

AN INITIATIVE OF THE DISTRICT ADMINISTRATION HAMIRPUR
IN PARTNERSHIP WITH DEPARTMENT OF PRIMARY
EDUCATION, DIET AND PRATHAM

PRERNA

Program for Result Enhancement, Resource Nurturing and Assessment

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PRERNA is an initiative to improve the learning levels of students in primary schools of Hamirpur. In this report we will understand the step-wise approach adopted to implement this program. The manner in which assessment surveys and School Performance Index has been constructed is explained. The oft talked about links between learning outcomes and teaching experience and length of tenures have also been explored. The key administrative challenges, manpower management and financial costs of the project are discussed. To conclude, the report sketches the future course of action needed to make PRERNA sustainable and effective.

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Introduction

One of the biggest challenges facing administrators in the field of primary education today is that of quality. Are our children actually being imparted the skills which they should be imparted in schools? With primary schooling being the bedrock of all future education, is the educational base of our children being given the solidity and flexibility which will ensure that we are able to encash our demographic dividend in the years to come.

It was with this aim of improving the learning levels of children in Primary schools of District Hamirpur that PRERNA campaign was launched. PRERNA stands for Program for Result Enhancement, Resource Nurturing and Assessment. Result enhancement refers to improving the learning levels through constant evaluation, identification of gaps in learning and addressing of those gaps through trainings and novel teaching techniques. Resource nurturing pertains to treating both students and teachers as resources which need to be nurtured. Any program aiming to improve learning levels has to address the problem by making the teachers stakeholders in the process. Also, the program must be assessed on objective parameters which should be measurable and subject to assessment.

Why PRERNA?

As mentioned above the primary motivation for starting PRERNA was to improve the quality outcomes in primary schools. During our inspections and field visits it was found that students in classes 3, 4 and 5 were struggling in Mathematics and Languages. It was a recurring theme in a number of Government schools. However, in order to actually assess and address the scale of the problem, a well coordinated action plan was needed. It materialised after discussions with the District officials of Department of Primary Education (DPE) and District Institute for Education and Training (DIET). The step wise details of the plan are discussed, in detail, in the next section.

Upon our discussions with DPE and DIET we decided to rope in the NGO Pratham which is well known in the field of education. Since they conduct a similar activity at an All India level which results in the annual ASER (Annual status of education report), we felt they could provide us with the tools and techniques needed to implement our vision under PRERNA. During discussions with them we also discussed the issue of falling enrolments in government primary schools in Himachal Pradesh. In District Hamirpur, the number of students had halved from approximately 30,000 in 2003-04 to 15000 in 2013-14. One of the main reasons for this is the perception that the quality of schooling is better in private schools vis-a-vis government schools. PRERNA intends to address this adverse trend by lifting the learning levels and convincing parents that the state is sensitive to their aspirations.

Another challenge confronted by education administrators is that of checking the stagnation which silently creeps into the educational attainment of the students. Children are promoted to the next higher class till class 10 even if they are below the required educational requirement for a particular class. Thus, all appears fine on the surface but if one actually scratches on it by testing the students on pure learning requirements, major questions emerge. PRERNA intended to highlight this issue and get the education administrators and teachers out of their comfort zones by making them recognise the problem formally.

PRERNA, by treating teachers as stakeholders also intends to put in place a merit based system. How do we recognise the performing teachers from the non-performing ones? How do we motivate the dedicated teachers to feel that their efforts will be recognised and they would be differentiated from the others? PRERNA intends to do this by constantly assessing performance of the teachers also by publicly recognising their contribution and performance.

By the virtue of the data collected during the first round of this campaign we also intended to address certain notions which are repeated mentioned in many discussions on the state of schools in our state. *Children of pravasis (migrants) are not that dedicated and our pulling our result scores down. Teachers serving for long periods in one school are detrimental to the learning of students. The more senior the teachers the better (or worse) they are.* These are some of the commonly held assertions one comes across during meetings and discussions. However, the data which we collected during PRERNA's first round would help settle these by separating the myth from reality. The results of these are discussed in detail in the later sections.

Plan and Framework

PRERNA campaign is an initiative which is centrally coordinated by the District Administration. The key players are DPE, DIET and Pratham. The starting point was to conduct a baseline survey in primary schools to assess what are the learning levels. On the basis of this survey, the key learning gaps were to be identified. Once this was done, the teachers of the school were to undergo a specialised training along with administrators to implement a four week capsule to cover these gaps. At the beginning and end of this capsule, there is meant to be a brief baseline and end line test to measure achievement. This capsule based training-teaching approach is not meant to be a onetime affair but a continuous work in progress. Thus, it is important to understand that PRERNA is a continuous program and not a onetime affair.

Baseline survey

For the baseline survey 60 schools were chosen in the District – 10 in each block. These schools were the 10 largest schools in each block based on number of students. The survey tested students of Class 3 and 4 on language skills in Hindi and English as well as in Mathematics. Students undergoing Junioe Basic Teacher (JBT) training at the DIET training centre were used to conduct the survey. A total of 1480 students were surveyed over a period of three days. It was ensured that there was separate one on one interaction will all students surveyed. Roughly 30-45 minutes were spent on every student surveyed.

