of teachers will be implemented and teachers will be required to mandatorily participate in the scheme.

promises to double the **allocation for education** to 6 per cent of GDP in the 5 years ending 2023-24. A path forward will be laid down in the regular Budget for 2019-20 and specific annual targets will be set.

## Unlike inputs, learning is invisible to parents and thus to political leaders, so they prioritize other tangible factors

### Learning levels are invisible to parents & political leaders & have been persistently low

- Measuring learning reliably and with precision over a period of time **is difficult and requires high state capacity.**
- Learning levels have also been persistently low across states with several unsuccessful attempts to improve them.
- **Citizens typically vote on issues** (e.g. abolishing schools fees, building roads) **that they can see but not on outcomes** like schools quality which are less tangible, dependent on multiple factors and over which political leaders may not have direct influence<sup>1</sup>

### Parents and Governments prioritize tangible factors

Parents care about quality of learning but they do not receive guidance on how to judge how much their child is learning especially in younger grades

Hence, **parents associate school quality with parameters such as infrastructure, safety, cleanliness etc<sup>2</sup>**

This incentivizes political leaders to prioritize what is visible, measurable and easy to sell (i.e. to show improvements in school inputs like, school infrastructure, mid day meals, number of schools and teachers, laptop distribution etc)<sup>3</sup>.

**A lack of electoral demand for quality primary education leads to FLN rarely being prioritized by governments<sup>4</sup>**

Politics in turn shapes the culture of bureaucracies resulting in higher focus on tangible factors (like inputs) all the way to the front lines of service delivery<sup>5</sup>



## Teacher Unions lobby for issues related to employment terms of teachers

Unions across the country have successfully negotiated terms of employment using political influence

### *Examples:*

- Unions lobbied for pay scales of teachers to be consistent with the Sixth Pay Commission recommendations and in states like Punjab they asked for more generous pay<sup>1</sup>. These efforts have been largely fruitful, in 2014 the mean salary of a government primary school teacher with 15 years of experience was almost 25 times the average salary of a teacher in a private unaided rural school with similar level of experience<sup>1</sup>
- Teacher Unions opposed efforts to increase the role of community in school management and accountability. When the draft bill of the RTE Act was circulated in 2005, it provided SMCs powers such as teacher appointments, ability to take disciplinary measures against teachers, salary disbursements to teachers etc. However, teacher unions vehemently opposed these provisions and as a result the powers of SMCs were reduced in the final version of the bill. The general secretary of the AIPTEF regarded this as one of their major achievements<sup>1</sup>
- Teacher rationalization efforts in many states have been difficult to implement due to pushback from teacher unions. In UP's Kanpur district, a decline in enrollments had led to excess teachers in many schools. In one such school, there were 37 surplus teachers compared to the RTE mandated requirements. Hence, the district authorities attempted to rationalize teachers across the district and teachers were also allowed the option of continuing in private aided schools. However a series of protests from unions led to the the order being rescinded<sup>1</sup>

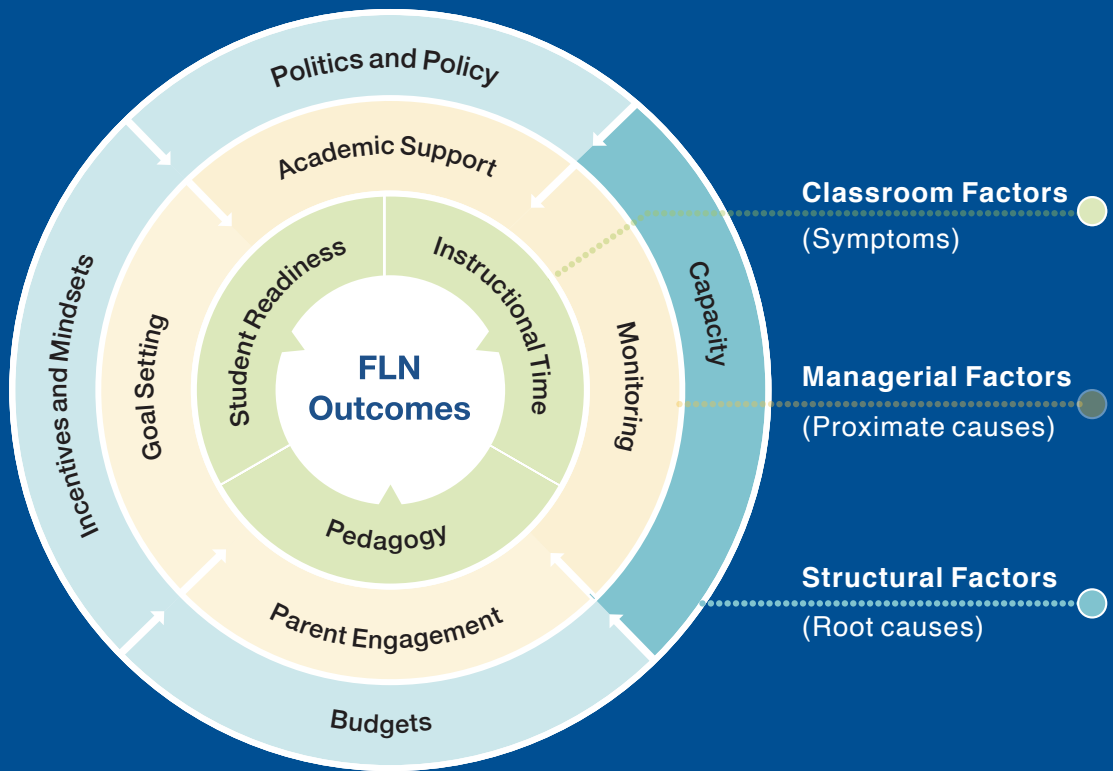
1. Beteille et al. (2016)

# Case Study: Committed Political Leadership in Delhi making Education a key electoral issue

**Context:** Delhi's education model backed by nearly 25% of the state budget has caught the national attention. It is widely believed that the government's multiple electoral victories is partially a result of its stellar performance in education governance.

1. **Committed political leadership:** School education was one of the critical electoral issues in Delhi's election. The government's decision to allocate more than 25% of the budget to education, Education Minister spending more than half of his time on education and his visits to 2-3 schools per week ensured system-wide alignment and commitment to the cause.
2. **Learning outcome focused reforms:** To make a shift from syllabus completion towards achieving better learning outcomes, curriculum rationalisation by 25% in classes 1-8, development of easy to understand TLM and restructuring of pedagogical practices was carried out. Additionally, a dedicated mission (Buniyaad) was launched to focus on FLN in grades 3-5 whereby students were grouped and taught according to their learning needs.
3. **Capacity building of HOs and teachers:** Power devolution to hire contractual staff/experts and increased financial autonomy up to INR 50,000 for day-to-day school expenditure to HOs increased their capacity and ability to take decisions. Additionally a bottom-up teacher training process was institutionalised to make content and training more relevant for teachers. A separate cadre of MTs were selected and tagged to 5 schools who were provided with international exposures and capacity building programs.
4. **Community engagement:** Selection of members through a large scale election, comprehensive training programs for elected parents, direct whatsapp communication with state leadership and devolution of additional funds and powers was carried out to strengthen SMCs in Delhi. Mega PTMs were organised to encourage meaningful teacher-parent interaction.
5. **Culture of rewards and recognition:** High performing teacher were regularly rewarded. A few of them were also selected for the prestigious Fulbright Teaching Scholarship to attend special training programs in the US.

# Structural Factors: Capacity



## Capacity: Key Insights

1



8 out of 21 major states have a shortage of teachers based on RTE norms

2



Teacher Capability to teach primary school mathematics and language is weak

3



Quality of Pre-service teacher education programmes is poor

4



High vacancies and span ratios in Middle Management Layer reduce system capacity to deliver on school academic and monitoring functions

5

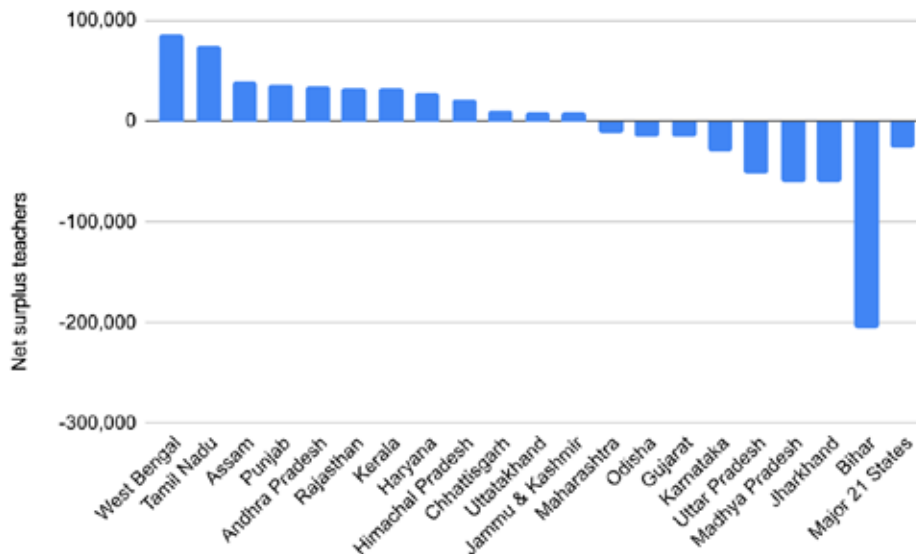


High number of legal cases pending resolution in courts strain system capacity

## 8 out of 21 major states have a shortage of teachers in elementary schools based on RTE norms

105

Teacher Deficit/Surplus in 21 Major States\*



Source: Datta S. and Kingdon G (2021); Analysis done using public elementary schools data from UDISE 2017-18

### Key Findings on Teacher Availability<sup>1</sup>

In 13 of the 21 major states in India, there are 4,21,158 net surplus teachers (Net Surplus= Excess Teachers - Teacher Vacancies in the state)

In the remaining 8 states of Bihar, Jharkhand, Madhya Pradesh, Uttar Pradesh, Karnataka, Gujarat, Odisha and Maharashtra there is a teacher deficit of 4,47,818 teachers.

