Something is changing...

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ASER has been witness to changes in India's school education landscape over more than a decade now. In the first years of ASER it was a bit difficult to justify this annual effort. But, as years went by, the individual dots started looking like trends. A look at the proportion of children in Std V who can read Std II level text over the last 10 years indicates that at the national level the proportion was the highest in 2008. This declined till 2012. Over the last six years the level has been rising slowly and unevenly, although the level in 2018 is still substantially lower than in 2008. Something is changing and ASER is sensitive enough to catch the change.

Table 1: % Children in government schools in Std V who can read Std II level text, 2008-2018

	2008	2010	2012	2014	2016	2018
India	53.1	50.7	41.7	42.2	41.7	44.2
Group 1						
Kerala	73.3	74.0	59.9	61.3	63.3	73.1
Maharashtra	74.3	71.0	55.3	51.7	63.1	66.0
Punjab	61.3	68.7	69.5	60.9	64.0	68.7
Uttarakhand	64.6	63.7	52.2	52.0	55.9	58.0
Haryana	61.1	60.7	43.5	53.9	54.6	58.1
Chhattisgarh	74.1	61.0	44.0	47.1	51.0	57.1
Assam	40.9	42.6	33.3	30.6	32.2	33.5
Madhya Pradesh	86.8	55.2	27.5	27.5	31.4	34.4
Group 2						
Karnataka	42.9	42.9	47.2	45.7	41.9	47.6
Himachal Pradesh	73.6	75.7	71.2	71.5	65.3	74.5
Odisha	59.6	45.5	46.1	49.1	48.8	56.2
Uttar Pradesh	33.4	36.0	25.6	26.8	24.3	36.2
Group 3						
Jharkhand	51.9	48.4	32.5	29.1	31.4	29.4
West Bengal	45.2	54.2	48.7	51.8	50.2	50.5
Gujarat	43.8	43.5	46.3	44.6	52.3	52.0
Rajasthan	45.1	44.2	33.3	34.4	42.5	39.1
Tamil Nadu	26.7	30.9	30.2	49.9	49.4	46.3
Bihar	62.8	57.9	43.1	44.6	38.0	35.1

Although ASER does not analyze the causes of poor or improved learning levels, it is but natural to correlate changes with probable causes. Passage and implementation of the Right to Education Act in the 2009-10 period has to be correlated with the decline of subsequent reading ability at the national level and in most states. In 2012, the then Planning Commission acknowledged for the first time that there was a problem with learning outcomes, although the Ministry of Human Resource Development had been maintaining that learning levels had not gone down. The emphasis on learning of basic reading and arithmetic was not clear for about two to four years after that. This is apparent in the mixed bag of improvement, decline or status quo in state level results over that period. Over the last two years, however, many states have shown big changes, indicative of a change of emphasis towards improved learning outcomes. We can only hope that this emphasis continues regardless of changes of officials and/or political parties in different states and at the national level.

The learning levels of children are indicators of effectiveness or productivity of the education system. Anyone looking at the levels in 2008 and 2018 would conclude that its productivity is down by nearly 9 percentage points, or about 18 percent. However, the fact that numbers for all years in between are available means that we can catch the little ups and downs in different states and at the national level too. In Table 1, I have divided some of the states excluding Goa and most of the north-eastern states into three groups. In the first group there is a decline in reading levels till 2014 followed by a steady, even if small rise over the next four years. In Group 2, the rise is restricted to the 2016-18 period. Group 3 shows ups and downs in learning levels every two years. It is easy to see how each state has behaved over the years. There is clearly a positive change in most states over the last two years, not only in the Std V learning levels, but also in other classes. This change points towards an increased emphasis on improved learning levels in many states. It will be worthwhile watching if the trend of positive change continues in most states and the productivity of the system reaches and then overtakes where it was in 2008.

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As we have noted in previous reports, while the productivity of the government school system has declined overall, the effectiveness of the private schools has not changed as dramatically. In 2008, 68% Std V children in private schools could read a Std II level text. This went down to 61% in 2012 and then went up again to 65% by 2018.