Tools and methods

The survey tested the students on the following topics

Hindi

1. Reading – Letters, Words, Paragraph, Story
2. Dictation
3. Oral and Written comprehension
4. Making sentences

Mathematics

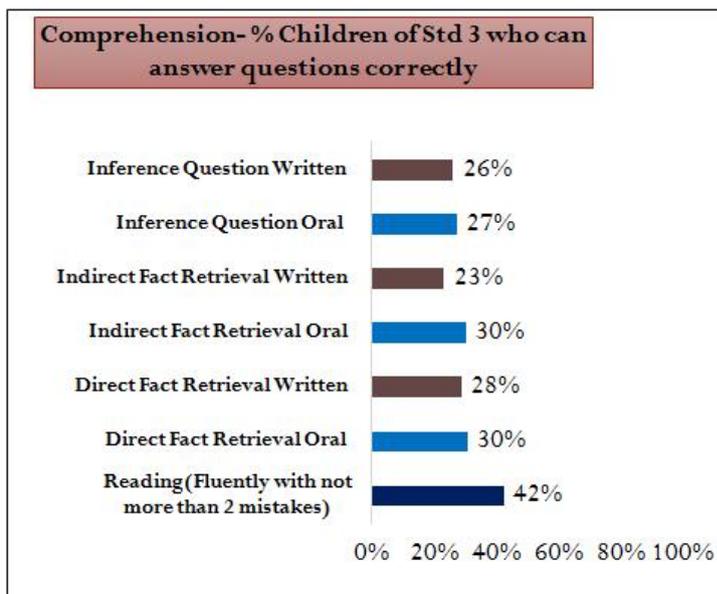
1. Number recognition
2. Addition, Subtraction, Multiplication and Division
3. Word problems
4. Fractions

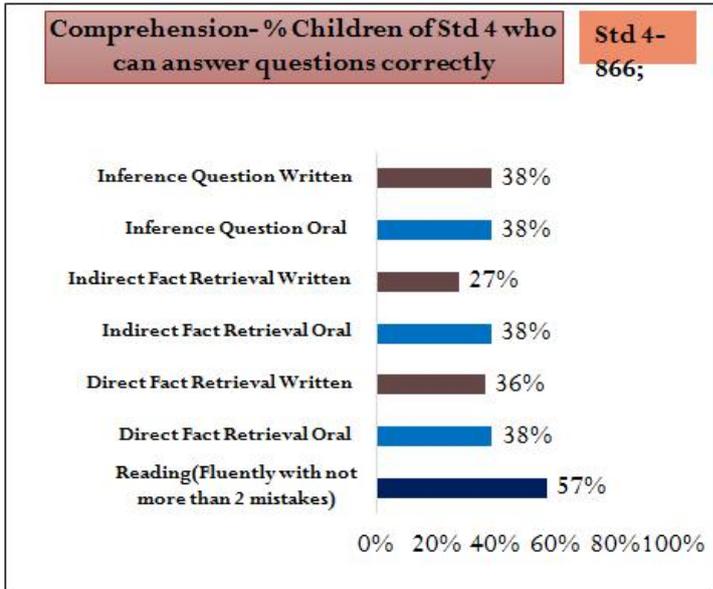
English

1. Reading – Capital and Small letters
2. Dictation
3. See and Say
4. Reading
5. Oral Comprehension

Results

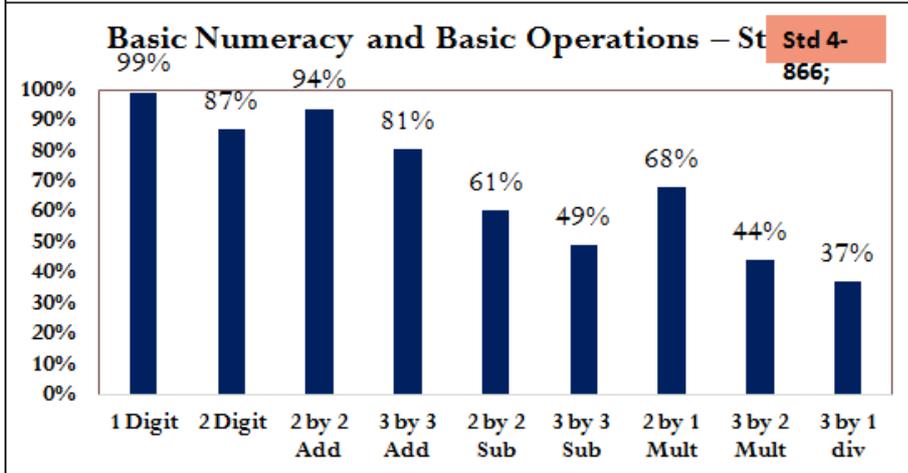
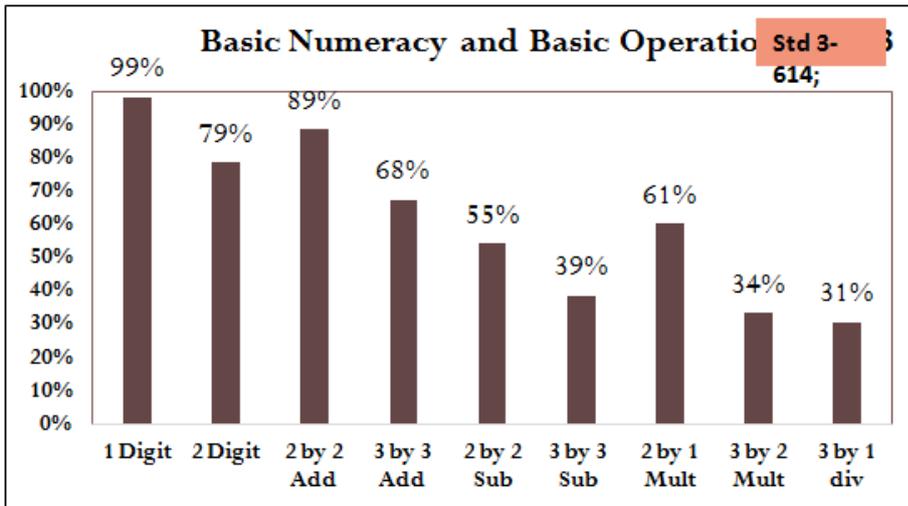
For Hindi, a paragraph was given to students not only to read but also answer questions based on the same. Questions based on direct fact retrieval and indirectly drawing an inference were posed in the questionnaire. Students were also made to write answers to assess their spellings and writing ability. The highlights of the results obtained are as follows:



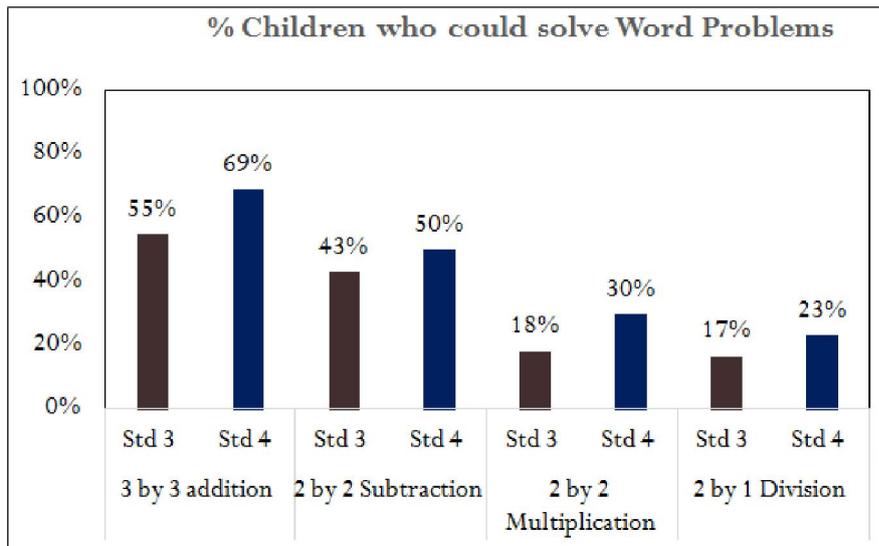


The key figure to be highlighted is that for reading (Fluently with not more than two mistakes) at 57% (Class 4) and 42% (Class 3). Similarly, the inference based questions could only be answered correct orally by 38% (Class 4) and 27% (Class 3).

The mathematics results are shown below

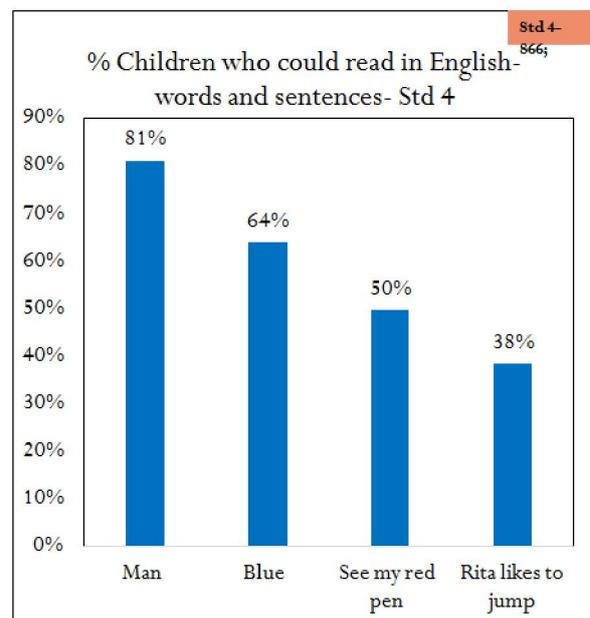
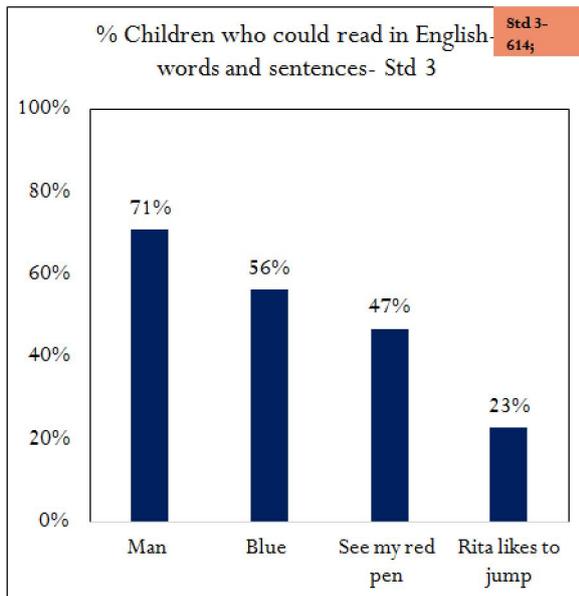


