

Interventions and Learning Abilities

'Read India' Project in Maharashtra

A survey of the impact of an NGO project to introduce an accelerated reading technique in schools in Maharashtra shows that if children are taught properly, their academic abilities can improve substantially. Intervention is also found to be more beneficial at the lower rather than higher levels of primary education, and the survey did not detect any gender bias in learning.

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One of the distressing paradoxes of the Indian education system has been that while the government-supported elitist centres of education (like the IITs and IIMs) have been able to reach international academics standards, the lower rungs of education, like primary education, have been grossly neglected. The lack of political will and apathy towards universal primary education has been studied and documented by many scholars.

According to the Constitution, primary education is a concurrent subject, and its execution lies with the state government. This has meant that there is a wide interstate disparity in the primary education scenario. While some states such as Kerala, Mizoram and Himachal Pradesh have made universal primary education a reality, others like Bihar and Uttar Pradesh have lagged behind. Maharashtra, which is one of the more progressive states, has high primary school-level enrolment. More than 90 per cent of primary school age children are enrolled in school.

Without taking a narrow, instrumentalist approach towards education we can say that universal education is an end in itself. However, it also confers many benefits to society and the people themselves. It leads to better awareness of rights and duties, and strengthens democracy. It also improves employment opportunities. In a caste-ridden society like India, it also raises the possibility of providing equal opportunities to the downtrodden. However, mere physical attendance in school does not mean education. At a basic level, the *raison d'être* of sending a child to school is to make her literate. If that objective, i.e., the ability to read, write and do

mathematics is not fulfilled, then it becomes a totally meaningless activity for the child. It could also affect her willingness to attend school. The child may still want to go to school because of the opportunity of interacting with other children. However, non-learning could demotivate the parents, who may feel (quite correctly) that their child is just wasting time at school. It has been found that, at an all-India level, around 30 to 40 per cent of school-going children are unable to read simple text fluently. Therefore, the focus in recent years has shifted to the delivery systems and reasons why poor people get poor services. It has been found that the government has been spending substantial amounts on primary education, but services commensurate with the expenditure have not been provided to the poor. Concerned with this situation, an NGO, Pratham, developed an accelerated reading technique, called 'Vachan Prakalp', which enables a child to read fluently in around 45 days. This project, called, 'Read India', was launched in January 2003 and has enrolled 2 lakh children in Pratham classes all over the country. Innovative learning techniques are being developed for writing and mathematical abilities.

In this study, we have made an attempt to examine the impact of Pratham intervention (or the 'Vachan Prakalp') on students in zilla parishad schools in Maharashtra.

Methodology and Nature of Sample

A survey of zilla parishad schools from 20 districts (out of 33 districts in Maharashtra) was carried out from June 1-6, 2004. The survey was carried out by two people, one, a Pratham

employee and the other a masters degree student at the Department of Economics, University of Pune. A simple test of reading, writing and basic mathematics was developed and administered to a student.

From the 20 districts, zilla parishad schools from 40 talukas were surveyed. The talukas can be divided into three types, namely, pilot, replicated and non-treated talukas. In pilot talukas, Pratham's own workers went and trained teachers in zilla parishad schools. The training given here was of the most intensive type. The workers interacted a lot with the teachers and the latter showed a lot of interest and willingness to carry out the programme. In replicated talukas, the workers from Pratham trained teachers to use the techniques of accelerated learning, but the monitoring of the project was not as intensive. Thus there is a possibility of some dilution in the application of the technique. In non-treated talukas the students were not given any additional inputs. The names of the 20 districts and 40 talukas are given in the Appendix.

Tables 1 and 2 provide information regarding the basic parameters of the survey. Of the 40 talukas, almost half (19) were pilot talukas. The remaining half were randomly selected and we got nine talukas which were of the replicated type and 12 which were the non-treated type. On the whole, 7,867 students were surveyed, of whom 48 per cent belonged to pilot talukas, 23 per cent to replicated talukas and 28 per cent to non-treated talukas. Reading, writing and mathematical ability was measured for students from standards 2 to 7. For simplicity of analysis, we divided the students into two groups – the first, consisting of children belonging to standards 2,3 and 4 (henceforth to be called lower standards). The second group consists of children belonging to standards 5, 6 and 7 (henceforth to be called higher standards). Of the 7,867 students, 64 per cent belonged to the lower standards and 36 per cent to higher standards.

