**School Education and Literacy Department,
Govt. of Jharkhand**

**Jharkhand Education Project Council**

Long Term Teacher Training

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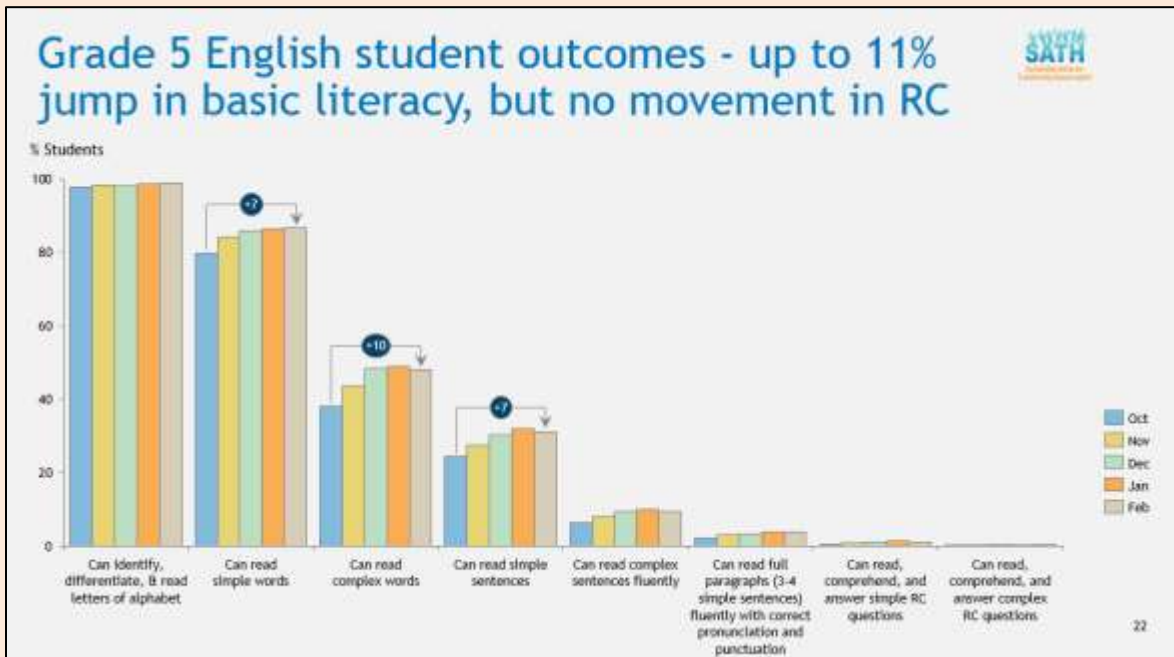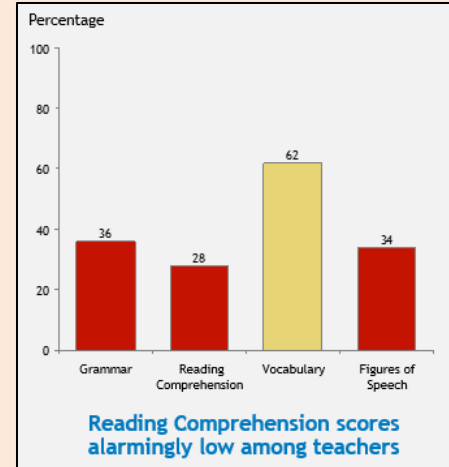
As part of project SATH's ongoing efforts to identify and diagnose educational challenges, Jharkhand conducted a state-wide Teacher Needs Assessment (TNA) in 2018. The TNA was designed to test primary, upper primary and secondary teachers both subject content as well as pedagogy. The objective of this assessment was to gain a deeper understanding of the professional development needs of teachers, while identifying knowledge gaps that might be translating into poor learning outcomes for students.

The test was administered in five rounds to 89,000 teachers – almost 74 percent of teachers in the state. This was a massive undertaking that required coordination at the state, district and block level. Several measures were put into place to ensure the success of implementation at such scale. First, the test was digitized and conducted online. The state used a platform that tabulated results live and provided real-time feedback on teacher performance. Second, stringent anti-cheating mechanisms were developed to automatically flag cheating. This required the design of an algorithm that took into consideration factors such as the time take to complete the test, duplicate responses, and answer patterns. After responses were filtered and discarded based on these parameters, approximately 46,000 responses were used as a final sample. Finally, state-wide auditing mechanisms ensured the smooth and fair conduction of the TNA across all rounds.