Table 2: % Children who can read a Std II level text, government vs private schools

Std V	2008	2010	2012	2014	2016	2018
Govt	53.1	50.7	41.7	42.2	41.7	44.2
Pvt	67.9	64.2	61.2	62.6	63.0	65.1

The important thing to note is that in 2008, the percentage of Std II level readers in government schools was at 53%, or 15 percentage points lower than the 68% children in private schools. By 2018, this gap has widened to 21 percentage points on a national scale. At the same time, the proportion of children enrolled in private schools in rural India has gone up from 22% in 2008 to 30% in 2018.

There is no doubt that thanks to the poor reading ability at Std V, the overall ability to deal with textbooks in higher standards is that much poorer as the curriculum becomes increasingly ambitious and texts become complex in more than one way. The highest level of reading that ASER measures is at Std II. So, we do not know if those who learn to read by Std II improve their skill with age or additional years in the school. But as we can see in Table 3, the proportion of children who can read at Std II level increases by a good 25 to 30 percentage points between Std V and Std VIII.

Table 3: % Children in government schools who can read a Std II level text, Std V vs Std VIII

India	2008	2010	2012	2014	2016	2018
Std V	53.1	50.7	41.7	42.2	41.7	44.2
Std VIII	83.6	82.0	73.4	71.5	70.0	69.0

The declining productivity of schools leads to a substantially smaller number of students learning to read basic texts by the time they reach Std V every year. But, the fact that the proportion of 'readers' grows 1.4 or 1.5 times by the time they reach Std VIII means that as children continue to use books, more children learn to read fluently even if not at the desired level. It also suggests that while efforts have to be made to ensure that 100% children are reading fluently by the time they reach Std V, efforts to improve reading ability should be continued even after Std V.

Table 4: % Children in government schools in Std V who can do division, 2008-2018						
	2008	2010	2012	2014	2016	2018
India	34.4	33.9	20.3	20.7	21.1	22.7
Group 1						
Himachal Pradesh	57.4	61.8	40.7	37.9	47.4	51.5
Punjab	39.7	70.8	48.6	37.1	42.4	50.1
Uttar Pradesh	15.8	18.7	9.1	12.1	10.4	17.0
Kerala	38.3	43.1	38.0	25.6	27.1	33.5
Chhattisgarh	59.5	37.8	13.1	14.1	18.6	26.1
Maharashtra	46.9	39.9	20.2	16.6	19.7	31.7
Madhya Pradesh	77.5	38.0	8.9	10.0	15.3	16.5
Gujarat	24.1	19.6	12.4	13.9	14.5	18.4
Uttarakhand	38.4	48.7	27.3	21.4	25.5	26.7
Group 2						
Assam	15.5	22.6	8.9	9.0	9.1	14.4
West Bengal	29.4	38.1	28.7	31.3	28.6	29.2
Haryana	45.7	50.5	25.4	30.8	30.1	34.4
Karnataka	14.9	18.7	17.4	16.7	17.2	19.6
Tamil Nadu	9.0	14.1	9.6	25.6	21.4	27.1
Group 3						
Bihar	50.9	51.0	30.0	31.4	28.9	24.1
Jharkhand	30.5	40.1	20.1	17.6	20.0	15.6
Rajasthan	25.9	25.2	9.9	12.0	15.6	14.1
Odisha	36.0	31.3	17.2	19.9	23.8	23.8

Table 5: % Children in government schools who can do division, Std V vs Std VIII						
India	2008	2010	2012	2014	2016	2018
Std V	34.4	33.9	20.3	20.7	21.1	22.7
Std VIII	65.2	67.0	44.5	40.0	40.2	40.0

Table 6: % Children in private schools who can do division, Std V vs Std VIII						
India	2008	2010	2012	2014	2016	2018
Std V	47.1	44.2	37.8	39.3	38.0	39.8
Std VIII	71.8	72.0	57.1	54.2	51.2	54.2

Just as reading levels have shown some improvement for the last four odd years in several states, arithmetic levels too have improved noticeably in some states compared to what they were four years ago (Table 4). However, the change at the national level is comparatively small. Again, the small improvements over the last four to six years have not been enough to bring the arithmetic ability levels to what they were ten years ago.