The area which needed immediate redressal was that of subtraction, multiplication and division.



Only 18% and 17% of class 3 students were able to do multiplication and division based on word problems. For class 4 students, the figures stood at 30% and 23%. Similarly only 14% and 10% of students in class 3 and 4 could identify fractions properly.

The results in English were as follows



Less than 50% of the students in both classes could read sentences with less than two mistakes. In the 'see and say' exercise close to 85% of the students were able to correctly say the words but only 20-25% were able to write the word correctly.

Key learning

Gaps

1. Great problems are being found in reading longer texts and comprehension

2. Division, word problems and fractions are weak points in mathematics

Recommendations

1. Plenty of writing practise should be given in Hindi and English
2. Subtraction and Division need focussed attention
3. Home work assignments on fractions and word problems should be given

School Performance Index

In order to monitor the progress aimed at under this campaign, it was important to develop a performance index of schools, which could through a single figure track performance across time. It would also provide a common base to compare performance across schools. Certain key parameters were identified for each subject which are listed below

Hindi

1. Reading of story (Less than two mistakes)

Mathematics

1. 2x1 multiplication
2. 3x1 division

English

1. Reading of sentence (Less than two mistakes)

A scoring system was worked out. If the percentage of students in a school which were able to satisfy the above parameters crossed 80%, they were given a score of one (1). This means that in the particular parameter being tested more than 80% of students were successful. If this percentage fell below 50%, a score of negative one (-1) was given, which means that in a particular parameter being tested less than 50% of the students were successful. If the percentage of the students varied between 50% and 80% a neutral score of zero (0) was given. Since the survey had been conducted across two classes of 3 and 4, we had a total of eight (8) parameters on which we tabulated the score of each school. Thus, the score could vary between 8 (at best) and (-) 8 (at worst). Based on this scoring pattern we categorized the schools as follows-

SCORE \geq 3, School categorised as Excellent

SCORE \leq -5, School categorised as Poor

-4 \leq SCORE \leq 2, School categorised as average.

An example of the scoring shown below:

Sr.No	Block Name	School Name	School Code	CLASS	No. of students per Class	Hindi	Maths		Eng							
						Q.4	Q.5	Q.6	Q.9							
						Story (Std. 2 Level text)	2 by 1 digit Multiplication	3 by 1 digit Division	Sentence							
1	Bhoranj	GPS Didwin	HMR03	3rd	16	38	19	19	6	4	0	6	1	-5	Poor	
				4th	16	81	75	44	6	2	1					
2	Bhoranj	GCPs Samirpur	HMR-01	3rd	17	82	65	59	82	0	2	1	4	3	Excellent	
				4th	35	91	77	46	89	1	2					

In the case of GPS Didwin, the class three students performed very poorly since on each of the parameters they had less than 50% success, giving them a score of -4. The class four students were marginally better since 81% of the students were able to read the story. Yet, they too performed very badly when it came to division and reading of the sentence in English. This gave it a negative score of 6 and one positive score of 1, making it a net score of minus five (-5). Thus, it gets classified as “Poor” performer. The case of GPS Samirpur can also be understood in the same fashion.

When this analysis was done for all the schools, the following result was obtained.

Count of Rating	Column Labels	-8	-7	-6	-5	-4	-3	-2	-1	0	1	3	4	(blank)	Grand Total
Average						6	10	3	5	4	5				33
Excellent												2	1		3
Poor		2	5	4	13										24
(blank)															
Grand Total		2	5	4	13	6	10	3	5	4	5	2	1		60

Off the sixty schools, only 3 (5%) were categorised Excellent. 33 (55%) were classified as average and remaining 24 (40%) were classified as Poor. A further look at the above table shows that there are 6 schools with a score of -4 and 10 schools with a score of -3 which if not addressed, could easily slip into the “Poor” zone. However, there is not a single school with a score of 2 which can strive to climb into the “Excellent” Zone. Thus, we need to recognise that the overall situation needed to be addressed immediately through a special intervention, which would form the core of the PRERNA program.

Block wise results

The categorisation of schools blocks wise shows that Hamirpur and Sujapur blocks are the laggards. In Sujapur, 7 out of the ten schools surveyed were adjudged “Poor”. Bijhari was relatively the best, with only one school being classified “Poor” and two schools being classified as “Excellent”.