Table 3 gives genderwise break-up of the students. Of the overall students surveyed, around 57 per cent were boys and the rest were girls. An almost similar pattern

Table 1: Sample Overview

| | |
|--|----|
| Total number of districts in Maharashtra | 33 |
| Districts surveyed | 20 |
| Talukas surveyed | 40 |
| of which | |
| Pilot talukas | 19 |
| Replicated talukas | 9 |
| Non-treated talukas | 12 |

is seen for both lower and the higher standards.

Table 4 gives us the break-up of the reading abilities of students. Reading abilities were measured on a scale of 0 to 4. If a student could not read anything, s/he was given a score of zero. If s/he could identify a letter, a score of 1 was given, identification of a word got a score of 2, reading a paragraph got 3, and reading a story got a score of 4.

We find from Table 4 that for lower standards, there is a marked difference in the story-reading abilities of children belonging to the pilot talukas and non-treated talukas. In the pilot talukas, 48 per cent could read a story, while only 32 per cent could do so from non-treated talukas. Among students belonging to higher standards, we find that the story-reading ability is much higher among children belonging to pilot talukas (at 80 per cent) while only 66 per cent from non-treated talukas could read a story. Surprisingly, however, the reading abilities of children in the replicated talukas seem to be a bit higher than those in pilot talukas.

With this preliminary information, we wanted to see whether there is a statistically significant difference between the

reading abilities of pilot taluka students and non-treated taluka students for the two separate categories of lower and higher standards. To test this we have applied the Z-test. Our null hypothesis is that there is no significant difference in the reading abilities of the children of pilot and non-treated talukas at lower or higher standards.

For lower standards, the average score for pilot talukas is 3.12 and for non-treated talukas it is 2.59. It was found that the difference was statistically significant. Therefore, one can state that there is a significant difference between the reading abilities of students belonging to pilot talukas and non-treated talukas at lower standards, at 5 per cent level of significance.

Table 4: Reading Abilities of Students

| Reading Ability (Score) | Lower Standards (II to IV) | | | Upper Standards (V to VII) | | |
|-------------------------|----------------------------|--------------------|---------------------|----------------------------|--------------------|---------------------|
| | Pilot Talukas | Replicated Talukas | Non-treated Talukas | Pilot Talukas | Replicated Talukas | Non-treated Talukas |
| Story-level (4) | 1180 (48) | 532 (44) | 438 (32) | 1085 (80) | 510 (83) | 563 (66) |
| Para (3) | 652 (27) | 359 (30) | 312 (22) | 173 (13) | 75 (12) | 198 (26) |
| Word (2) | 398 (16) | 207 (17) | 357 (26) | 60 (4) | 17 (3) | 54 (6) |
| Letter (1) | 160 (7) | 86 (7) | 204 (15) | 34 (3) | 12 (2) | 32 (4) |
| None (0) | 48 (2) | 24 (2) | 78 (6) | 8 (1) | 3 (0) | 8 (1) |
| Total | 2438 (100) | 1208 (100) | 1389 (100) | 1360 (100) | 617 (100) | 855 (100) |

Note: Figures in brackets indicate percentages.

Table 5: Writing Abilities

| Writing Ability (Score) | Lower Standards (II to IV) | | | Upper Standards (V to VII) | | |
|-------------------------|----------------------------|--------------------|---------------------|----------------------------|--------------------|---------------------|
| | Pilot Talukas | Replicated Talukas | Non-treated Talukas | Pilot Talukas | Replicated Talukas | Non-treated Talukas |
| Can (1) | 1487 (61) | 767 (63) | 704 (51) | 1199 (88) | 540 (88) | 707 (83) |
| Can't (0) | 951 (39) | 441 (37) | 685 (49) | 161 (12) | 77 (12) | 148 (17) |
| Total | 2438 (100) | 1208 (100) | 1389 (100) | 1360 (100) | 617 (100) | 855 (100) |

Note: Figures in brackets indicate percentages.