These 8 states have large net teacher deficits in rural areas with a few net surplus teachers in urban areas

Filling 8,82,200 vacancies based on MHRD's estimate without doing any redeployment of surplus teachers will cost Rs. 479.79 billion. Filling only net vacancies would cost Rs. 23.33 billion

\*Data for Andhra Pradesh also includes Telangana 1. Datta et al (2021)

## Weak quality of applicants for teaching

- A large number of candidates who take the Teacher Eligibility Test do not pass it
- Despite having a qualification or professional degree in teaching, less than 7% of those who appeared for the Central TET passed the exam<sup>1</sup>
- There was no difference in the performance of students who were taught by a professionally qualified teacher (DiplEd, B.Ed, M.Ed degree) vs students who were taught by teachers with non-teaching related degrees<sup>1</sup>
- An analysis of the CTET revealed that the test syllabus primarily focuses on theoretical concepts rather than practical application and the multiple choice questions are poorly designed as right answers are too obvious<sup>2</sup>

## Teaching quality in primary schools is weak

- A study found that close to half the teachers in primary schools could not complete simple teaching tasks correctly or effectively<sup>3</sup>
- In a study of primary schools across 5 states, an anonymous teacher questionnaire was administered to assess the teaching capability of teachers.<sup>4</sup>
  - In Math, teachers were able to solve questions on basic numeracy operations and explain the process but did poorly on questions requiring applied knowledge (e.g. 4 out of 10 teachers could not solve a simple percentage problem correctly).<sup>4</sup>
  - In Language, teachers performed better on simple tasks such as correction of spellings than on tasks such as writing summaries of text.<sup>4</sup>

Studies highlight weak quality of current Teacher Education programmes due to the following reasons

## 1 Low rigour of selection process

- Pre- Service education programmes in India do not have entrance exams or a systematic application process<sup>1</sup>
- Even though teaching children at the elementary level requires more qualified teachers, lower levels of academic qualifications are acceptable for teaching at the elementary stage of school education
- To enroll in a pre-primary or primary training programme, only a higher secondary qualification is required. Whereas to join a secondary teacher education program, an undergraduate degree in science or arts is the minimum qualification required<sup>2</sup>

## 2 Low quality of curriculum

- The focus of the curriculum is on general methods of teaching such as lecture, classroom discussion, question and answer and memorization<sup>1</sup>
- There is a heavy focus on theory with little connection to ground realities of classrooms<sup>2</sup>. Practice teaching in classrooms is only for 5-6 weeks which is not enough exposure to develop pedagogical skills<sup>1</sup>
- School Internships are short and end up being a perfunctory exercise with inadequate supervision and feedback<sup>2</sup>

Studies highlight weak quality of current Teacher Education programmes due to the following reasons

## 3 Ineffective modes of program delivery

- Many states have started distance learning programs to meet the demands for professionally qualified teachers. However, evaluations indicate that the quality of training through distance modes is poor<sup>1</sup>.
- NCTE norms mandate a separate independent campus for teacher education institutes even within universities. Hence, current teacher education institutions are isolated from universities and higher education systems.
- This isolates the programmes and impairs their ability to benefit from new knowledge generated at universities<sup>2</sup>.

## 4 Weak governance and regulation of institutes

- Close to 90% of Teacher Pre-Service training institutes are in the private sector. Between 2008 to 2011 the number of teacher education institutes rapidly increased from 1,800 to 14,704<sup>2</sup>.
- NCTE's capacity to enforce norms and standards of these institutes is low. For example, NCTE is expected to monitor a sample of these institutes every year through visits but in 2011 it could only visit 168 of 14,704 institutes<sup>2</sup>
- Inspections are announced in advance to the institutes and during inspections institutes allegedly put up a show of faculty and students<sup>2</sup>



## Insights from the study of the practicum component of D.El.Ed program in one state<sup>1</sup>

### **Internship activities are perfunctory**

- Student teachers are expected to maintain reflective journals to enable them to build the practice of reflection and improvement
- However, these are treated as record keeping activities where trainees record daily routine activities (eg: “Today I conducted a Maths slip test, the test was very good”)

### **Low Capacity of DIETs**

- High vacancies in DIETs lead to guest lecturers being appointed to handle subjects that they have no experience in
- Due to shortage of staff, DIET faculty are unable to visit lab schools to provide regular mentoring to trainees

### **Weak Supervision and Feedback**

- Staff in the lab school (Teachers/HMs), are expected to provide D.El.ED trainees with regular feedback on lesson plans
- Oral feedback is reported to be given by few mentor teachers, very little written feedback is being given. The written feedback provided is very generic (eg: “Lesson is given, TLM is used, student response was good”)

# High Span Ratios in Middle Management Layer reduce capacity of the system to deliver on school academic monitoring and support functions

110

- Most officials report pressure of balancing between academic and administrative work<sup>1</sup>

- This is further exacerbated due to high vacancies and span ratios of officials

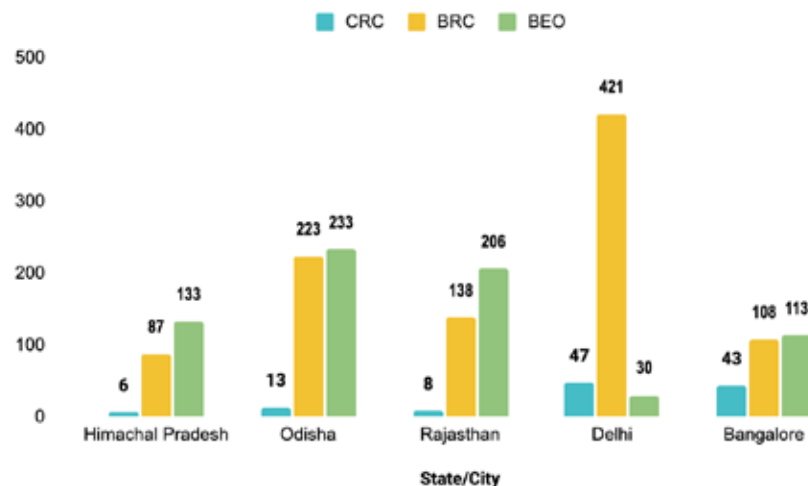
*Example: A high percentage of posts in the middle management layer are vacant (e.g in one state, only 50% of DEO positions and 5% of Block positions were filled)<sup>2,3</sup>*

- Vacant positions are often filled by deputation of HMs or providing dual charge to existing officials which stresses an already under resourced system

*Example: 71% of DEOs and 42% of BEOs in a field survey in 2014-15 reported that they hold more than one official charge<sup>3</sup>*

- Therefore school visits by officials are either infrequent or involve minimum focus on academic support and monitoring

Number of Schools per official<sup>4</sup>



## High Legal Burden

- On average, the department of education in each state has atleast 15,000-40,000 cases against it pending for resolution<sup>1</sup>
- Average time spent by officials in the education department on work related to litigation is 2-3 days in a week<sup>1</sup>
- Legal burden reduces time available for middle management or senior officials to focus on improving education outcomes
- Most cases filed are related to service benefits (47.01%), appointments (33.2%) and regularization (5.9%)<sup>2</sup>**

## Key Drivers

### No clear HR guidelines

Norms or guidelines on teacher recruitment, promotions, transfers and service conditions are not present or are inconsistent and change frequently<sup>3</sup>

Example: In Punjab and Tamil Nadu, rules for selection of teachers were changed while the selection process was ongoing

### Frail grievance redressal systems

Grievance redressal systems are either not present or disempowered in most states, hence teachers have to resort to courts to address their grievances<sup>1</sup>

### Weak legal capacity in Department

There is a paucity of skilled staff within departments to manage litigation workload

Example: MP has close to 10,000 cases related to the Ed. Dept. but the state has only 4-5 officials to manage litigation work<sup>1</sup>

# Case Studies: Initiatives to handle litigation backlogs of State Education Departments<sup>1</sup>

1

## Streamlining internal systems and processes

States: Rajasthan, Haryana, Odisha and Andhra Pradesh

- ♀ Launched technology enabled platforms to track litigation
- ♂ Processes streamlined through tracking cases and underlying documentation using technology

2

## Expand Legal Teams

Odisha: Set up a 17 member team to manage litigation at state level along with one legal retainer in each district

Haryana: Hired young law graduates on a contractual basis as 'legal associates'

Madhya Pradesh: In house call centre used to improve communication on new cases being generated and allocation of people to tackle cases

3

## Utilization of existing data

States: Haryana and Odisha

- ♀ Used data to conduct fortnightly review meetings on court cases
- ♂ Prioritization of cases based on personal appearance, fines, next dates of hearing, contempt cases and filing petitions to club cases of similar nature

