

Betrayal or benefit?

RUKMINI BANERJI



FOR some years now, India has achieved close to universal enrolment for children in the elementary school age group. The decades long push to universalize schooling and the pressure of the Right to Education Act since 2010 has led to almost all children in the 6 to 14 age group being enrolled in school. This paper focuses on children who have reached class 8, the end of the elementary stage of schooling and also the point at which compulsory schooling ends.

Based on available data on this age group and on a set of recent empirical studies, the paper aims to shine a spotlight on what these children have achieved in terms of schooling and learning and on their likely future prospects beyond this stage. As learning becomes a higher priority in Indian educational policy and classroom practice, empirical work outlining the challenges of children acquiring academic and other capabilities needs to be placed at the centre of this debate.

Moreover, as a growing number of India's young people complete elementary education, the focus of educational policy has also shifted to secondary education. Fulfilling the policy objectives of universal quality secondary education for all children, established by the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) in 2009, requires a careful look at the capabilities of children completing the elementary stage and the pathways available to them to continue their schooling.

The paper relies on three main sources of data. First, it uses estimates from the Annual Status of Education Report (ASER), an annual household based survey that generates estimates of children's schooling and foundational reading and arithmetic status that are representative at the district, state and national level. Each year from 2006 to 2016, ASER has reported on a sample of more than half a million children in the age group 5-16 across rural India.¹

Second, the paper uses findings from a three-year study carried out in Nalanda district (Bihar) and Satara district (Maharashtra). A sample of approximately 6000 children from classes 6 to 8, representative at the district level, was identified and tracked between 2012 and 2015 in order to take a deeper look at the upper primary stage in India.²

Third, a study aiming to understand the transition from elementary to secondary school (class 8 to class 9) was conducted in two blocks each of Hardoi district (Uttar Pradesh) and Sambalpur district (Odisha). A census of all children in these four blocks who were enrolled in class 8 in 2014-15 was conducted; they were then tracked for 18 months (2014-16) to understand the issues and challenges they faced in the transition to secondary school.³

Let us set the stage for understanding class 8, the final year of elementary education in India. Who is in class 8, what kind of schools do they go to, do they attend, and where do they go afterwards? How have these patterns changed over time?

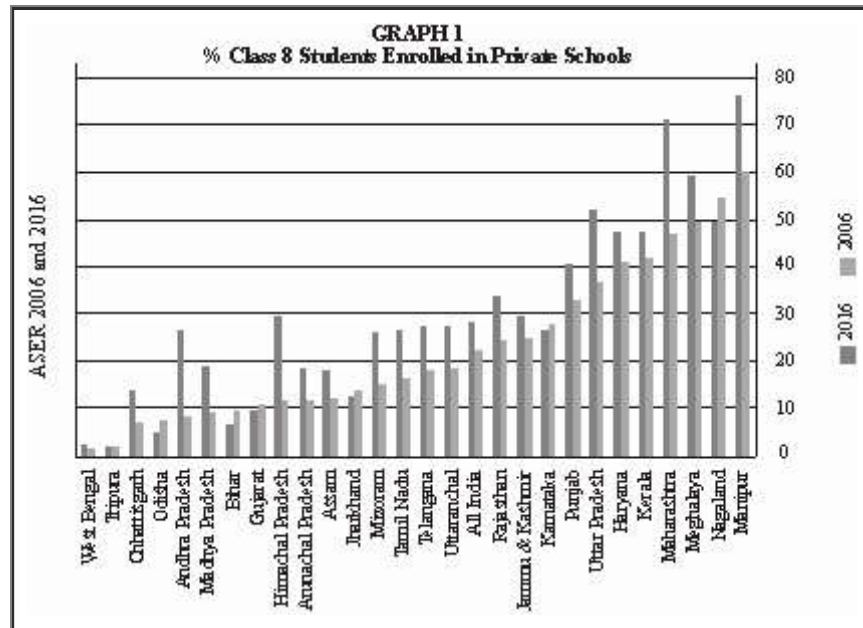
Size of student body: We begin with some back-of-the-envelope calculations. Based on census data, India has about 25 million children in each single age category. According to the District Information System for Education (DISE), ten years ago, in the 2006-7 school year about 12 million children were enrolled in class 8. By 2014-15, this number had risen to almost 22 million. Huge jumps are visible in educationally backward states like Bihar, where during this period, enrolment was a high priority for the government and incentives for elementary school completion were in place. For example, enrolment in rural government schools in Bihar in class 8 tripled from 5 lacs in 2006-7 to over 15 lacs by 2013-14.

