

## Evaluation of Pratham's Learning Camps Program in Uttar Pradesh

*Preliminary Results, January 2015*

### Background and Motivation

According to the Annual Status of Education Report (ASER) 2013 report, more than 96% of all children in the age group of 6-14 years are enrolled in school. However, close to 53% of children in India in Grade 5 cannot read a Grade 2 level text. The percentage of Grade 5 children, enrolled in Government schools unable to read Grade 2 level text has increased from 49.3% (2010) to 56.2% (2011) to 58.9% (2013). On a similar note, close to 29.1% of children enrolled in Grade 5 in 2010 could not solve simple two-digit subtraction problems with borrowing. The number further increased to 39% in 2011 and 47.7% in 2013.

Evidence from a series of rigorous randomized evaluations conducted by J-PAL South Asia of Pratham programs indicate that significant gains in learning outcomes can be achieved when children are grouped by level rather than by grade and then taught using methods and materials appropriate to each level. This methodology has proved to be effective whether implemented by locally recruited and trained volunteers or whether used by trained government school teachers.

### “Learning Camp” model

Past evidence from J-PAL evaluations and accumulated extensive field experience from Pratham led to the development of “Learning Camps” as a potential strategy to address low learning levels of children in Grades 3 to 5. A “Learning Camp” is an intensive burst of teaching-learning activity where children are taught basic Hindi and Math by grouping them according to their existing level of learning achievement rather than the traditional practice of age and grade. Teaching-learning activities and materials are tailored for each group and designed to help them move to the next level. The camps are led by trained Pratham staff who are assisted by locally recruited and trained volunteers. The environment of the camps differs from normal teaching as it is interactive; there are different activities including math and language games and much of the work is done in groups. Depending on the baseline levels of children, the total camp duration could be anywhere up to 50 days with each camp conducted in bursts of 8-10 days.

This model of “Learning Camps” was implemented in government primary schools in Uttar Pradesh in the school year 2013-14 by Pratham. The objective was to see how effective this model would be in improving basic learning outcomes in Hindi and Math for students enrolled in grades 3, 4 and 5. The project was operational in 4 blocks across the districts of Sitapur and Unnao. The following sections of this note provide an overview of the study and preliminary results from the evaluation of this program.

### Sample and Evaluation Design

A study sample of 484 schools was selected and randomly divided into 3 treatment groups and a control (comparison) group. They were randomly chosen to receive one of the following proposed interventions to improve reading and arithmetic outcomes of children in grades 3, 4 and 5:

- **10 days camps:** 122 schools received a short duration camp (4 rounds of ten day long camps for each school) conducted by volunteers mobilized locally and led by Pratham staff with learning materials left behind for children to work on between the camp sessions. A 10 day booster camp was held after the 4 rounds during the summer vacations.
- **20 days camps:** 120 schools received an extended learning camp (2 rounds of twenty day long camps for each school) conducted by volunteers mobilized locally and led by Pratham staff with learning materials left behind for children to work on between the camp sessions. A 10 day booster camp was held after the 2 rounds during the summer vacations.
- **Only material:** 119 schools were provided with Pratham learning materials, to be used by the teachers and distributed to the students. No classes or other form of academic support was provided by volunteers or Pratham staff.
- **Control:** 123 schools served as the control (comparison) group and did not receive an intervention during the project (they continued with their normal teaching-learning activities).

## Measurement

Around 17,000 students in grades 3, 4 and 5 were individually administered oral tests focused on assessing basic competencies in Hindi and Math. These were conducted by trained enumerators before the initiation of the program (baseline) and after its completion (endline). The enumerators were trained and closely supervised by the external research team of JPAL-South Asia.

## Hindi Reading Assessment

The Hindi reading assessment categorizes the students into the following reading competency levels: ‘Can’t recognize letters’; ‘Letter Level’; ‘Word Level’; ‘Paragraph Level’; ‘Story Level’. Students in the first category are those who are unable to recognize letters and get a score of 0. ‘Letter Level’ implies that the students are able to identify letters and get a score of 1. ‘Word Level’ indicates that the students are able to recognize the words and get a score of 2. Similarly, ‘Paragraph Level’ (Grade 1 text) and ‘Story Level’ (Grade 2 text) are categorized in terms of the ability of the children to read texts from the paragraph and story and are graded as 3 and 4 respectively.