Count of Rating	Column Labels						Grand Total
Row Labels	Bhoranj	Bijhari	Galore	Hamirpur	Nadaun	Sujanpur (blank)	Grand Total
Average	4	7	7	5	7	3	33
Excellent	1	2					3
Poor	5	1	3	5	3	7	24
(blank)							
Grand Total	10	10	10	10	10	10	60

Also, if the average score is taken for a block, Sujanpur and Hamirpur were the worst with a joint score of -4.6. Bijhari obtained the best score among all blocks at -0.90.

Row Labels	Values					
Average of SCORE	Average of Average years of service	Average of Average Tenure	R1	R2		
Bhoranj	-3.10	13.85	5.20	-0.043	0.221	
Bijhari	-0.90	15.00	11.06	-0.511	-0.645	
Galore	-3.20	11.58	6.10	-0.096	-0.161	
Hamirpur	-4.60	17.38	3.88	0.198	-0.250	
Nadaun	-2.60	15.63	5.60	0.110	-0.182	
Sujanpur	-4.60	13.32	4.50	-0.771	-0.295	
(blank)						
Grand Total	-3.16666667	14.46015873	6.056468254	-0.050	0.280	

The relationships of scores with seniority and tenures were also worked out using simple co-efficient of correlation. At the level of the district there was hardly any co-relation of scores with seniority (-0.050) or tenures (0.28). However, in the case of the worst performing block of Sujanpur a very high negative correlation is found between score and seniority (-0.77), which implies that greater the seniority, lower the scores and vice versa. It does hint that senior teachers are not producing the best results, on an average. Similarly in Bijhari, where performance is relatively better than the rest, a strong negative correlation was found between scores and tenures. Interestingly, schools in Bijhari have the longest average tenures (11 years). This implies that where the average tenures are greater, lower are the scores and vice versa. Can it be then said that longer tenures are one reason for declining score? It cannot be said simply by looking at his rudimentary analysis but does give broad pointers that a transparent transfer policy could be used as a stick and carrot to yield the best results.

Result Enhancement strategy

Based on the above results it was felt that in the first phase a four week campaign would be launched in these schools to improve learning levels in Maths and Hindi. English would follow in the second phase. However, before that the teachers of these 60 schools needed to be clearly told about the areas that needed greater attention and focus. A four day training camp was organised to discuss the result enhancement strategy with the teachers of these schools. It was made mandatory that at least one teacher from every school attended the training. In single teacher schools, substitute teachers were provided from neighbouring schools. The training was imparted by PRATHAM. The key element in the strategy was to classify all students in Class 3, 4 and 5 into three groups on the basis of their learning levels. This meant those students in class 3, 4 or 5 who were having a similar level of competence or comprehension in areas like recognition of alphabets and

number recognition needed to be grouped together. This was considered important since in the current system of universal promotion from one academic class to another it has been found that children across classes have similar learning levels. This happens since everybody is promoted into the next higher class poor students without ever being pressurised into actually learning the concepts or competencies they are meant to. There is no separation of the non performers from the performers making it mutually convenient for the teachers (on whom no questions are asked since everybody is being promoted) and the students' parents (who also now need to pay less attention since they know their children are being promoted regardless of their learning levels).

However, the big question is how do you classify the students? This was done based on a small Baseline survey which is to be conducted immediately before the beginning of the 28 day camp. The classification was done for both Hindi and Mathematics. For Hindi the classification was as follows

Group 1 – Students can only recognise alphabets and words

Group 2 – Students who can recognise alphabets, words and read simple paragraph

Group 3 – Students who can recognise alphabets, words, Paragraph and story

For Mathematics the classification was as follows:

Group 1 – Students who can recognise number from 0-9

Group 2 – Students who can recognise numbers from 0-99

Group 3 – Students who can recognise numbers from 0-999

The survey was conducted by Trainee students from the DIET to ensure transparency and fairness. Since the aim of this exercise was to increase teacher accountability it would not be fair to have them conduct the baselines survey.

In order to ensure that teachers follow the methodology imparted to them during training the district administration officials including the Sub Divisional Magistrates were involved. They were to head teams comprising the Tehsildars, Block Elementary Education officers and Block resource coordinators of Sarva Shiksha Abhiyaan which would inspect these schools during this period of the special campaign. A special training on what and how to inspect was conducted for the District Administration officials including the Deputy Commissioner and SDMs.

Another key element of our strategy was to publicly reward and recognise the performing teachers. Based on the basic needs assessment we awarded Certificates of Meritorious work to teachers of three schools of Samirpur, Jeoli Devi and Hatol.