Age-grade distribution: The RTE Act stipulates that education should be free and compulsory for children from age 6 to 14. In the legislation, elementary education is referred to as classes 1 to 8. In 2006, a nationally representative sample of rural children across India showed that only 30.5% of children in class 8 were 14 years old.⁴ Another 35% were 13 years old. The remainder were either older than 14 (17.5%) or younger than 12 (16.8%). By 2016, the age distribution of children enrolled in class 8 had shifted to the left. Close to 20% were age 12 or younger, about 40% were 13 years old and only 11.8% were older than 14.

Decline in numbers of children not enrolled in school: Even in 2006, the overall enrolment figures for India showed that well over 93% of children in the age group 6 to 14 were enrolled in school.⁵ According to ASER data, this number had risen to 97% by 2016. Within this category, if we look at the age group 11 to 14, significant shifts are visible: the percentage of boys (11-14) who were out of school dropped from 7.7% in 2006 to 4.1% in 2016 and for girls from 10.3% to 5.2%. The numbers for not-enrolled children age 15 and 16, ages not usually considered in elementary school statistics (even though they could still be studying in upper primary grades), dropped even more in this period: the proportion of boys fell from 20.2% in 2006 to 14.6% in 2016, and for girls from 22.6% to 16%.

Split between government and private school enrolment: According to ASER 2006, in rural India, 19.8% children were enrolled in private schools. By 2016, this proportion had increased to 30.6%. But a closer look at data over time indicates that the picture is much more varied than the national average suggests. For example, Graph 1 shows the percentage of class 8 students attending private school in 2016 as compared to 2006 for every state in the country. While there has been a large increase in private school enrolment in states like Uttar Pradesh, Himachal Pradesh and

Maharashtra, there are also states where the change has been much smaller. In some states like Bihar and Odisha we see a decline in the proportion of class 8 children going to private schools, possibly because upper primary facilities also expanded during this period.



Continuation beyond class 8: Do young people continue their education after the free and compulsory schooling stage is over? The latest ASER survey from 2017 focused entirely on the age group 14 to 18. While not representative at either state or national level, data from 28 districts across India suggest that at least up to age 16, more than 85% of young people continue to be enrolled in school or college: over 60% in government institutions and about 25% in private schools or colleges. The remaining are currently not enrolled.⁶

The Hardoi-Sambalpur study provides a glimpse of the ways in which patterns of provisioning and enrolment beyond the elementary stage vary enormously in different contexts. For example,

* *Provisioning*: In the two Hardoi blocks, there were approximately 227 schools that offered class 8, but only 56 schools offering class 9 (most of which were private). In the Sambalpur blocks, the overall number of schools offering class 8 was much lower at 98 (mostly government upper primary schools), but a large proportion offered class 9 (33 schools, also mostly government).

* *Enrolment in class 8*: In the Sambalpur (Odisha) blocks, almost all children in class 8 were enrolled in government schools, whereas in the Hardoi (Uttar Pradesh) blocks, only 63% were enrolled in government schools.

* *Transition from class 8 to class 9*: The study found that in Hardoi (which has more schools overall and also a higher proportion of private schools), close to 40% children dropped out after class 8. The proportion of children

dropping out was less than 8% in Sambalpur, which had far fewer schools and hardly any private schools.

These differences between Odisha and Uttar Pradesh are instructive. While Hardoi has more schools (hence potentially more choice and more access) than Sambalpur, the fact that most of Hardoi's secondary schools are private schools means that affordability is likely to be an issue. Despite having fewer schools (lower access and choice), Sambalpur children seem to move more easily between government upper primary schools and government secondary schools. These glimpses from empirical studies strongly suggest that as more and more young people complete eight years of schooling, we need a better understanding of how to prepare for the next step in terms of providing opportunities beyond the elementary school stage.