## Math Assessment

The Math assessment tool tests for digit recognition- beginner, single digit, double digit or triple digit. Students in the beginner level are unable to recognize single digit numbers and are given a score of 0. Single digit level students are given a score of 1; double digit level a score of 2 and triple digit level a score of 3.

The tool also tests for competency on basic mathematic operations – addition, subtraction, multiplication and division. Students are asked to perform 3 questions for each competency and are given a score of 1 if they are able to solve 2 out of 3 questions, correctly. Addition and subtraction is done with 2 digit numbers with carry overs and multiplications and division are performed on single digit numbers.

## Baseline

- Learning outcomes showed that the majority of the children in Grade 3, 4 and 5 were either at “can’t recognize letters” or at “Letter Level”. Approximately 80% of the students (34% and 45% respectively) fell under ‘Can’t recognize letters’ and ‘Letter Level’.
- The baseline results also revealed that a significant percentage of students (60%) in sample schools could only recognize single digits and another 18% of the children could not recognize any digits.

Figure 1: Distribution of students according to Hindi reading levels

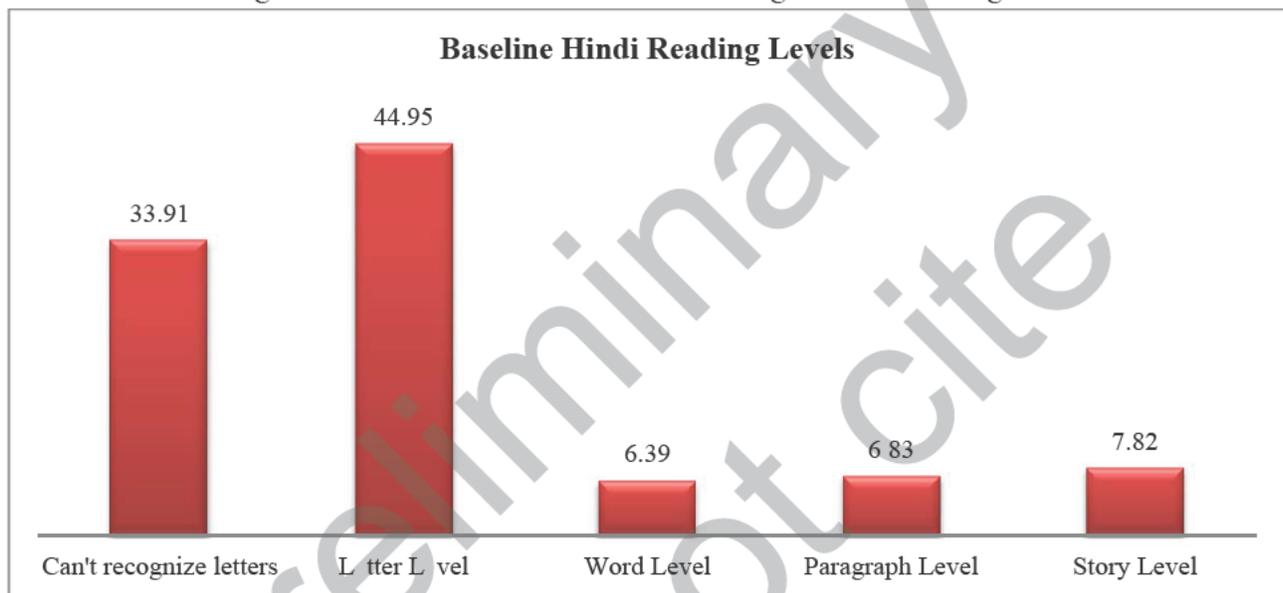
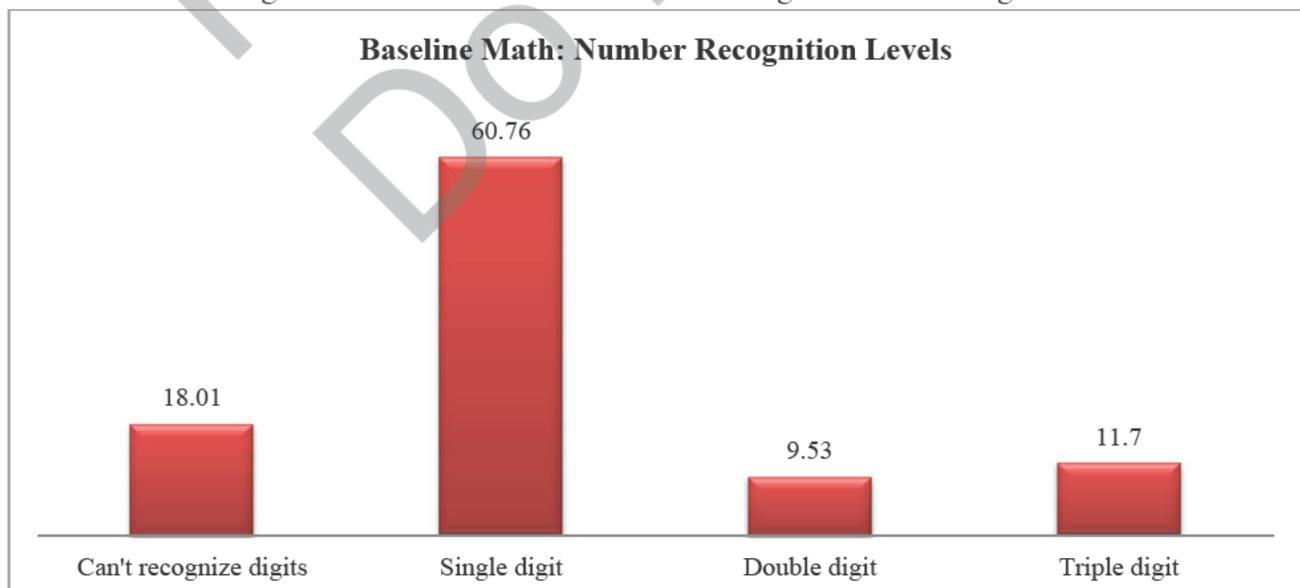