- In Rajasthan, 19,500 elementary schools (classes I-VIII) were consolidated with other elementary or secondary schools between 2014 to 2019 by the government with support from their PMU partner - Boston Consulting Group
- Primary schools were closed if their enrolment was below 30 and upper primary schools were closed if their school wide enrolment was below 50, provided the consolidated schools were within 1 km
- The availability of teachers and infrastructure improved post consolidation, but, studies indicate there was a greater decline in enrolment in consolidated schools vs other schools (Bordoloi & Shukhla, 2019)

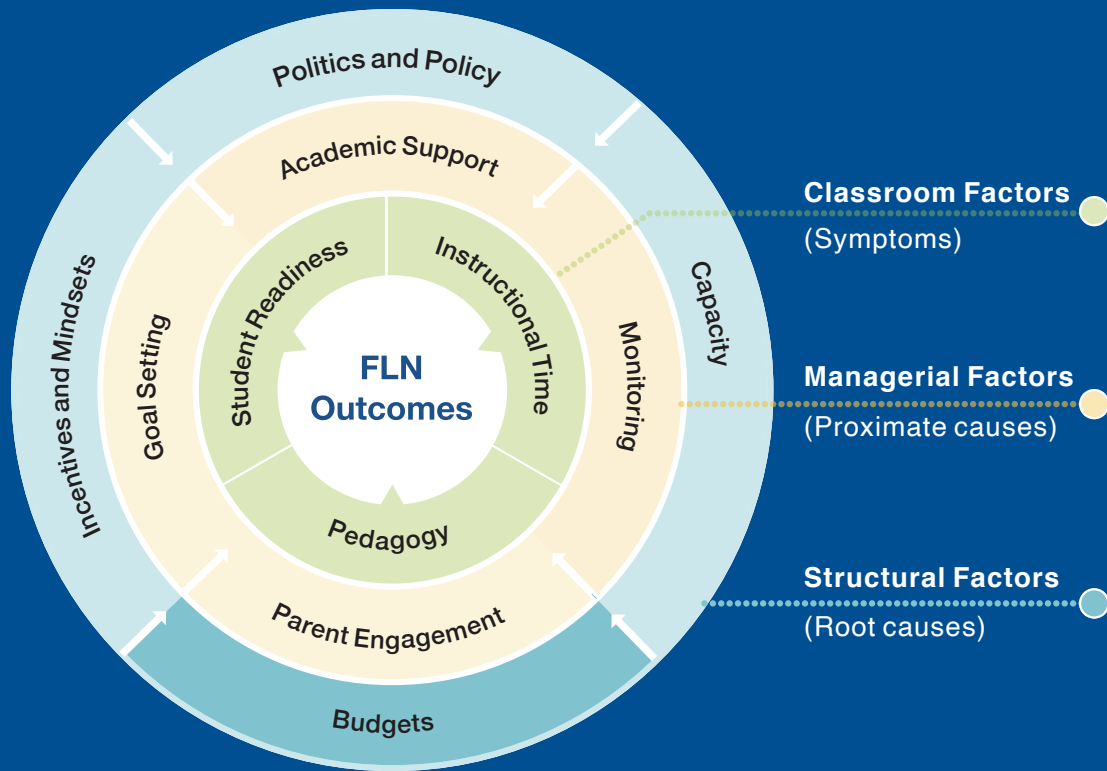
## Policy focus on uniformity and standardization

- 1 **Improvement in Grade to teacher ratio**
- 2 **Strengthens School Management** through reduced span ratios of officials
- 3 **Improves quality of expenditure** due to economies of scale

## Potential Costs

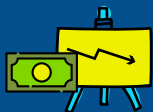
- **Drop in enrollment:** Students might drop out if they have to travel a greater distance (e.g Rajasthan witnessed a drop in enrollment of disabled, SC and ST students)
- **Community push back:** Community members may feel attached to local schools and be apprehensive of sending children to schools that are farther away
- **Teacher pushback:** In the long run, the state would need to hire fewer teachers which could lead to union stirs

# Structural Factors: Budgets



## Budgets: Key Insights

1



Increased Public Expenditure on Education is not driving improvements in Learning Outcomes

2



Limited fiscal capacity in school education as high proportion of budgets are used for teacher salaries

3



Component wise allocation for Samagra Shiksha varies across states

4



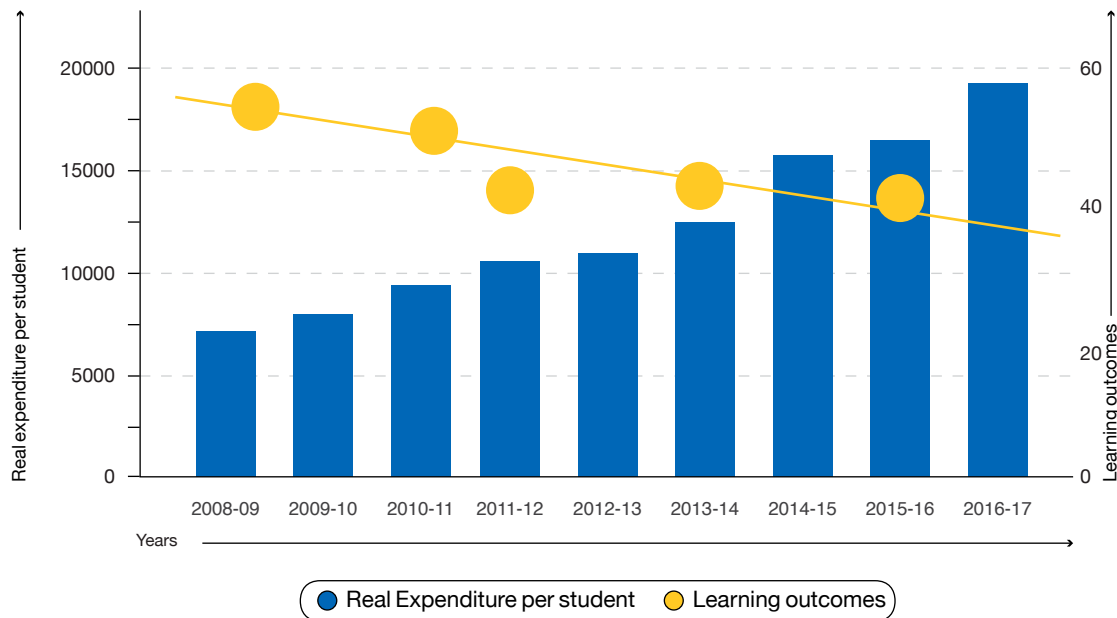
Slow disbursements due to process inefficiencies lead to low utilization of funds

5



Schools have limited discretionary expenditure as grants are tied and not based on local needs

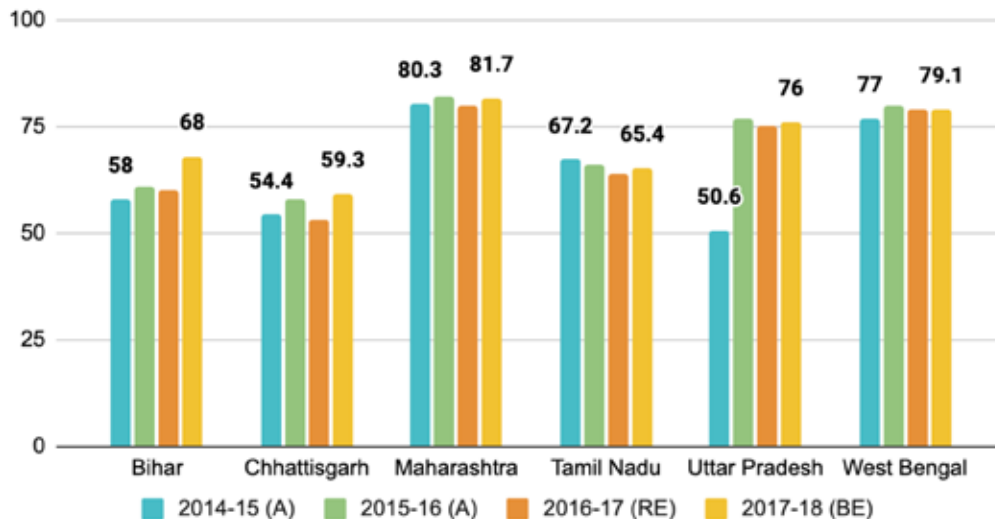
## No correlation between expenditure and student outcomes



- Between 2008-09 and 2016-17, the govt.per pupil expenditure in real terms nearly tripled (2.7 times) from, Rs. 7,245 to Rs 19,233 (real increase keeping 2011 as the base year)<sup>1</sup>
- However, during the same 9 year period, % children in Class 5 in Government Schools who could read a Class 2 level text declined<sup>2</sup>
- The Govt. Expenditure for elementary education (Centre plus State combined) increased from 80,313 Crore in 2008-09 to 277,832 Crore in 2016-17 (245% increase in nominal terms)<sup>1</sup>



Share of teacher salaries and incentives for teachers



Share of teacher salaries in school education budgets varies from 60% to 82%<sup>1</sup>