Table 6: Mathematical Abilities

| Mathematical Ability (Score) | Lower Standards (II to IV) | | | Upper Standards (V to VII) | | |
|------------------------------|----------------------------|--------------------|---------------------|----------------------------|--------------------|---------------------|
| | Pilot Talukas | Replicated Talukas | Non-treated Talukas | Pilot Talukas | Replicated Talukas | Non-treated Talukas |
| Division (3) | 300 (12) | 168 (14) | 149 (11) | 622 (46) | 280 (45) | 362 (42) |
| Subtraction (2) | 638 (26) | 313 (26) | 239 (17) | 268 (20) | 127 (21) | 200 (23) |
| Can recog num (1) | 887 (36) | 464 (38) | 525 (38) | 346 (25) | 155 (25) | 217 (25) |
| None (0) | 613 (25) | 263 (22) | 476 (34) | 124 (9) | 55 (9) | 76 (9) |
| Total | 2438 (100) | 1208 (100) | 1389 (100) | 1360 (100) | 617 (100) | 855 (100) |

Note: Figures in brackets indicate percentages.

Table 2: Number of Students Surveyed

| Type of Taluka | Lower Standards II,III,IV | Higher Standards V,VI,VII | Total Students |
|---------------------|---------------------------|---------------------------|----------------|
| Pilot talukas | 2438 | 1360 | 3798 (48) |
| Replicated talukas | 1208 | 617 | 1825 (23) |
| Non-treated talukas | 1389 | 855 | 2244 (28.5) |
| Total students | 5035 (64) | 2832 (36) | 7867 (100) |

Note: Figures in brackets indicate the percentages.

Table 3: Genderwise Distribution of Students

| Type of Taluka | Lower Standards II,III,IV | Higher Standards V,VI,VII | Total Students |
|---------------------|---------------------------|---------------------------|----------------|
| Pilot talukas | 2438 | 1360 | 3798 |
| of which | | | |
| Boys | 1371 | 832 | |
| Girls | 1067 | 528 | |
| Replicated talukas | 1208 | 617 | 1825 |
| of which | | | |
| Boys | 653 | 376 | |
| Girls | 555 | 241 | |
| Non-treated talukas | 1389 | 855 | 2244 |
| of which | | | |
| Boys | 794 | 493 | |
| Girls | 595 | 362 | |
| Total students | 5035 (100) | 2832 (100) | 7867 (100) |
| of which | | | |
| Boys | 2818 (56) | 1701 (60) | 4519 (57) |
| Girls | 2217 (44) | 1131 (40) | 3348 (43) |

Note: Figures in brackets indicate percentages.

Appendix Names of Districts and Talukas Where Survey Was Done

| Name of District | Name of Taluka | | |
|------------------|----------------|------------|-------------------|
| | Pilot | Replicated | Non-Treated |
| Jalna | Jaffrabad | | Partur |
| Jalgaon | | | Bhadgaon, Amelner |
| Parbhani | Palam | | Parbhani |
| Nanded | Kinwat | | Kandhar |
| Solapur | Akkalkot | | Pandharpur |
| Dhule | Shirpur | Dhule | |
| Aurangabad | Sillod | | Gangapur |
| Hingoli | Kalamnuri | | Vasmat |
| Latur | Aousa | | Renapur |
| Sindhudurg | Kankavali | | Malvan |
| Satara | Jawali | Patan | |
| Pune | Baramati | | Khed |
| Kolhapur | Gadhingalaj | Chandagad | |
| Ahmednagar | Jamkhed | Shegaon | |
| Nashik | Igatpuri | Chandwad | |
| Ratnagiri | Sangmaner | Lanja | |
| Sangli | Walva | Jat | |
| Raigad | Pali | Uran | |
| Nandurbar | Shahada | | Navapur |
| Thane | Mokhada | Taslari | |

Since the average score of the pilot talukas is higher than that in the non-treated talukas, we can say that reading abilities are superior in the former.