Overall, the data collected offers one of the most comprehensive snapshots of state-wide teacher competencies and professional development needs in the country, and has been disseminated by subject, learning objective, teacher grade level and even geographical location. The average score was 53 percent, and more specifically the primary level results show that across Hindi, English and Mathematics, 89 percent of teachers are not comfortable with grade 5 competencies.
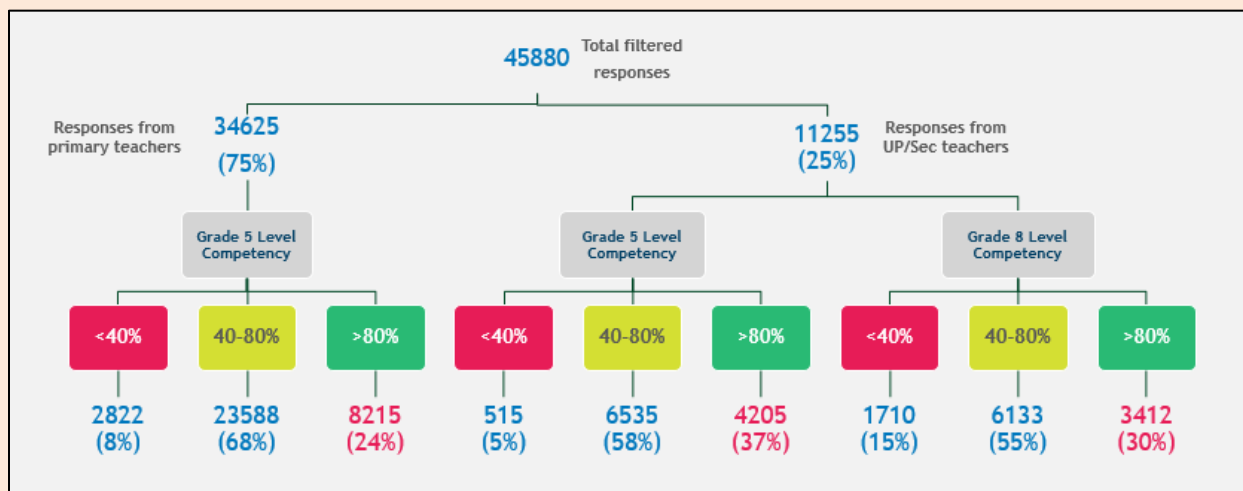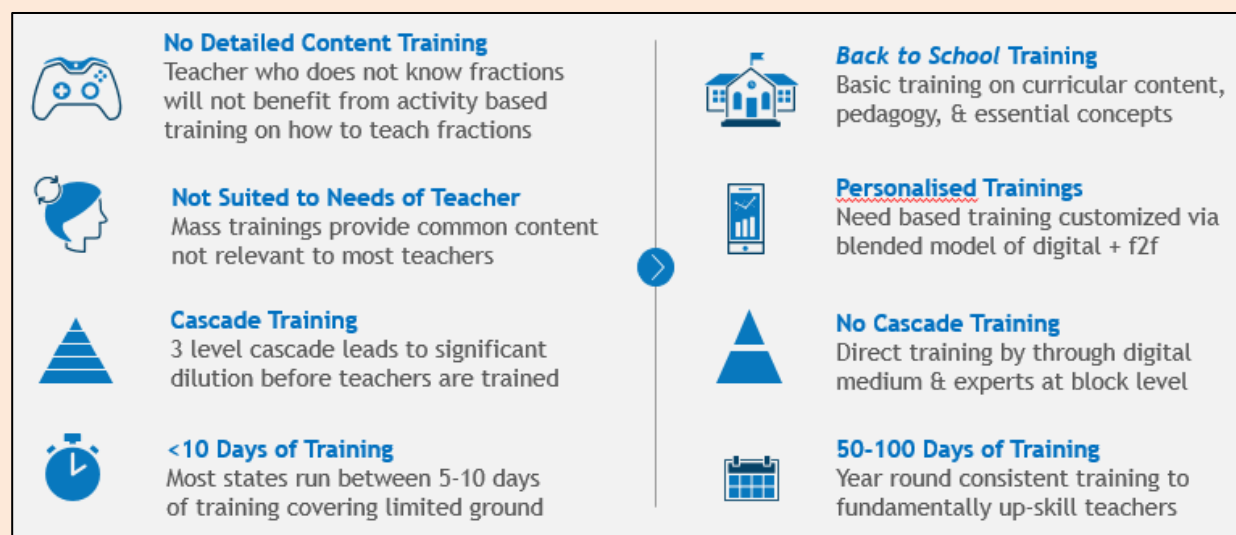
These results are already deeply concerning – and are even more so when contrasted with student outcomes. We can see that the state's top performing blocks scored significantly higher on the TNA compared to the bottom performing blocks. More interestingly, we mapped the TNA to Gyan Setu data (see Figure 1) and were able to corroborate that teachers are indeed least comfortable in the very same learning objectives that students are struggling to see meaningful improvements in. In English reading comprehension, teachers scored the lowest across all learning objectives with only 28 percent passing, while Grade 5 students across the state have seen no improvement in English reading comprehension over the past 4 months.