Although we see small but consistent improvement in arithmetic learning levels in many states, we cannot ignore the fact that the highest proportion of Std V children who can do division are in Himachal Pradesh and Punjab at just over 50%. The national average is at 22% with Assam, Gujarat, Karnataka, Rajasthan, and Jharkhand showing numbers in the teens.

As in reading, it is apparent from Table 5 that the proportion of children who can solve division sums (and hence, we conclude, all basic arithmetic operations) almost doubles between Std V and VIII in government schools. In private schools too, as seen in Table 6, this proportion increases but it does not quite double. Every year about 4 to 6 percentage point more children in each cohort learn to do division. But, between 2008 and 2018, the proportion of 'division solvers' in Std V in government schools went down from 34% to 22.7%.

Although we can see that the proportion of children who know division does improve within a cohort, it does not reach 100% even after 8 years of schooling. Further, as we saw in ASER 2017 'Beyond Basics', only 15.4% of young adults had the ability to do simple financial calculations involving computation of simple interest.

This means that not only are we not creating a sufficiently literate population, but that most of our population is functionally illiterate.

The fact that we are seeing some improvement in learning outcomes now is a welcome change, assuming that the improvement will continue. But, first of all, the positive change is slow and uncertain. It has to be understood that we are struggling even with basic literacy and numeracy.

We are far from becoming an educated nation.

Can our country take an educational quantum leap? But, which way are we to jump? Should we leap-frog over some curricular goals? Do we have different options in terms of the goals we want to achieve? Or, are we going to continue on the path of linear improvement of the system and all of its components?

These are difficult questions to answer. We have a system of education and we are dependent on it although it is dysfunctional to say the least. There is a curriculum - it expects teachers to teach and children to learn. Everything we know from ASER surveys and NAS results - two different ways of assessing children - indicates that a very small percentage of children are likely to come close to fulfilling all the curricular expectations. The government is talking about unburdening the children by cutting down the curriculum. It sounds like a good idea. But is it? Will the curriculum be cut horizontally, lowering standards in each subject? Or vertically, by dropping certain subjects altogether? Will the curriculum for the various competitive entrance examinations be cut down to half? That seems unlikely given the need to select 'the best' candidates out of hundreds of thousands who compete. If that curriculum is not reduced but the school curriculum is, some children will effectively have to choose a watered down curriculum, while the others go for the higher level of education through coaching classes for competitive examinations.

Is there any other way of unburdening? What if children could appear for examinations whenever they felt they were ready? What if there was no barrier to joining university courses? Any person passing a qualifying examination could register to study degree courses. What if there was no need to enroll in a college and have 75% attendance but instead, have complete access to lectures, notes, assignments, and examinations? There can be many 'what if's if we choose a path to leap-frog and decide to take a non-linear path to change.

There is a lot going on by way of application of digital technology in the field of education in India. But, we need to do more, and it appears to me that all our technology efforts are tied to the dysfunctional system and its old ways. This is unlikely to give the technology the full play it deserves. There is a need to think differently if we want to make a quantum leap.

India is a country where everything has to happen on a massive scale. Developing one successful model and replicating in state after state is one possibility. A decade ago this was attempted with Activity-Based Learning, ABL. The original ABL model left something to be desired and the replication was probably done without much conviction. In the current phase, the emphasis seems to be coming from goal setting and assessment rather than specific models of teaching-learning or teacher training. A motivated state machinery with leadership and consistent policy backing is the key to big systemic changes. NGOs and foundations can be helpful but not without energy from state functionaries. The transparent and simple methodology of assessment of basic learning outcomes developed by ASER has been replicated in other countries in South Asia, Sub-Saharan Africa, and even Latin America. Perhaps India could show the way for massive improvement in learning outcomes too?