Observation during the campaign

The success of the campaign lay in continuous and close monitoring of the execution of the program. An inspection schedule was drawn for every SDM to inspect the schools in their jurisdiction. This allowed us to observe shortcomings where noticed and communication of the same to the particular school. In a couple of schools it was found that students had not been classified into groups on the basis of learning levels but were still being taught class-wise. Those teachers were not only told to explain why they did not implement the given directions but their names were also given in the local

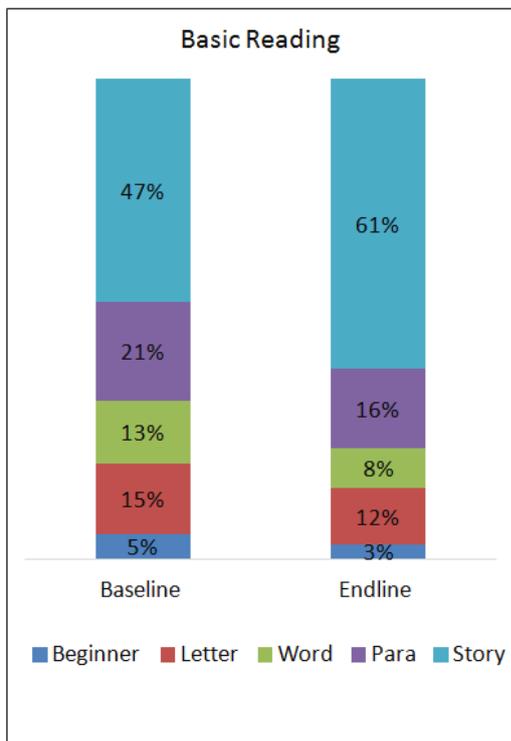
newspapers through which community awareness, interest and a sense of accountability was inserted into the program.

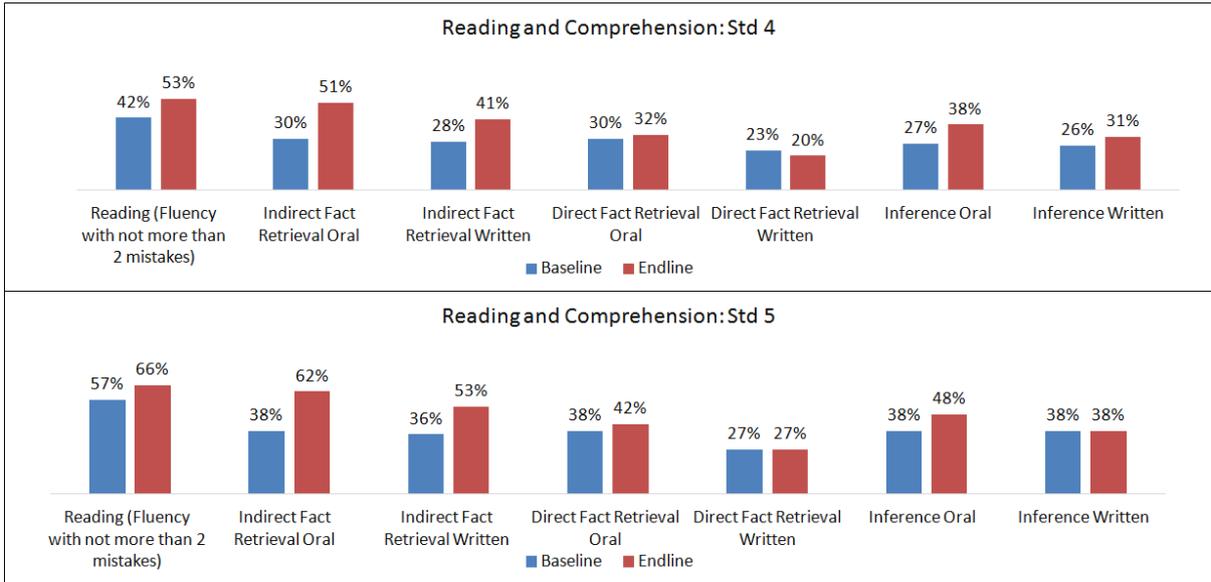
It was also seen that since only one teacher had been trained per school, due to poor communication in some schools the other teachers were not clear how to implements the pedagogy. In such circumstances a cadre for onsite support would have been helpful.

Also, during inspections it was observed that there was no basis on which it could be said that migrants children’s performance was, in any way, less than the others. This myth was totally busted when GPS Paniyala (a school with almost 100% migrant children) achieved the highest score in the end line survey which was done after the 28 day course.

Phase 1: Final Results

One of the key areas of improvement was the ability of the students to read proficiently. There was a jump of 14% from 47% to 61% for students who could read a text with two or less mistakes. (Shown in graph below)