Figure 2: Distribution of student according to Math learning levels

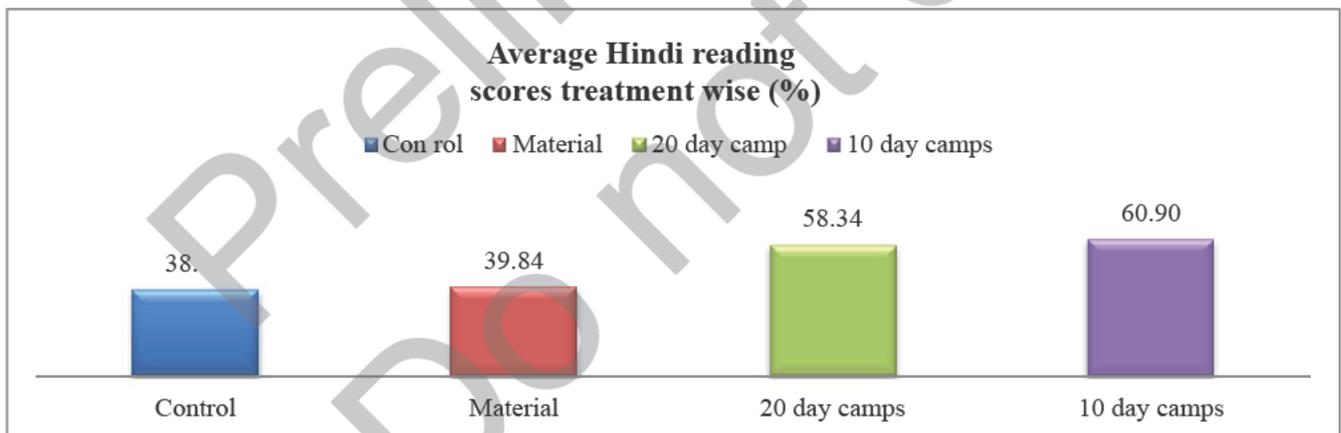


## Preliminary Results

The impact of the program was assessed comparing the learning outcomes of children in schools in the different treatment groups to the learning outcomes of children in the control (comparison) schools. Overall, both the 10 day and 20 day Learning Camps programs have shown to have a strong, significant positive impact on basic learning outcomes of students in both Hindi and Math.