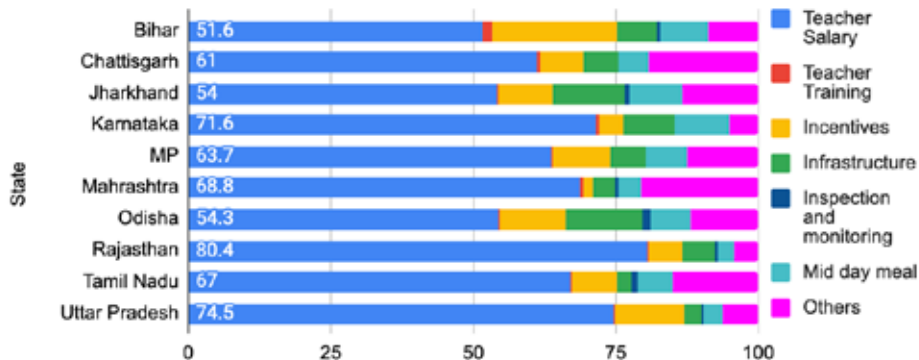
## Key Facts on School Education Budgets of states:

- State and Union together spend less than 4% of GDP on Education<sup>2</sup> and 1.75% of GDP (centre and state) is spent on Elementary Education<sup>3</sup>
- School education expenditure as a percentage of total state budget expenditure varies from 12%-15%<sup>4</sup>
- Centre's contribution to total school education expenditure for states ranges from 5% to 19% in FY 17-18<sup>4</sup>
- In FY 17-18, School Education budget as a percentage of GSDP was in the range of 4.3% to 1.8% in Tamil Nadu and Maharashtra, economically developed states spend relatively less on school education<sup>4</sup>

# After salaries, infrastructure, student incentives and MDM constitute a high proportion of state education budgets

## Teacher training, TLM or monitoring activities are underfunded

Component wise distribution of School Education Budgets (percentage)<sup>2</sup>



Source: Budget estimate figures from State documents from 2015-16<sup>2</sup>



### Limited funds available for non salary components

Share of infrastructure in the school education budgets of states ranges from 2.6%-13.3%

Share of teacher's training in the school education budgets of states ranges from 0.2-1.6%

Share of inspection and monitoring in the school education budgets of states ranges from 0%-1.2%

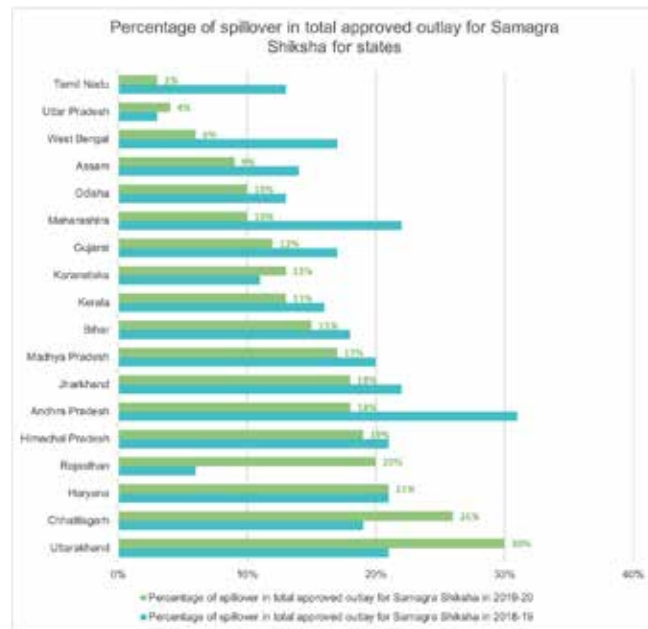
Incentives refer to monetary (scholarships and stipends, education vouchers, assistance to SCs for subsidized hostels) and non monetary incentives (uniforms, textbooks, food materials in hospitals, laptops, bicycles etc) for students | 2. Protiva Kundu et al (2016), Others includes expenses on direction and administration (e.g rent rate and taxes, water charge, electricity bills, print and stationery)

# High variation among states in component wise allocation under Samagra Shiksha

## Allocation of funds from CSS and CS varies across states

### Key Facts on Centrally Sponsored Schemes:

- CSS are a primary source of funds for non wage related expenses in elementary education (E.g Samagra Shiksha) for most states<sup>1</sup>. Share of CSS in State Government's expenditure on Elementary Education ranges from 10% in Maharashtra to 65% in Bihar<sup>2</sup>
- In FY 2019-20, 77% of total approved budget for Samagra Shiksha was for elementary education<sup>3</sup>
- 'Salary of Teachers' constitutes the largest share of approved budgets at 31%, followed by 'Quality Interventions' (22%) and 'Access and Retention' (16%)<sup>3</sup>
- Allocation for teacher education was less than 3% for most except for the state of Uttarakhand (8%) and Kerala (4%)<sup>3</sup>



Source: Samagra Shiksha PAB minutes for individual states as cited in Accountability Initiatives (2020): Budget Briefs, Samagra Shiksha, GOI 2020-21

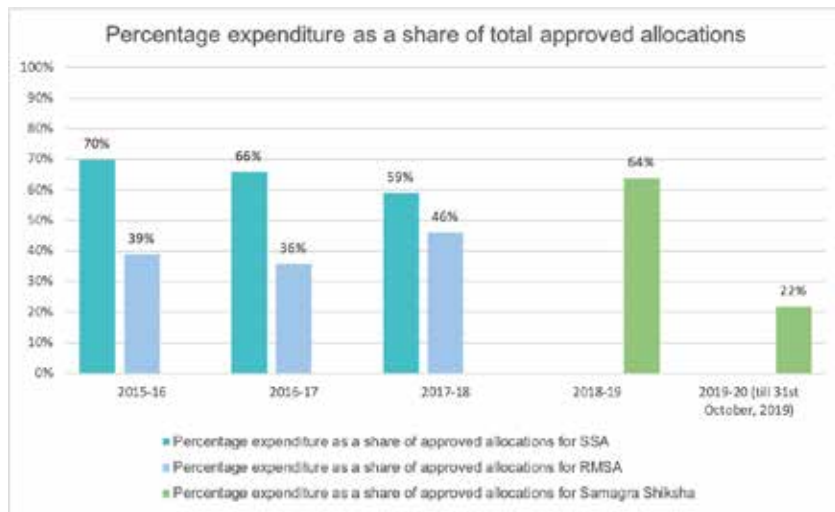
Allocation to Quality Interventions (e.g assessment of learning, ICT and digital interventions, learning enhancement programmes) ranges from 11% to 42%<sup>2</sup>

1. Aiyar et al (2014) 2. Bordoloi (2020) 3. Accountability Initiative and CPR (2020), Quality interventions includes assessment of learning at national and state levels, Information and Communication Technologies (ICT) and digital initiatives, Learning Enhancement Programmes (LEP), Strengthening of libraries and support for pre-nursery level

# Process inefficiencies in planning and fund disbursements contribute to low fiscal capacity for education

120

## Expenditures as a proportion of total allocation have been low due to process issues



- In FY 2018-19, two thirds (64%) of total approved budget for Samagra Shiksha was spent<sup>1</sup>
- In FY 2019-20, (till 31st October 2019), states had spent only 22% of total budgets under SS including state share<sup>1</sup>

- Even before Samagra Shiksha was launched, expenditure as a proportion of total approved budget was between 60-70% for SSA and 36-46% for RMSA<sup>1</sup>
- Process inefficiencies lead to delays between budget approvals, releases and expenditure<sup>2</sup>
- Analysis of the timing of fund flows reveal significant delays in actual release of funds by different levels of government. Thus, many states receive a large proportion of their funds towards the end of the financial year<sup>2</sup>,
- Several states often fail to pay teacher salaries on time due to lack of funds<sup>3</sup>
- Schools report delay in receipt of school grants, funds reach schools in the middle of the year<sup>2</sup>
- This leads to schools functioning without critical supplies or HMs using personal money or funds from other heads<sup>2</sup>

# Schools have limited discretionary expenditure powers as grants are tied to specific pre-decided components and are not based on local needs 121

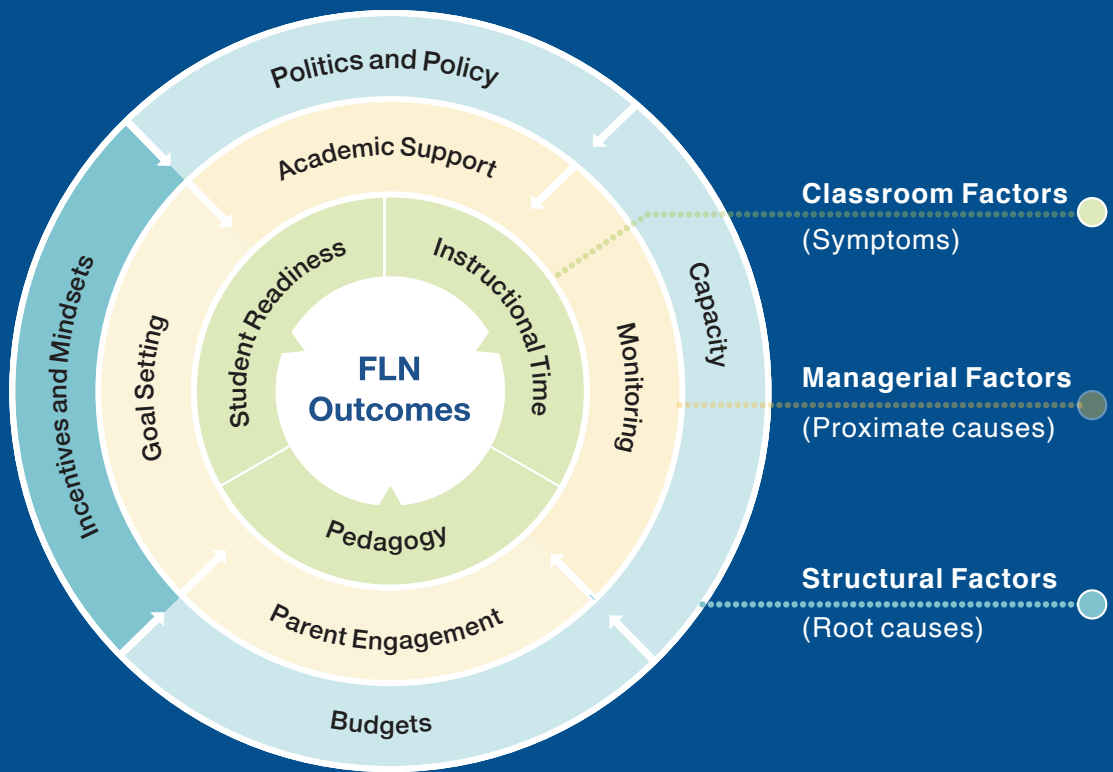
## No Discretionary Expenditure for Schools<sup>1</sup>