Reading Comprehension scores alarmingly low among teachers

Grade 5 English student outcomes - up to 11% jump in basic literacy, but no movement in RC

These results triggered a deep reflection exercise into the current structures in place to support teachers – specifically in-service teacher training programs. The biggest challenges identified with current programs are: (1) most teacher training programs are not designed to increase teacher ability, as they focus only on pedagogy and fail to address the competency gap; (2) a standardized training curriculum is delivered to all teachers irrespective of individual ability; (3) multi-level cascade leads to significant dilution of training quality; and (4) training of 5-10 days a year has very limited impact in terms of bridging the capacity gap; especially in subjects like English.

In response to these challenges, Jharkhand has prepared a strategic roadmap for teacher training with a completely revamped framework (see Figure below). This bold new initiative will utilize

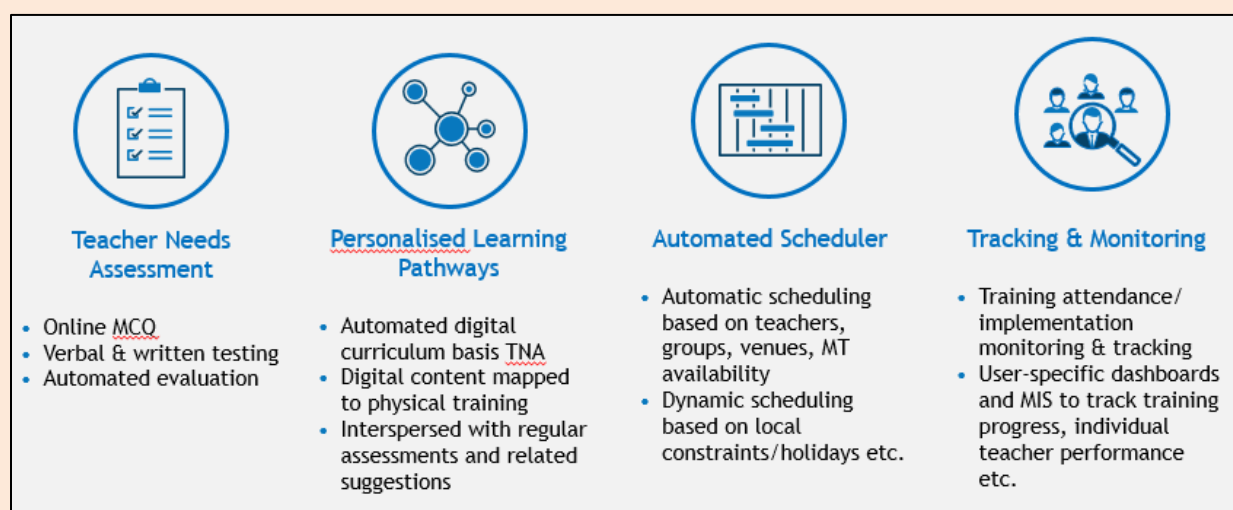|	
No Detailed Content Training — Teacher who does not know fractions will not benefit from activity based training on how to teach fractions	**Back to School Training** — Basic training on curricular content, pedagogy, & essential concepts
Not Suited to Needs of Teacher — Mass trainings provide common content not relevant to most teachers	**Personalised Trainings** — Need based training customized via blended model of digital + f2f
Cascade Training — 3 level cascade leads to significant dilution before teachers are trained	**No Cascade Training** — Direct training by through digital medium & experts at block level
<10 Days of Training — Most states run between 5-10 days of training covering limited ground	**50-100 Days of Training** — Year round consistent training to fundamentally up-skill teachers

a blended model of digital and in-person training, to provide up to 70 days of training in content and pedagogy for all three subjects till Grade 5. This mandatory training will be implemented across all 1.2 Lakh teachers in the state, and is the first content-based in-service teacher training program of its kind. Some key characteristics are:

- Teachers across the state will be grouped on the basis of their level of mastery over subject matter and pedagogy. Grouping will be determined through a professionally conducted TNA in June, that will cover all the three content areas. The goal of the assessment is to identify the teacher competency levels for subjects and subject pedagogy, and place teachers in one of three groups, each catering to different learning levels.
- Personalised training curriculum will be prepared for each group based on the needs of individual teachers.
- Each month, teachers will attend 2 days of in-person training, supplemented by approximately 10-20 hours of digital content on a mobile app. Over the course of a year, this will add up to between 50-70 days of training.

The upcoming state-wide TNA and the mobile application are the two most critical elements for the success of this initiative. The TNA will be professionally designed and analyzed by an organization with vast experience in developing teacher assessments, and the test scores will be used to determine the teacher groupings. It will serve as the baseline assessment for a multi-year assessment of teacher competencies, and UNICEF is supporting the state by funding the whole test design and implementation.

The mobile application will also play a key role, and is being designed with four critical functionalities in mind: (1) the app will host the TNA and can be used to track test completion and cheating; (2) it will contain the full digital library of content for all subjects, and will use the

Teacher Needs Assessment
- Online MCQ
- Verbal & written testing
- Automated evaluation

Personalised Learning Pathways
- Automated digital curriculum basis TNA
- Digital content mapped to physical training
- Interspersed with regular assessments and related suggestions

Automated Scheduler
- Automatic scheduling based on teachers, groups, venues, MT availability
- Dynamic scheduling based on local constraints/holidays etc.

Tracking & Monitoring
- Training attendance/ implementation monitoring & tracking
- User-specific dashboards and MIS to track training progress, individual teacher performance etc.

groupings to direct teachers to complete their unique curriculum based on their groupings; (3) it will serve as an MIS platform and will provide the state with real-time tracking of teacher progress and assessment scores for each module; and (4) it will have a sophisticated scheduling mechanism for teachers and master trainers to schedule and mark attendance for in-person classes. As such, the app will be an end-to-end platform facilitating every step of the teacher training process, and is the first of its kind developed at such scale.

The state has mapped the curriculum for each teacher group to NCERT standards, and has created a one year framework for both the physical and digital monthly modules. The trainings will utilize a combination of existing open-source and newly created content. Since the goal is to ensure that all content included is culturally sensitive and adapted to the Jharkhand context, open source content will also be dubbed or modified to meet the needs of teachers in the state. A workshop was conducted in mid-April where top organizations from across the country with innovative ed-tech content were invited to Ranchi to present their content and master teacher training experience. Conversations with these organizations are still underway and the right partner will be identified to support training and content development.

The state is currently in the content development phase. A detailed framework has been mapped out for each monthly module for each subject. The first English digital module for example focuses heavily on providing teachers with a foundation of English phonics, while teaching them the best practices in delivering strong phonics lessons. This module is divided into 6 broad learning objectives, and in turn each single learning objective is reinforced through a series of videos, audio clips, articles, and multiple choice question based activities. After these content pieces for each learning objective is an assessment, to test whether the teacher is prepared to move on to the next learning objective. Overall, this single monthly module will consist of more than 15 videos, 10 audio clips, 10 activities and 6 assessment – all of which will need to be heavily researched, dubbed, scripted out, filmed in classrooms, edited, and finalized. To support these activities, the state has assigned a dedicated team of State Resource Group members who were selected through a rigorous and competitive application process, and work full-time on developing this content.

India has not seen a teacher training model at this scale that that focuses on bridging competency gaps and utilizes digital tools to deliver targeted training customized to teacher levels. If successful, this model will significantly improve teacher competencies, and as a result, improve delivery of classroom content across every school in the state.