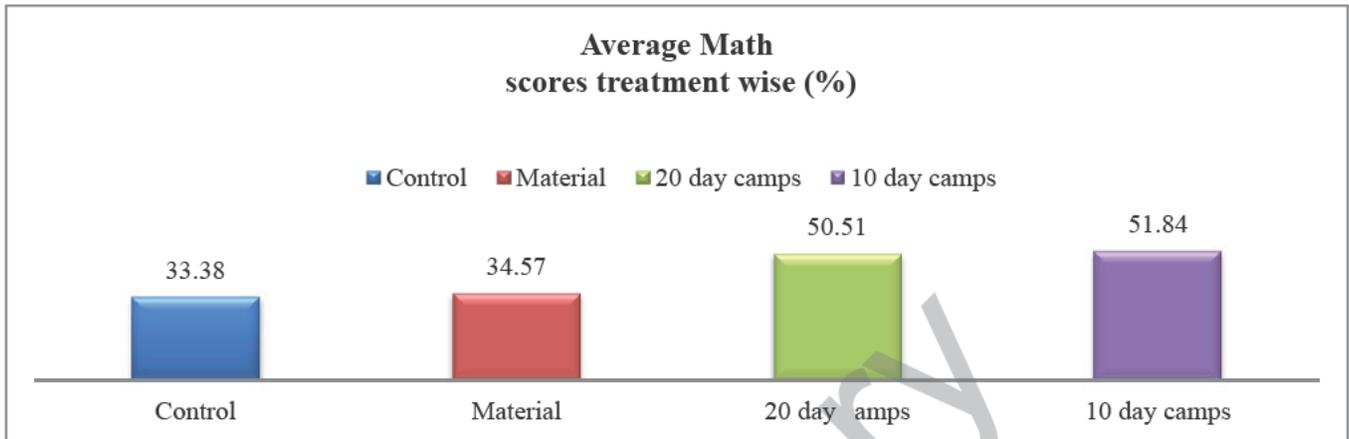
- Endline Hindi scores of students in the 10 day camp program was on an average 0.71 standard deviations higher than the control group, while it was 0.61 standard deviations higher in the 20 day camp program. Similarly, endline Math scores of students in the 10 day camp program was on an average 0.69 standard deviations higher than of the control group while it was 0.61 standard deviations higher in the 20 day camp program.
- The endline scores of both Hindi and Math in percentages indicate that these standardized effects translate into an improvement of over 22 percentage points on an average in the endline Hindi reading scores of students exposed to the 10 day camp program, and around 20 percentage points for students exposed to the 20 day camp program compared to the scores of students in the control group. Similarly, these standardized effects translate into an improvement of over 18 percentage points on an average in the endline Math test scores of students exposed to the 10 day camp program and around 17 percentage points for students exposed to the 20 day camp program compared to the scores of students in the control group.