A similar test was applied to higher standards. Here, the average score for pilot talukas was 3.68 and for non-treated talukas it was 3.49. Here too we found that there is a significant difference between the reading abilities of students belonging to the two groups, at 5 per cent level of significance and that reading abilities were superior in the pilot talukas.

We have also compared the story-reading ability of students from all three types of talukas for lower and higher standards. We find that, generally speaking, story-reading ability improves as one moves from lower to higher standards. In case of non-treated talukas, the rise was the steepest, from 32 per cent in lower standards to 66 per cent in higher standards, an increase of more than 100 per cent. In case of the replicated talukas, the percentage of students who could read a story almost doubled from 44 per cent for lower standards to 83 per cent for higher standards. For the pilot talukas the rise was from 48 per cent to 80 per cent. This result is an expected one because as students grow older and are in the school for more number of years, more of them will be able to read a complete story.

Writing Abilities

The next step is to examine the writing abilities of the talukas (Table 5). It needs to be mentioned here that the 'Read India' project concentrated only on improving the reading abilities and did not give any inputs as far as writing and mathematical abilities are concerned. However, we were interested in seeing if there was any impact of improved reading abilities on writing and mathematical skills.

In the pilot talukas, 61 per cent of children in lower standards could write, as against 51 per cent in non-treated talukas. The difference between the two decreases as we look at the higher standards, where the corresponding figures are 88 and 83 per cent, respectively. The average score of pilot talukas was 0.63 and for non-treated talukas it was 0.50. Applying the Z test we found that there is a significant difference between the writing abilities of pilot taluka students and non-treated taluka students. A similar significant difference in writing abilities was found between pilot taluka and non-treated taluka students for higher standards.

Mathematical Abilities

As far as mathematical abilities are concerned, we found that for the lower standards, 12 per cent from pilot talukas could do division as against 11 per cent from non-treated talukas. This difference is quite narrow compared with those for reading and writing skills.

For lower standards, the average score of pilot talukas was 1.25 and for non-treated talukas it was 1.04. Applying the Z test, we found that there is a significant difference between the mathematical abilities of pilot taluka students and non-treated taluka students. However, a similar significant difference in mathematical abilities was *not* found between pilot taluka and non-treated taluka students for higher standards.

Genderwise Reading Abilities

Next, we wanted to examine whether the Pratham programme showed any gender bias. To this end, we looked only at the pilot talukas. For the lower standards in the pilot talukas, the average score for reading ability for boys was 3.10 and for girls it was 3.16. The Z test showed that there was no significant difference between the reading abilities of the two groups. For higher standards too, we noted that there was no significant difference between boys and girls. Thus, the Pratham 'Read India' programme does not have a gender bias.

The Pratham intervention shows that if children are taught properly, their academic

abilities can improve substantially. Thus children do respond to better delivery systems. It was found that the reading abilities of students belonging to pilot talukas are significantly better than those of students belonging to non-treated talukas for both lower and higher standards. Thus the Pratham intervention has had a positive impact on the reading abilities of students. Pratham workers did not have a special programme for improving writing and mathematical skills. However, our analysis shows that the writing abilities of students belonging to the pilot talukas were significantly better than those of students belonging to the non-treated talukas for both lower and higher grades. Therefore, there are externalities involved in learning. As far as mathematical abilities were concerned, we found that they were significantly better for pilot taluka students for lower standards, but not for higher ones.

On the whole, the percentage of students able to do well in reading, writing and mathematics improves as we move from lower to higher standards. The difference between the abilities of pilot taluka students and non-treated taluka students also decreases as one moves from lower standards to higher standards. In other words, the benefit to students from the Pratham programme is higher at lower levels than at higher levels of primary education. Therefore, improvement in teaching services brought about at a lower level will help students more. The Pratham programme does not have a gender bias. It is benefiting boys and girls equally. **EPW**