- Grants to schools are tied to specific budget heads based on Samagra Shiksha Guidelines. Schools annual grants cover 3 components- Teaching Learning Material, School Development and School Maintenance
- In 2013-14, these accounted for less than 1% of Elementary Education budget, amounting to approximately Rs 15,000 per school
- However, as these grants are tied, they limit discretionary expenditure. For example, if a school wants to use its development grant to buy additional teaching learning material, this would not be permitted under the existing rules

## SDPs are not used for budgeting<sup>1</sup>

- Planning and Allocations at district and state level are done without considering school level needs or demands
- 56% of schools don't make SDPs and when they do, the process of creating school plans ends up being a perfunctory exercise as schools are used to not receiving resources required to execute these plans
- School plans are not taken into account while preparing District plans, DISE data is used for the latter purpose
- The delay in release of funds often results in HMs spending the money received last minute due to paperwork pressures without any consideration for school needs

# Structural Factors: Incentives and Mindsets



## Incentives and Mindsets: Key Insights

1



Limited incentives exist in the system for stakeholders to focus on improving learning levels

2



The problem of low student learning levels is viewed by stakeholders as a result of factors outside their direct control

3



Strong hierarchical culture drives an obsession with rule following, with limited agency for frontline workers and administrators

# No incentives exist for stakeholders to focus on improving learning in the system <sup>124</sup>

**Lack of incentives dilutes the focus in the system on improving learning**

## **Current incentives structure is delinked from outcomes<sup>1</sup>**

- Salaries and promotions of teachers and other actors are based on their tenure in the system. Student performance has no impact on their employment terms
- Deployment and transfer of teachers are dependant on their political influence rather than quality of teaching in classrooms<sup>2</sup>

## **Weak Performance Management systems**

- Current performance management tools and systems for teachers and other stakeholders are unused and/or weak
- Only 2 out of 9 states in a study had a performance appraisal system for teachers but it was reported that the process only existed on paper<sup>1</sup>



# Problem of low student learning levels is viewed by stakeholders as a result of factors outside their control

Stakeholder perceive low learning levels to be a result of low parental interest and support, weak student abilities and high administrative burden

## Externalization of blame for poor outcomes

A study<sup>1</sup> documents how stakeholders perceive the problem of learning as lying outside the classroom through discussions recorded from a training session as follows:

*"Parent's don't pay attention to their children's homework"*  
- Teacher A

*"Only students from weak backgrounds come to my school"*  
- Teacher B

*"Which only increases our responsibilities!"* - Trainer

Strong perception among stakeholders that children cannot learn because they come from poor families whose parents are not able to provide support<sup>2</sup>



### Voices from the ground

*"Parents don't demand better learning from schools"*  
- DEO

*"Parents are inactive, pressure needs to shift to parents"* - CRC

*"The Education dept. has a different goal from learning, when this competes with the goal of learning, children suffer"* -HM

*"Children here don't have the ability to study because of the circumstances of their area"* - Teacher

*"Some students are not able to learn because their IQ is low"*  
-Teacher

# Strong hierarchical culture drives an obsession with rule following, with limited agency for frontline workers and administrators

## Stakeholder perception of powerlessness

- Several studies have shown how frontline workers and administrators (i.e. teachers, headteachers, cluster and block officials) feel that they have limited agency and power to take action on any issues.
- Frontline administrators think of themselves as “post officers” and “reporting machines” with limited decision making powers<sup>1</sup>
- When asked what role they played in decision making : *“What suggestions can I give, I’m in government service. My first priority is to implement government orders properly and then make plans of my own”*<sup>2</sup>
- *“We have no power to act. The 10-15% schools who are not putting any effort know this and hence we can do nothing to change their behaviour”* - Block Officer<sup>3</sup>

## Hierarchical culture

- A strong hierarchical culture exists in the education system where the focus is on responding to directions from the state or district office. Studies illustrate how this makes teachers, cluster and block officials feel like they have limited agency.
- Hierarchy and a culture of demanding strict adherence to rules and procedures has led to frontline officials feeling powerless and viewing themselves as “reporting machines”<sup>2</sup>
- Officials prioritize tasks based on orders from above due to the lack of clearly defined performance metrics in the system<sup>1</sup>
- Local officers rarely understand the reason they are expected to perform certain tasks. Often the most complex task is reduced to compliance with rules and orders<sup>1</sup>

# Case Study: Increasing intrinsic motivation by improving teacher's professional mindsets and behaviours by STIR Education

**Context:** STIR seeks to improve teachers' 'professional mindsets and behaviors' and, in turn, the quantity and quality of their classroom culture and practices, with the aim of improving student learning outcomes. A study evaluating STIR's approach shows that their programs can work but its effectiveness will depend on contextual factors like geography, education systems, financing, staffing, and other program components.

## Intervention

- Local teacher networks were set up to hold monthly, guided meetings where teachers discuss principles of classroom practice and share ideas on how to improve their teaching. Participating teachers take these ideas back to classrooms and implement changes and learnings.
- In Delhi the intervention was carried out with teachers in affordable private schools while in UP the same happened with government school teachers
- STIR staff coached volunteer government school teachers to organize and guide the meetings.
- Treatment schools were divided into- a) Standard model where network meetings were conducted and b) Exploratory model where teachers also received non-financial incentives such as recognition from local officials.

## Impact

### Impact in Delhi

- The standard and combined (exploratory+standard) treatment arms led to **an increase in math learning outcomes** by 0.15 and 0.1 SDs respectively.
- No effect on hindi learning outcomes
- Standard treatment arm led to increased teacher motivation by 0.13 SD

### Impact in UP

- No statistically significant impact on the teacher motivation, student learning outcomes, teaching time or any other classroom practice.

### Program Costs:

Per teacher costs per year are US \$ 33 in U.P government schools and US \$366 in Delhi private schools.

# Case Study: Saksham Ghoshna to incentivize system wide focus on student attainment of learning outcomes

**Goal:** More than 80% students in Government elementary schools in Haryana will be grade level competent by 2019

**Government Partner:** Samagra

## **Key Features of Saksham Ghoshna:**

Block officers can nominate their blocks every two months based on a pre-assessment that they may conduct for practice

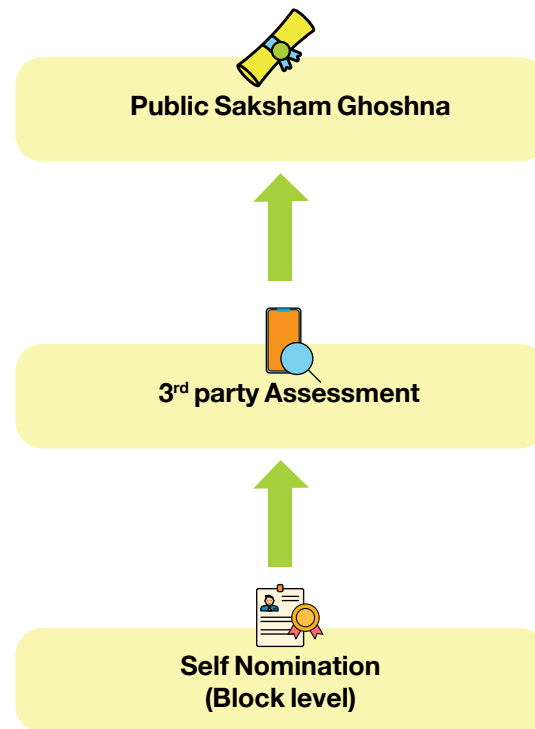
Officials take a no cheating oath

A 3<sup>rd</sup> party conducts assessments for a sample of students (Grades 3, 5 and 7) and certifies the block as 'Saksham' if more than 80% students score over 50%

Post the assessment if data analytics indicates cheating, the block is disqualified

## **Results:**

As of January 2020, 233 assessments were conducted and 106 blocks (out of a total of 119 in Haryana) were declared 'Saksham'





# System Reform Case Studies on Best Practices



# Case Study: Kenya's Tusome Program- A holistic Foundational Learning Program with integrated Pedagogy and Governance interventions