Figure 3 Average Hindi score at End line



*All graphs are raw averages of the outcome variables*

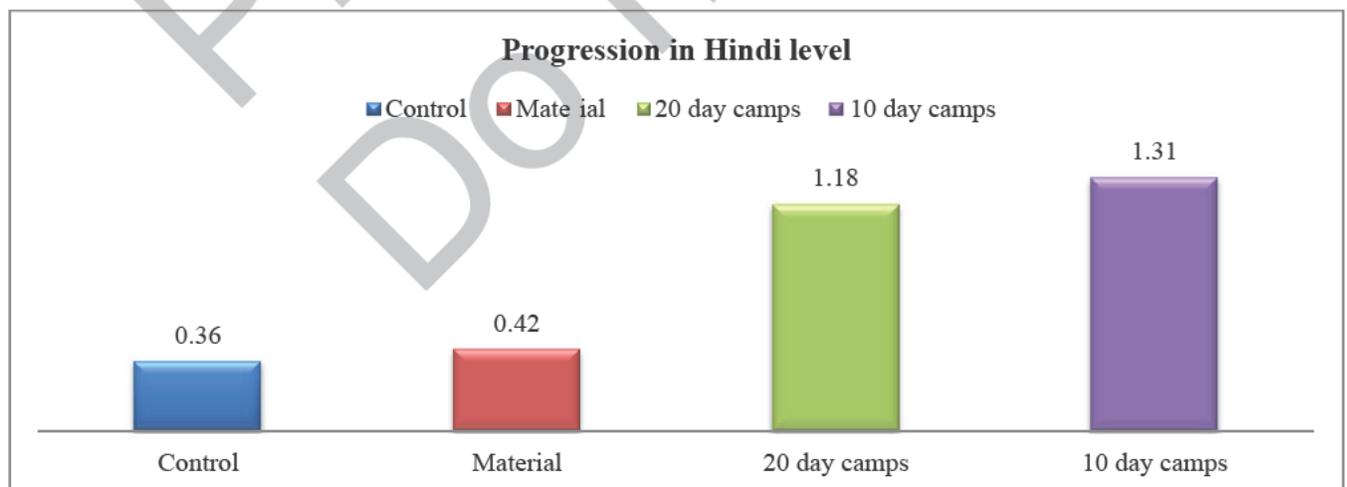
Figure 4 Average Math score at End-line



All graphs are raw averages of the outcome variables

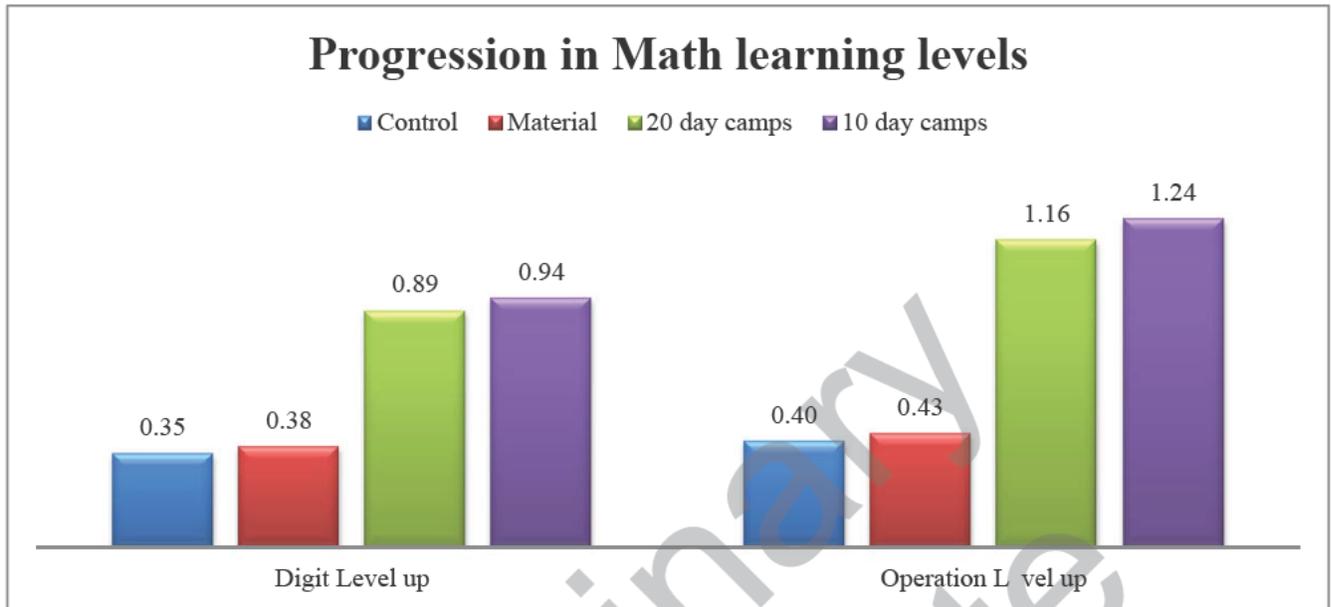
- Since the focus of the program was to gain basic competencies it is interesting to understand how many “levels” they have moved up on the testing scale which is closely related to competencies gained. With respect to Hindi, we find that on an average, students exposed to the 10 day camp program moved up the ladder by 1.31 levels while students exposed to the 20 day camp program improved 1.18 levels. On the other hand, students in the control group improved by a mere 0.36 levels. With respect to digit recognition in Math, we find that on an average, students exposed to the 10 day camp program improved by 0.94 levels and students in the 20 day camp program by about 0.89 levels, while students in the control group improved by a mere 0.35 levels. In terms of competency in mathematical operations, students exposed to either of the camps program have on an average gained one more operational competency.

Figure 5: Progression in Hindi levels by Treatment



All graphs are raw averages of the outcome variables

Figure 6: Progression in Math levels by Treatment



*All graphs are raw averages of the outcome variables*

- While on an average the programs were impactful the magnitude of impact varies with the measured learning level/ability before the start of the program. The biggest gainers with respect to Hindi are students who at baseline were only able to identify letter while in case of Math they are students who at baseline were able to identify two-digit numbers.

In conclusion, the results indicate that there are large gains to be achieved by teaching at the “right” ability level of the students. The gains made in both Hindi and Math by students exposed to either camp programs are more than double of what they would have gained ordinarily. The findings are also consistent with results from evaluations of this teaching methodology in other contexts, though the magnitude is larger.