Attendance in school: While enrolment levels are high across the board and data is easily available, attendance is much more difficult to measure and hence attendance data is less easily available. What do we know about attendance, particularly for class 8? During the usual ASER survey every year, one government school with a primary section is visited in each sampled village. Hence, the sample of government schools with class 8 visited in the ASER survey may not be a representative sample of schools with class 8 in the district. Still, data from ASER 2016, covering more than 15,000 schools across rural India, showed that on an average day in the September to November period, about three quarters of the enrolled children were present.⁷

Since the Hardoi-Sambalpur study was a census of all schools with class 8 in the selected blocks, it provides an interesting glimpse of school attendance in these locations. Each school was visited twice during the baseline survey. In the Hardoi schools, a shockingly high figure of close to 60% of children enrolled in class 8 were absent on both days, in both government and private schools.⁸ The situation in the Sambalpur blocks in Odisha was exactly the opposite. Although the total number of schools offering class 8 in Sambalpur was less than half of that in Hardoi, well above 60% of enrolled students were in school on both days of the visit.

These examples suggest that there are important differences not only in provisioning and enrolment patterns across different contexts in India, but also that attendance patterns need to be studied closely, especially in upper primary grades like class 8 so that the links between attendance and learning can be better understood.

To summarize, the push for universalization of schooling has led to several pronounced trends that are visible at the end of the elementary schooling stage. First, more and more children in each cohort are staying in school longer; in recent cohorts, almost all children have continued till class 8. Second, over time the age range of the children reaching class 8 shows a shift towards younger children. This could have significant implications in terms of their preparedness for what lies ahead. If children enter school

early (potentially before they are developmentally ready for class 1) and move automatically year on year through the school system, given the ‘negative consequences of over-ambitious curriculum’, younger children may be more likely to be ‘left behind’ in terms of learning.

Third, in terms of provisioning for class 8 and class 9, the patterns vary tremendously across India. The effect of the different patterns of provisioning on children’s pathways forward needs much more empirical research. Finally, the same can be said of ‘participation’ in school. While enrolment data is easily available, much less is known about attendance or about any other measures of active participation in school. This is clearly another issue that needs more extensive study.

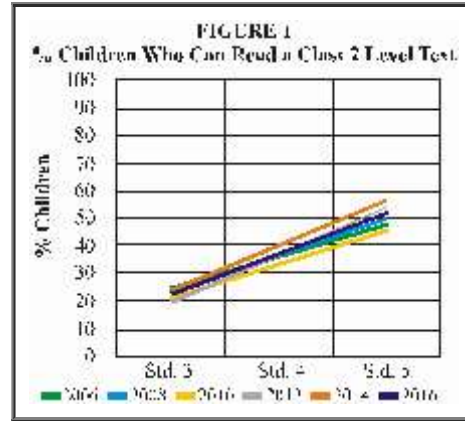
What about learning? Since 2005, the ASER surveys have provided annual estimates of basic reading and arithmetic for a nationally representative sample of children from close to 570 rural districts in India. Broadly, three clear trends are visible in the period 2005 to 2016.

First, basic learning levels are low and have remained low over time (Table 1). This is the most often cited finding from ASER. More than ten years ago, about half of all children enrolled in class 5 in rural India were able to at least read class 2 level texts. This number was not very different in 2016; if anything, there are some signs of decline since 2010. Today about half of all children are completing primary school without foundational skills. Even after eight years of schooling about a quarter do not have basic reading skills: 27% children in class 8 were unable to read a class 2 level text in 2016.⁹

<i>Year</i>	<i>Class 3</i>	<i>Class 5</i>	<i>Class 8</i>
2006	20.0	53.1	83.8
2008	22.2	56.2	84.8
2010	19.5	53.7	83.5
2012	21.4	46.8	76.4
2014	23.6	48.0	74.6
2016	25.1	47.8	73.0

Second, although children do acquire foundational skills as they continue in school and proceed to higher grades, their learning trajectories are relatively flat over time (Figure 1). If a goal of the school system is to ensure that most children reach grade level learning outcomes, then the learning curve for basic reading – a fundamental building block for future

progress in school – needs to be much steeper during their primary school years.