130

## 2007

- Baseline data + small scale pilot

## 2009-2010:

- EGRA/Uwezo data provide impetus for large scale

## 2011-14

- Large scale pilot in 1400 schools
- Pupils 2-3X more likely to meet standards

## 2014-2019

- Rollout of Tusome nation-wide
- 30K primary schools

**Context:** Government of Kenya in partnership with USAID and DFID, launched Tusome to improve literacy outcomes for children in grades 1, 2 and 3. The nation-wide program reached over 7.6 million students in grades 1-3 across 23,000 primary schools

**Key Features:** Four primary components of the program-

### (i) Learning goals for system alignment

- Clear alignment across the system on what children should learn as well as an understanding of their role in facilitating that learning

### (ii) Teaching and learning materials development

- Comprehensive teacher guides with structured lesson plans, new textbooks. coloured student workbooks and homework books were created for each teacher and student

### (iii) Teacher professional development and coaching

- Training sessions to build teachers' pedagogical skills in critical areas of reading instruction (phonemic awareness, reading comprehension, lesson planning, and curriculum coverage).
- Curriculum Support Officers (CSOs) and instructional coaches trained to provide teacher support

### (iv) Robust monitoring and evaluation

- Regular visits to schools by CSOs to observe instructional practices and conduct spot assessments of students

	Baseline	Midline	Effect Size
Letter sound knowledge	16.6	29.7	<b>0.75</b>
Syllable fluency	11	21.5	<b>0.66</b>
Invented/non-word decoding	4.7	8.3	<b>0.45</b>
Oral reading fluency	4.9	12.2	<b>0.75</b>
Reading Comprehension	0.4	0.9	<b>0.62</b>
Listening comprehension	1.2	2.0	<b>0.52</b>

Municipalities in the state of Ceara have had the largest improvement in Brazil in both primary (15k students) and lower secondary education quality since 2007. Their reform strategy was designed around the below 5 key pillars-

## Incentives

- Fiscal incentives provided to municipalities to achieve better education outcomes
- An education quality index was created to rank municipalities based on improvement in 2nd and 5th grades literacy and math score
- Higher rewards were given to municipalities with most gains over time and penalty for increasing inequality among schools or low attendance

## Technical Support

- Launched “Literacy Program at the Right Age”
- Establishment of education outcome targets by the state
- Standardized assessment to identify baseline for each municipality and set targets
- The state gave technical assistance to municipalities by producing literacy materials, training teachers and school visits

## Political buy in

- Shared understanding in the government on importance of education for socioeconomic development of the state
- Learning was the primary goal of the government's education policy with universal literacy as the first step to achieve this goals
- Protection from politics as support to municipalities did not vary across the state
- Regular dialogue with all stakeholders for smooth implementation

## Autonomy and Accountability

- Municipalities in Brazil have a high degree of autonomy to establish their own policy in all sectors and implement them
- Major aspects of school management such as hiring and firing of teachers and principals, professional development of actors are all under the purview of municipalities
- Incentives set up to promote exchange of best practices between high and low performing schools

## Regular Monitoring

- The state helped build capacity of municipalities to monitor the literacy program by building monitoring indicators and instruments to support municipalities
- State level creation of a diagnostic test, protocols for applying it and a digital platform for data collection
- Establishment of an annual external learning evaluation for grade 2 to measure performance of municipalities towards literacy target

**Founding year:** 2015 | **Grades:** 1-4 | **Scale:** 1,000 Schools | **Operational geographies:** Odisha and Uttar Pradesh (UP)



## Key Features:

### Teaching & Learning Tools

- An early grade reading package in Hindi and Odia languages which included teacher handbooks, training material, student workbooks and reading resources
- Reading resources were bilingual
- Community libraries created to improve access to resources outside schools

### Training

- Teacher supervisors received annual training on supportive supervision
- Training curriculum included topics to build conceptual clarity, improve pedagogy and classroom management
- Monthly cluster meetings for continuous support on early reading pedagogy, student assessments and school environment

### Monitoring

- Periodic classroom observations and mentoring of teachers

## Impact:

- Reached 140,000 students in grades 1 to 4 across 1000 government schools in 2 states
- Trained 2000+ primary school teachers and 250 education functionaries
- Achieved over 18% point enhancement in children's reading score in UP in one year (2015-16)

Component	Outcome
Average Reading Score (since 2015)	Grade 1: Increased from 28% - 58% Grade 2: Increased from 34% - 56% Grade 3: Increased from 49%-69%
Reading Comprehension (Grade 2)	BL: 9% of students EL: 15% of students



**Founding year:** 2007 | **Grades:** 3,4 and 5 | **Operational geographies:** Haryana, Bihar, Uttarakhand and Uttar Pradesh



## Key Features:

### Instructional Design

- Instruction is provided for 30-50 days (8-10 days at a time) over the year for 2-3 hours a day
- Children are grouped based on a diagnostic assessment of learning levels and provided targeted support

### Teaching & learning materials

- Supplementary level based reading material and phonetic charts
- Charts for teachers to keep track of students

### Training

- Cascaded delivery where government officials at cluster level are trained first
- Officials then teach daily for 15 days before training teachers
- Teachers trained on implementation of the program

### Monitoring

- Regular classroom observation to track implementation

## State wise Impact

### Haryana and Bihar

Scale: 15,735 children

Model: In school reading model run by government teachers.

Non-optional program that was allotted time during school day

Impact: Increased reading scores of students by 0.15 SD and resulted in 0.13 SD increase in language and 0.11 SD increase in math

### Uttar Pradesh

Scale: 17,266 students

Model: Learning Camps, either 4 bursts of 10 days of instruction or 2 bursts of 20 days, focused on reading and math run by Pratham staff and village volunteers

Impact: Increase in test scores by 0.61-0.70 SD in math & language

### Bihar

Scale: 6,493 students

Model: Summer camp run by government teachers

Impact: Increase in language & math scores of 0.09 and 0.07 SD

**Founding year:** 2003 | **Grades:** 1 - 2 | **Current scale:** 3020 schools | **Geographies:** MP, UP, Rajasthan, Uttarakhand, Chattisgarh



## Key Features:

### Goal

- Children read with fluency and comprehension by the end of grade 2 and develop a reading habit by grade 3

### Teaching & Learning Tools

- Scripted lesson plans but prescription reduces with time
- Student workbooks mapped to teacher manuals
- School/classroom library with variety of books and print materials

### Training

- Standardized training modules to train teachers on instruction routine
- 8 days of training for each grade through 2 levels of cascade
- Government academic coordinators are trained to provide teacher support during school visits

### Monitoring

- Room to Read literacy facilitators conduct observations, give feedback and track student progress along with government academic staff
- Monthly meetings with cluster officials to discuss success and challenges in their schools

## Operational Model:

Program implemented in government schools through school teachers. A phase wise approach to scaling is followed - I DO (demonstration), We DO (partnership with government) and YOU DO (state-owned) model

## Impact:

**Fluency:** 32% of students from project schools met or exceeded fluency benchmarks of 45 correct words per minute by end of grade 2, compared to only 12% students in comparison schools

**Comprehension:** 23% of students of project schools reached the 80% comprehension benchmarks compared to 11% in comparison schools by the end of grade 2

**Non Readers:** 9% of project school students and 30% of comparison school students were not able to decode any given non-word



# Recommendations



# Past attempts have shown that a holistic approach is crucial and there are no silver bullets to improving foundational learning outcomes

136

## Siloed interventions have no impact

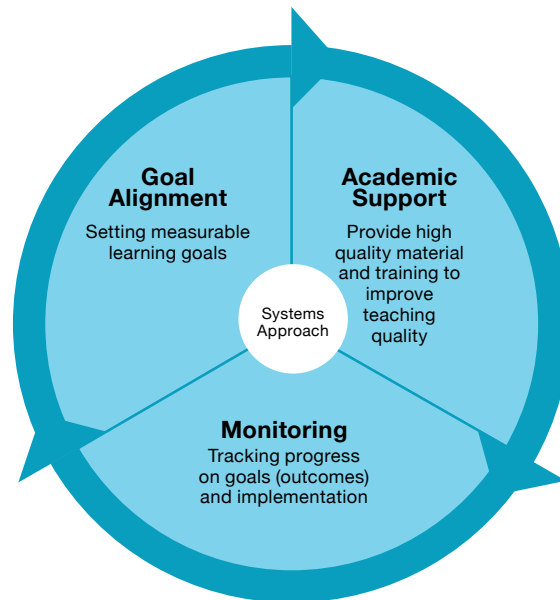
### Example 1: Providing TLM without support:


- In rural India, colourful and well designed reading material did not show any impact on learning outcomes when it was used by teachers without additional training and support<sup>1</sup>
- Providing textbooks in Kenya increased test scores of high performing students but had no impact on weaker students<sup>2</sup>

### Example 2: Teacher Training programs

- Studies have found no significant positive relationship between teacher training and increases in test scores of students taught by the same teachers<sup>3</sup>

## Successful programs have intervened on 3 fronts that are tightly coupled with each other<sup>4</sup>:



Area	Current Practices	Recommendations
 Goal Alignment	<ul style="list-style-type: none"><li>• Focus is on inputs and processes (visible factors)</li><li>• No shared learning goal</li><li>• Syllabus completion is prioritized over student mastery of LOs</li></ul>	<ul style="list-style-type: none"><li>• Focus investments and resources on achieving Foundational Literacy and Numeracy in mission mode</li><li>• Set clear measurable learning goals and communicate them to all stakeholders</li></ul>