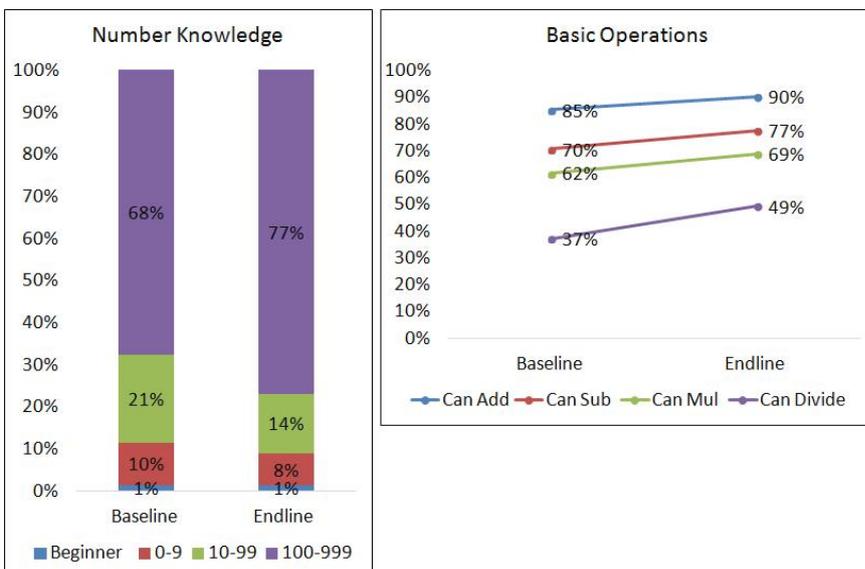


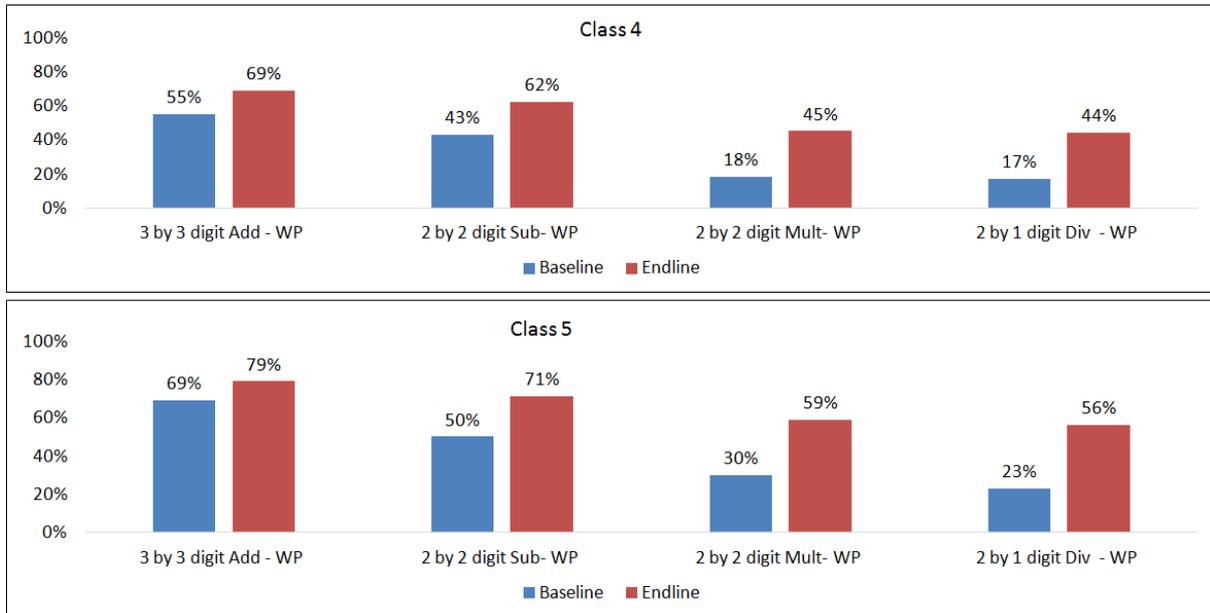


The above table shows results on various facets of reading, comprehension and writing for class 4 and 5 only. Substantial progress has happened in areas of reading and comprehension but not in writing. It appears the program was not able to focus on writing skills which will be an area to work upon in the second phase.

The table below shows the improvement in number recognition and basic operations. The number of children who could recognise three digit numbers increased from 68% to 77%. However, work needs to continue in the second phase to increase this figure to above 95%. Without number recognition any further knowledge is of no practical use.

In basic operations, it would be pertinent to recall that multiplication and division were identified as areas of weakness. There has been an improvement in all four basic operations with 12% improvement in the ability to divide properly. This was an area of focus during all the inspections and teachers were repeatedly told to emphasise on multiplication tables and division. However, this number should be at least 80% because simple division is taught in class 3 and yet it appears to be problem areas for students of class 5.





The above table shows the progress achieved in all four operations. The greatest improvements have happened in the ability to divide and multiply, which had been clearly recommended as areas needing focus after the initial basic needs assessment survey.

School wise performance

Further analysis of data was done in order to understand the progress made at the school and block level. The school assessment was done on three parameters for every class i.e. (3rd to 5th). These were

1. Ability to read a paragraph of Hindi with two or less mistakes
2. Ability to multiply (3 by 2 digits)
3. Ability to divide (3 by 1)

Based on the above parameters there were three parameters for every class and a total of nine parameters for every school. Just like in the basic needs assessment survey, if the percentage of students in a school which were able to satisfy the above parameters crossed 80%, they were given a score of one (1). This means that in the particular parameter being tested more than 80% of students were successful. If this percentage fell below 50%, a score of negative one (-1) was given, which means that in a particular parameter being tested less than 50% of the students were successful. If the percentage of the students varied between 50% and 80% a neutral score of zero (0) was given. Since the survey had been conducted across three classes of 3, 4 and 5, we had a total of nine (9) parameters on which we tabulated the score of each school. Thus, the score could vary between 9 (at best) and (-) 9 (at worst). Based on this scoring pattern we categorized the schools as follows-

SCORE \geq 3, School categorised as Excellent

SCORE \leq -5, School categorised as Poor

-4 \leq SCORE \leq 2, School categorised as average.