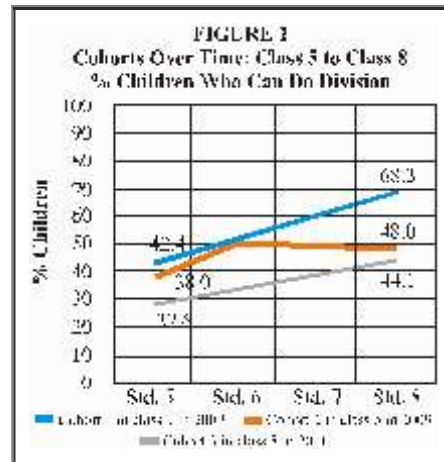
Third, each successive cohort seems to do worse than the previous one. Ideally, to measure change in learning outcomes, the same children would be tracked over time. While ASER does not track the same children over time, it can be used to create artificial cohorts to see how successive cohorts are faring as they move through different grades. For example, a cohort that was in class 5 in 2007 would be in class 7 in 2009 and class 8 in 2010. Similarly, a cohort that is in class 5 in 2009 would be in class 8 in 2012, and so on.

Table 2 presents learning outcomes in arithmetic of three such cohorts over time. Of the first cohort, 42.4% could do division (in class 5 in 2007) as compared to 38.0% of the cohort that was in class 5 in 2009. Of the children who entered class 5 in 2011, 27.6% could do so.¹⁰

Each column in Table 2 can be seen as a learning trajectory for a specific cohort of students. It is clear from the data that learning levels of each successive cohort in each grade are worse as compared to the previous cohort. For instance, by the time the 2007 class 5 cohort reached class 8 in 2010, 68.3% could do division. In contrast, 48.0% of the cohort that started class 5 in 2009, could do division by the time they reached class 8 in 2012; and 44.1% of the cohort that started class 5 in 2011 could do division when they reached class 8 in 2014. In other words, the learning trajectories of successive cohorts lie below those of previous cohorts (Figure 2). What this means is that each additional year of schooling is adding less and less for each successive cohort.

	<i>Cohort 1 in class 5 in 2007</i>	<i>Cohort 2 in class 5 in 2009</i>	<i>Cohort 3 in class 5 in 2011</i>
Class 5	42.4	38.0	27.6
Class 6	50.0	50.1	33.1
Class 7	59.7	48.2	28.8

Class /	27.1	40.0	50.0
Class 8	68.3	48.0	44.1



While the usual ASER survey is always a household level exercise with a one-on-one assessment of reading and arithmetic, the other studies mentioned in this paper use a combination of one-on-one assessments of foundational skills along with pen-paper tests. Depending on the study, up to 20% of students sampled even in class 8 could not read class 2 level text fluently. Basic levels in math were even more worrying.

The Nalanda-Satara study that tracked upper primary children found that if children did not already have foundational reading and arithmetic skills, they were unlikely to acquire them during the subsequent year in school. More than half remained at the same level even a year later. Not surprisingly, those who did not have foundational skills in upper primary grades were more likely to be female and from poorer and less educated families.

The Hardoi-Sambalpur research clearly showed that transition to secondary school was much lower among those who did not have basic foundations of numeracy and literacy in place.

The pen-paper assessments from both studies shared several common items. The tests were designed knowing that grade level learning outcomes were likely to be beyond the reach of many students in class 8.

Some results from the Hardoi-Sambalpur transition study are given in Table 3. They show, for example, that more students can do the easier operations (like subtraction) than the slightly more difficult operations (like division). Computations that need application and some critical thinking – like those using unitary method or calculating area and perimeter – pose more difficulty for students as compared to straightforward numerical problems. Calculating percentages, a task that is often needed in everyday life, was among the hardest.