# Goal Alignment: Set clear measurable learning goals and communicate them to all stakeholders

138

## Example: Mission Prerna in Uttar Pradesh



### अ भाषा

- कक्षा 1 निर्धारित सूची में से 5 शब्द सही से पहचान लेते हैं
- कक्षा 2 अनुच्छेद को 20 शब्द प्रति मिनट के प्रवाह से पढ़ लेते हैं
- कक्षा 3 अनुच्छेद को 30 शब्द प्रति मिनट के प्रवाह से पढ़ लेते हैं
- कक्षा 4 छोटे अनुच्छेद को पढ़कर 75% प्रश्नों को सही हल कर पाते हैं
- कक्षा 5 बड़े अनुच्छेद को पढ़कर 75% प्रश्नों को सही हल कर पाते हैं

### गणित

- कक्षा 1 निर्धारित सूची में से 5 संख्याएं सही से पहचान लेते हैं
- कक्षा 2 जोड़ एवं घटाना (एक अंकीय) के 75% प्रश्नों को सही हल कर पाते हैं
- कक्षा 3 जोड़ एवं घटाना (हासिल के साथ) के 75% प्रश्नों को सही हल कर पाते हैं
- कक्षा 4 गुणा के 75% प्रश्नों को सही हल कर पाते हैं
- कक्षा 5 भाग के 75% प्रश्नों को सही हल कर पाते हैं

प्राथमिक विद्यालयों के सभी छात्र 2022 तक प्रेरणा लक्ष्य हासिल करें

### Channels identified



Divisional Workshops



WhatsApp groups



State Video



Press Release



LED Vans



Classroom Walls




IVR Calls

## Key Considerations



- 1 Review and strengthen learning outcome framework
- 2 Set sharp measurable goals expressed in terms of learning outcome improvement
- 3 Learning goals should be widely shared, understood and reinforced at district, middle management, school and community level

# Provide Academic Support in the form of structured tools and training, that is aligned to goals

Area	Current Practices	Recommendations
 <p>Academic Support</p>	<ul style="list-style-type: none"><li>• Low availability and quality of TLM</li><li>• Curriculum, TLM and instructional practices do not cater to MGML settings</li><li>• Teacher capability to teach primary school language and mathematics is weak</li><li>• Training programmes are infrequent, poorly designed and executed</li><li>• Middle Management capacity to provide academic support to teachers is weak</li></ul>	<ul style="list-style-type: none"><li>• Provide teachers with tools in the form of structured guides or lesson plans to raise the quality of teaching</li><li>• Teaching-learning material (textbooks, student workbooks etc) and instructional design should cater to multigrade classrooms</li><li>• Build teacher capacity through training programmes on foundational learning</li><li>• Use a blended training approach for continuous professional development of teachers and middle management</li><li>• Cluster and Block Resource Persons should be provided training on effective strategies for coaching and mentoring teachers</li><li>• Support should be tightly linked to the goals that are laid out</li></ul>

[illegible]

## Assessments for Revision and Remediation

Item No.	1
Subject	Math
Grade	Q1
Domain	A. Number Sense
Competency	2. Counting
FL Assessment	Count numbers from 1 to 100 (cardinality and ordinality-numeric and personal)
Assessment/Practice/Re	Assessment
Difficulty	Easy
Q Item	Count and write the number in the box.
	 <input data-bbox="295 774 318 785" type="text"/>
Solution	 <input data-bbox="295 797 318 808" type="text" value="100"/>
Possible Error Type	<p>Procedural Error: The student knows counting upto 100 but he could not associate numbers to objects.</p> <p>Factual Error: The student could not count 1-100 with items.</p>

## Structured Lesson Plans with Practice Worksheets

[illegible]

## Detailed Lesson Plans in Teacher Manuals, TLMs and Worksheets embedding Science of Learning

## Key Considerations

- 1 Teaching manuals, lesson plans and other TLM should be designed based on research backed principles
- 2 There should be clear linkage between Learning outcome framework, Teacher Manual, Student TLM and assessments
- 3 Tools alone will not shift teaching practices unless they are combined with training, regular monitoring and support



# Academic Support: Instructional Design, TLM and pedagogy should cater to multigrade and multi level classrooms

## 5 step plan to adapt curriculum to multigrade settings<sup>1</sup>

- 1** Make a scope and sequence chart
- 2** Identify units that can be taught across grades
- 3** Identify units that can be taught using a multiple year cycle curriculum cycle
- 4** Sequence the units of work into a programme of work
- 5** Create Multigrade lesson plans

## Teaching Strategies for Multigrade classrooms<sup>1</sup>

### Differentiated Teaching Approach

- The same topic or theme in the same subject is covered by the teacher with all students at the beginning and end of the lesson
- In the middle, students of each grade engage in learning tasks that are appropriate to their learning levels

### Learners and Material Centred Approach

- Students learn through interactive level based material that helps them move from learning milestone to another at their own pace
- Teacher simulates and checks on learning

Examples: Escuela Neva Program in Columbia and Rishi Valley in Andhra Pradesh

# Academic Support: Build capacity of teachers and master trainers through training programmes on foundational literacy and numeracy

142

## CSF's modules for teacher training on FLN

1. Why FLN and My role as a teacher	2. Essentials of Literacy	3. Essentials of Numeracy	4. Pedagogy
<p><b>Need for focus on FLN:</b> Sharing Evidence on why children are not learning</p> <p><b>De-mystifying what is foundational learning</b> for the teacher</p> <p>What, why and how of a <b>competency based education</b></p> <p>Sample items and tools for <b>assessments</b></p>	<p><b>Scientific Literacy Approach</b> in a classroom</p> <p><b>Emergent Literacy</b> Use and Importance of <b>Home Language</b></p> <p>Importance of <b>child talk</b></p> <p>Importance of <b>Print - Rich Classroom</b></p> <p><b>Skills</b> phonemic awareness, beginning reading, vocab, comprehension &amp; fluency</p>	<p>Building the vision and purpose for Math teaching: Math for early grades</p> <p><b>Pedagogy and basic concepts of teaching Maths</b> (basic concepts)</p> <p><b>Number and number operations:</b> Introduction to number, place values, reading large numbers. Addition/Subtraction</p>	<p><b>Understanding Learning and Learners:</b> Important concepts of child psychology</p> <p><b>Classroom Processes and Strategies:</b> What is MGML and how to group; Differential Teaching, Questioning skills;</p> <p><b>Assessment:</b> Remedial teaching; providing feedback, struggling learners</p>

## Key Considerations

- 1 Trainings should be designed to be interactive using strategies such as classroom simulations, group discussions, videos and presentations
- 2 Post training assessments should be conducted to gauge training effectiveness and collect feedback
- 3 Trainings should aim to address mindsets and current issues faced by teachers in classrooms such as multigrade and or multilevel teaching

# Academic Support: Use a blended training approach for continuous professional development of teachers, master trainers and middle management

143

## Examples of Blended Trainings through digital training platforms



CM Rise in MP



National Teacher Training platform



LLF's "Ek Varshiya Prarambhik Bhasha Shikshan Course"

## Key Considerations

- 1 Share self learning material in audio, video and print format regularly with Teachers and MM
- 2 Use discussion forums such as whatsapp groups, conference calls etc to encourage peer learning
- 3 Include assignments and field projects to encourage application of learnings

# Academic Support: Strengthen the capacity of middle management to provide academic mentoring and coaching to teachers

144

## Relevant training topics to cover

Introduction and importance of FLN	Academic monitoring and usage of tools
Orientation on FLN Mission and key components	Teacher coaching and mentoring strategies
Role of Cluster/Block officials in the FLN Mission	Data Analysis and Interpretation

## Key Considerations

- 1** Provide trainings on concepts and strategies for early literacy and numeracy so that they can support teachers
- 2** Trainings should build capacity of officials to observe classrooms, give feedback and mentor teachers
- 3** Provide cluster officials and RPs access to resources (e.g copy of teacher manuals, classroom observation checklists) to aid with mentoring teachers

# Monitoring systems should be realigned to focus on tracking pedagogy and learning levels

## Area



### Monitoring

## Current Practices

- Monitoring function has become a data collection exercise
- Existing monitoring tools mainly track inputs and process compliance
- Quality and reliability of data collected by state machinery is low
- Data collected is rarely used for diagnosis and course correction

## Recommendations

- Monitoring should be tightly linked to the learning goals laid out and academic support provided
- Refine existing monitoring tools (apps/forms etc) and protocols to track classroom practices and student learning levels
- Build in data reliability checks to improve integrity and quality of assessment and monitoring data
- Use data collected from monitoring visits to provide targeted support to teachers

# Monitoring: Refine monitoring tools and protocols to track classroom practices and student learning levels

146

## Example: Tamil Nadu's TNVN Observation app

The image displays two screenshots of the 'TEACHING METHODOLOGY' app. The left screenshot shows the 'Classroom Management' section with a progress bar at 33% COMPLETED. It includes a question: '1. What percentage of students were engaged with different activities during the class?' with three radio button options: 'More than 75%', '50-74%', and 'Less than 50%'. Below this are three tabs: 'DIKSHA/TNTP', 'Notebook Verification', and 'Word Wall'. The right screenshot shows a list of questions for observation, such as '5. Is the teacher giving all students a chance to ask questions and answer accordingly?' and '6. Are students participating eagerly by asking questions?'. Each question has radio button options for 'Yes' and 'No'.