Based on this scoring pattern we were able to get the following results:

- 3 schools were classified as excellent, 27 as average and 30 as poor. This result is the same as in the basic needs assessment survey. However, in this survey class 3 students have also been included who have pulled down the overall results in all three areas of reading, multiplication and division. Despite this, we have recorded significant improvements in 19 schools.
- The top three schools are GPS Paniyala (Score of 6), GPS Loharli (3) and GPS Dandru (3)
- The top performing block remains Bijhri with a net score of (-) 0.8 and Sujanpur remains the biggest laggard at (-) 5.8.

Row Labels	Average of New
Bhoranj	-3.8
Bijhari	-0.8
Galore	-4.3
Hamirpur	-3.6
Nadaun	-4.6
Sujanpur	-5.8
Grand Total	-3.81666667

- The most improved blocks between the previous basic needs survey and this end line Survey is Bijhari (0.1) and Hamirpur (1). This is reflected in the net average difference in scores of the two surveys. The blocks which have deteriorated are Nadaun (-2) and Sujanpur (-1.2).

Financing

One of the most important aspects for the execution of this program was the financing. There are no funds available at the discretion of the Deputy Commission to conduct such an exercise. Thus, we used funds under the component of Teachers' Training of Sarva Shiksha Abhiyaan (SSA) for financing this project. The biggest component was the TA/DA to be given to our JBT students and Pratham officials who travelled all over the district for the conduct of the survey and administration of the tests. The cost of providing the necessary stationary were also met under the same head. A detailed break up of the costs for both phases is given in the table below.

S No	Particulars	Baseline survey	1st phase (60 Schools) Hindi & Math	2nd phase (90 Schools) Hindi & Math	2nd phase (60 Schools) English
1	Tools Development	16,959	47,536	15,000	25,000
2	Refreshment/Working lunch	18,705	8,975	15,000	18,000
3	Honararium	3,000	26,450	25,000	12,000
4	TA/DA to participants	1,46,813	79,182	1,15,200	18,000
	Total	1,85,477	1,62,143	1,70,200	73,000
	Total Cost (Both phases)	5,90,820			

Key challenges and the way forward

It is well understood that an exercise of the type conducted in Hamirpur has to be a continuous process. Just as results are visible in a short period it does not take much time for learning gaps to reappear if not monitored strongly. The next phase of the PRERNA involves doing a similar exercise in the same sixty schools for English and further scaling up the exercise done in Hindi and Mathematics for 90 additional schools. Some of the challenges we have faced in the first phase are listed below:

1. The importance of clear communication while training the teachers cannot be understated. Many teachers did not implement the pedagogy which they were supposed to. This can only be checked through regular inspections and continuous course correction. This is a real challenge since there are no direct controlling powers exercised by the Deputy Commissioner over the Education department.
2. The assessment activity has to be carried out simultaneously in all the schools. The manpower available for this purpose is limited. Students training to become JBTs (Junior Basic teachers) were used for this purpose. However, some of the schools could be not be covered by them. Thus, any effort to scale up the exercise will need to involve the teachers or 3rd parties themselves for the assessment. The second option is costly. However using teachers come with its own limitations as there is a tendency amongst some teachers to over assess the performance of their students since it reflects on their performance.
3. Due to the same reason there were errors found in the way the assessment sheets had been filled up in the baseline survey.
4. Another issue which arises is how to break the mind set of resistance amongst the teachers. We started an incentive system of rewarding the teachers of the top three schools by giving them individual certificates in important public functions. The top ranked schools were given computers for use by the students.
5. One shortcoming which was felt was that of an onsite support team. It is not possible to have external parties acting as support teams on a full time basis in schools. However, we need to form a District resource group from amongst teachers and officials which can help in addressing problems and also scaling up the program.
6. The selective use of the media is key factor in making this program sustainable. Thus it was felt that every time an assessment/ result or inspection was done, the impact of the program and its ultimate goal of making it a people's movement would be served very well by sharing it with the local vernacular media. This would be the first step towards making the teachers accountable to the parents in particular and the society in general. The publishing of the rankings of the schools was an important step. Here, it would be fair to say that nobody wanted to be seen as being ranked on the lower side of the scale.
7. It is realised that the ultimate success of this program will be achieved when the parents start holding the teachers accountable for the learning levels of their wards. PRERNA intends to act more as a catalyst in that direction.
8. PRERNA also intends to track the progress of every child surveyed. Thus, at the beginning and end of any intervention a as assessment is conducted by the teachers of the school. It is also cross checked at the time of field visits by Education department officials and District administration. The process of digitisation of this record has started.

The end line assessment of every intervention will become the baseline for the following one.

To conclude, it would fair to say that like with any program results would be achieved best when program is implemented in a continuous mode through community participation and accountability. There are other larger issues of teachers' transfers, quality, union issues, etc but they more in the political realm. From an administrator's point of view any program designed must factor in these limitations. PRERNA represents the first few steps in the direction of creating an environment of accountability through adoption of greater responsibility by all stakeholders – officials, media, teachers and parents.