<p style="text-align: center;">TABLE 3 Hardoi-Sambalpur Study – Baseline and Endline Performance of Class 8 Children on Pen and Paper Test</p>					
		<i>Hardoi N=1182</i>		<i>Sambalpur N=852</i>	
<i>Domain</i>	<i>Examples of questions</i>	<i>Baseline (%)</i>	<i>Endline (%)</i>	<i>Baseline (%)</i>	<i>Endline (%)</i>
Subtraction: Numerical	426-251	59.3	59.4	58.0	57.4
Subtraction: Word Problem	Anuradha read 18 pages of a book. If she read 10 pages more than Mukesh, how many pages did Mukesh read?	36.8	39.6	32.1	37.4
Division: Numerical	950/20	31.7	36.7	29.0	27.2
Unitary Method	If 1 worker takes 2 days to make 8 boxes, then how many boxes can he make in 7 days?	37.2	40.9	43.5	40.4
Area	A rectangular field has dimensions 12m by 6m. What is the area of this field?	15.2	17.8	28.9	30.8
Perimeter	A rectangular field has dimensions 12m by 6m. What is the perimeter of this field?	5.0	6.1	23.6	18.7
Percentage	The total marks on a Math test are 120. If Sunil has scored 40% marks on this test, how many marks has he scored?	9.3	11.9	20.2	19.8

Further, children made little progress on being able to do these tasks in the year that elapsed between baseline and endline. A similar pattern of results is seen in the Nalanda-Satara study. These data – drawn from two separate studies in four states – suggest that despite the variation across study

locations, even in class 8 children are well below the level of understanding and ability expected of them in primary grades.

In many ways the education discourse in India is beginning to acknowledge the learning crisis. For example, at the policy level, in 2017, the section on curriculum and completion of elementary education in the Right to Education Act (2010) was amended to include ‘the preparation of class-wise, subject-wise learning outcomes for all elementary classes.’ In the media as well as within the bureaucracy, there has been concern about the burden of the syllabus that children have to cover in school. At the same time, there is an increased focus on different aspects of secondary education that range from constraints in provisioning, to issues related to teacher shortage and quality, to governance and leadership, motivation, incentives and other matters.

But if adequate preparation of students is the key issue especially in the context of completion of the elementary stage, then any effort to reform or reimagine secondary education must acknowledge and deal with the weaknesses of policies and processes in the primary and upper primary years.

Several key challenges surface repeatedly from the research discussed in this paper. First, a substantial proportion of class 8 graduates do not have basic literacy or numeracy skills. The majority of class 8 students are still struggling with tasks that are expected of children in class 5. When students have not acquired capabilities expected of them in primary grades, it is difficult to ‘catch up’ in later years. Given that much of the teaching in Indian classrooms targets children who are at the top of the class; those who are far behind do not get any opportunity or support in school to catch up.

Evidence from these studies shows that the improvement in mean scores in language or math is minimal even after a year of being in school, regardless of whether the child is in upper primary or even when he or she has already transitioned to class 9. Those who are doing well academically move further and further ahead and the gaps between students grow as they spend longer in school. Being in this kind of ‘low learning trap’ means that although there is expenditure on schooling by families and by the government for each year spent in school, the ‘value added’ in terms of learning is minimal. The low productivity of this expenditure is not just a waste of financial resources but also has huge implications in terms of the mismatch between rising aspirations of parents and students and realities on the ground.

The way forward can be thought about in two ways – first, what needs to be done immediately; and second, a set of actions in the medium term. Within each, it is useful to think about what else is needed to help us understand the situation as well as what needs to be done to provide solutions to the problems that we identify.

The studies highlighted in this paper point out the need for further research on pathways through school. The macro trends of provisioning show that there is enormous variation across India in terms of where children go to study, how much they learn and what prospects they face. Today, well over 20 million children are completing the compulsory stage of schooling each year. We need to know more about the process that brought them there and the pathways ahead.

There is a lot of activity in the area of school assessment and student achievement in India today. There is a growing realization that the teaching-learning activities in school are not leading to grade level learning outcomes. It is worth noting that the National Achievement Survey of 2017 (which surveyed classes 3, 5 and 8) makes some interesting shifts from prior practice. The tasks are not curriculum based – instead they are competency based. Each test also tests competencies that are linked not only to that grade but also a few grade levels below. Finally, the report cards that have been published so far present data at district and state level.