1 Visiting official observes classroom and records data

2 Assessment of small group of randomly selected students

3 Reports auto generated for different levels of the system

## Key Considerations

- 1 Officials at cluster level should visit each school once a month
- 2 Train cluster/block officials to conduct classroom observations and collect data on specific output and outcome indicators
- 3 Targeted support should be provided to schools with low learning levels



Foundational  
learning first, so  
every child can  
thrive.



Corporate Social  
Responsibility



Transforming education, with the power of data

# Monitoring: Improve data quality and integrity by taking measures to reduce risk of misreporting

147

## Examples of approaches to improve data integrity

### Leveraging technology

Tablet based testing can be used to:

- Enable monitoring of geo location and time stamps to check if exams were taken during scheduled slots
- Responses are auto submitted so low chances of tampering scores during data entry
- Students can only view one random question at a time on their screen

### Supervisor/Independent retesting of a sample

- Retesting of a sample of students by CRP/BRP, DEO or DIET officials
- Independent State audit department
- BEO rechecking monitoring data by visiting 10% of schools every month

### Process Modifications

- Multiple test booklets- Multiple sets of question papers
- External grading- Answer script sent to different schools for grading
- Post facto analysis of data to detect cheating patterns

## Key Considerations

- 1 Measure data reliability on a periodic basis and make it a salient outcome
- 2 Incentivize stakeholders to report reliable data (e.g recognition or rewards)
- 3 Increase controls and checks to make it harder for actors to misreport data

# Monitoring: Use data collected from monitoring visits for targeted support to teachers and schools

148

Dashboard used in Kenya's Tusome Program

## Counties

County	Number of classroom visits <sup>[1]</sup> ( Percentage of Target Visits)	English - Class 1 Correct per minute <sup>[2]</sup> ( Percentage at KNEC benchmark <sup>[4]</sup> )	English - Class 2 Correct per minute <sup>[2]</sup> ( Percentage at KNEC benchmark <sup>[4]</sup> )	English - Class 3 Correct per minute <sup>[2]</sup> ( Percentage at KNEC benchmark <sup>[4]</sup> )
All	20593 ( 84% )	25 ( 57% )	40 ( 45% )	70 ( 0% )
Baringo	260 ( 38% )	24 ( 66% )	42 ( 32% )	69 ( 0% )
Bomet	379 ( 61% )	17 ( 28% )	32 ( 24% )	62 ( 0% )
Bungoma	340 ( 42% )	20 ( 42% )	39 ( 27% )	59 ( 0% )
Busia	261 ( 59% )	17 ( 36% )	38 ( 45% )	56 ( 0% )
Elgeyo Marakwet	244 ( 62% )	21 ( 50% )	37 ( 39% )	69 ( 0% )
Embu	217 ( 56% )	18 ( 30% )	38 ( 31% )	60 ( 0% )
Garissa	41 ( 19% )	12 ( 47% )	30 ( 23% )	48 ( 0% )
Homa Bay	978 ( 109% )	23 ( 60% )	38 ( 43% )	74 ( 0% )
Isiolo	108 ( 97% )	19 ( 26% )	31 ( 22% )	75 ( 0% )
Kajiado	117 ( 27% )	28 ( 69% )	39 ( 36% )	68 ( 0% )
Kakamega	500 ( 56% )	19 ( 42% )	32 ( 40% )	61 ( 0% )
...	...	22 ( 51% )	39 ( 45% )	70 ( 0% )

insferring data from www.google-analytics.com...

## Key Considerations

- 1 Provide DEOs/ BEOs with tools such as user friendly dashboards and reports to make data usage easy
- 2 Use data during review meetings to identify schools that need support or to learn from schools that are performing well
- 3 Data collected from monitoring visits can be used to identify pain points and provide need based cluster level training to teachers



# To sustain improvement in learning outcomes, focus on making learning visible and building systemic capacity to achieve learning goals

## 1 Make learning visible in primary grades through competency based key stage assessments

- Implement NEP's recommendation on conducting low stakes key stage assessments for grades 3 and 5 (e.g competency based assessments in Mexico, Chile, UK and Australia<sup>1</sup>)
  - Test performance on key competencies that help schools move away from rote memorization
  - Shift the culture of the system to focus on reliable data collection by setting up processes for audits (including social audits) and leveraging technology
- Share information on school quality and student performance with parents and schools<sup>2</sup>

## 2 Improve quality of personnel management and use existing funds strategically to achieve goals

- Improve teacher capacity through pre-service education reforms that focus on pedagogy and provide extensive exposure to practical training<sup>3</sup>
- Consider merging small schools with large schools or splitting grades among school campuses wherever feasible with the support of the community (through an opt in model) to reduce multigrade teaching, reduce span ratios of middle management and improve quality of expenditure
- Increase incentives for actors to focus on improving foundational learning levels and energize the system through recognition and rewards
- Improve existing indices like SEQI and PGI by increasing weightage for learning outcomes and retaining only those governance indicators that can be reliably measured and have a known impact on outcomes

<b>APBET</b>	Alternative Basic Education and Training	<b>CRP</b>	Cluster Resource Person
<b>ASER</b>	Annual Status of Education Report	<b>CS</b>	Central Scheme
<b>AWCs</b>	Anganwadi Centers	<b>CSS</b>	Centrally Sponsored Schemes
<b>AWW</b>	Anganwadi Worker	<b>CTET</b>	Central Teacher Eligibility Test
<b>B.Ed</b>	Bachelor of Education	<b>D.El.Ed</b>	Diploma in Elementary Education
<b>BEO</b>	Block Education Officer	<b>DEO</b>	District Education Officer
<b>BRC</b>	Block Resource Coordinator	<b>DIET</b>	District Institute of Education and Training
<b>BRP</b>	Block Resource Person	<b>DIKSHA</b>	Digital Infrastructure for Knowledge Sharing
<b>BSA</b>	Basic Siksha Adhikari	<b>DIY</b>	Do it yourself
<b>CPR</b>	Centre for Policy Research	<b>DRG</b>	District Resource Group
<b>CRC</b>	Cluster Resource Coordinator	<b>ECCE</b>	Early Childhood Care and Education

<b>ECDE</b>	Early Childhood Development and Education	<b>HoS</b>	Head of Schools
<b>ECE</b>	Early childhood education	<b>ICDS</b>	Integrated Child Development Services
<b>EGR</b>	Early Grade Reading	<b>IHDS</b>	India Human Development Survey
<b>EGRA</b>	Early Grade Reading Assessment	<b>IPTF</b>	All India Primary Teachers Federation
<b>ETB</b>	Energized Textbooks	<b>IVRS</b>	Interactive Voice Response System
<b>FLN</b>	Foundational Literacy and Numeracy	<b>LMIC</b>	Low and middle income countries
<b>GDP</b>	Gross Domestic Product	<b>LO</b>	Learning outcome
<b>GP</b>	Gram Panchayat	<b>M.Ed</b>	Masters of education
<b>GSDP</b>	Gross State Domestic Product	<b>MDM</b>	Mid Day Meal
<b>HMs</b>	Head Masters	<b>MHRD</b>	Ministry of Human Resource Development
<b>HOD</b>	Head of Department	<b>MIS</b>	Management Information System

<b>MM</b>	Middle Management	<b>PGT</b>	Post Graduate Teacher
<b>Mol</b>	Medium of Instruction	<b>PMU</b>	Project Management Unit
<b>NAS</b>	National Achievement Survey	<b>PRIMR</b>	Primary Math and Reading Initiative
<b>NCERT</b>	National Council of Educational Research and Training	<b>PTM</b>	Parent Teacher Meeting
<b>NCF</b>	National Curriculum Framework	<b>PTR</b>	Pupil teacher ratio
<b>NCTE</b>	National Council for Teacher Education (NCTE)	<b>RCT</b>	Randomized Controlled Trial
<b>NEP</b>	National Education Policy	<b>RMSA</b>	Rashtriya Madhyamik Shiksha Abhiyan
<b>NUEPA</b>	National Institute of Educational Planning & Administration	<b>RP</b> s	Resource Persons
<b>PAB</b>	Project Approval Board	<b>RTE</b>	Right to Education
<b>PD</b>	Professional Development	<b>RtR</b>	Room to Read
<b>PGI</b>	Performance Grading Index	<b>SD</b>	Standard Deviation

<b>SDMC</b>	South Delhi Municipal Corporation	<b>TNVN app</b>	Tamil Nadu Vagupparai Nokkin (Translate to: look inside a classroom)
<b>SDP</b>	School Development Plan	<b>TTL</b>	Tic Tac learn
<b>SEQI</b>	School Education Quality Index	<b>UDISE</b>	Unified District Information System for Education
<b>SERT</b>	Start Early Read in Time	<b>UNICEF</b>	United Nations International Children's Emergency Fund
<b>SMC</b>	School Management Committee		
<b>SRP</b>	School Readiness Program		
<b>SSA</b>	Sarva Siksha Abhiyan		
<b>TaRL</b>	Teaching at the Right Level		
<b>TE</b>	Teacher Education		
<b>TET</b>	Teacher Eligibility Test		
<b>TLM</b>	Teaching Learning Material		

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