But two further points need to be acknowledged in any assessment exercise in India. First, the fact that substantial proportions of children cannot read fluently means that pen-paper tests are not appropriate. Children's low level of performance (tied to their lack of foundational skills) goes unnoticed. And second, the reporting of test results should be such that it can be easily translated into action by district education officials and teachers.¹¹

An 'over-ambitious curriculum' and the usual practice of 'teaching to the top of the class', both contribute to the current situation. At a policy level, serious rethinking not just about the quantum of curriculum but also the content, sequence, pace and relevance needs to be debated and discussed widely. It is imperative that as a country we think through and define the capabilities that a child should have acquired by the time he or she completes the compulsory stage of education. The Right to Education must guarantee a meaningful 'completion certificate' in terms of learning achieved over eight years of schooling.

* Grateful thanks to Suman Bhattacharjea for critical inputs and edits. Big gratitude also to Devanshee Shukla, Pooja Jain, Suraj Kumar and Anuradha Agarwala of ASER Centre for timely help and fast response.

Footnotes:

1. For a summary see ASER trends over time, 2006-2014. Available online at <http://www.asercentre.org/Keywords/p/236.html>

2. Henceforth Nalanda-Satara study. Policy brief available at <http://img.asercentre.org/docs/Home/Homepage/middleschoolsinindiapolicybriefjan2018.pdf>

3. Henceforth Hardoi-Sambalpur study. Most research studies take a representative sample of children from a given geography. In this study however, a complete census of all children enrolled in std 8 was attempted in all four blocks. See <http://img.asercentre.org/docs/Research%20and%20Assessments/Current/Education/Research%20Projects/StudyonAccessTransitionandLearninginSecondaryEducationFullReportJanuary2018.pdf> for more information.
4. ASER data 2006 to 2016. See <http://www.asercentre.org/p/289.html>
5. This estimate matches almost exactly with estimates from IMRB surveys commissioned by MHRD which showed that in 2005, the proportion of out of school children (OOSC) in India was 6.9%. See IMRB, 'National Sample Survey of Estimation of Out-of-School Children in the Age 6-13 in India', Social and Rural Research Institute, IMRB, India Market Research Bureau and EdCil, Educational Consultants India Limited, Delhi, September 2014.
6. ASER 2017 data shows that 21% of seventeen-year olds and 31% of eighteen-year olds are not currently enrolled.
7. Any average figure masks vast disparities. For example, in the case of school attendance data from ASER 2016, states falling below the national average of 73.2% attendance include Telangana and Rajasthan (attendance levels between 73.2 and 70%), but also Tripura and Jharkhand (between 60 and 70%); Bihar, Uttar Pradesh, and Manipur (between 50 and 60%); and West Bengal (far behind with only 45.7% of children present in the school on a given day).
8. The attendance figure for Uttar Pradesh's government upper primary schools from ASER 2016 is among the lowest in the country at 55.8%.
9. The decline in learning levels that was initially highlighted by the ASER data is also visible in other analyses. See for example, comparisons of the government's National Achievement Survey data for class 5 over time (eg. NCERT (2015), *What Students Know and Can do: A Summary Report of India's National Achievement Survey: Class 5 (Cycle 4)*, 2015); G. Kingdon, S. Sinha and V. Kaul, *Value for Money from Public Expenditure on Elementary Education in India*. South Asia Region, Education Global Practice, World Bank, New Delhi, 2016; analyses based on the longitudinal Young Lives study in Andhra Pradesh, among others.
10. The analysis includes children in both government and private schools. A similar analysis of only government schools shows that learning levels are lower as compared to private schools. Two points need to be kept in mind in doing such comparisons. First, it is well known that the demographic and background characteristics of private school children can be quite different from those of government school children – these need to be controlled for when comparing learning outcomes. And, second, even children in private schools are far from reaching grade level expectations.
11. The 2017 amendment to the RTE Act also stipulates the preparation of 'guidelines for putting into practice continuous and comprehensive evaluation, to achieve the defined learning outcomes.' The past record shows that CCE has not led to any significant change in practice. Hence education departments will have to work out how assessment can inform what teachers actually do in classrooms.

