

WHAT ELSE DO CHILDREN KNOW ? NEW TASKS IN ASER 2008¹

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Every year in ASER we add something new. Something new about children, something new about their households, about their schools and their villages. While maintaining the consistency and comparability over time with the basic reading and arithmetic assessment tasks each year, the “new” items provide a huge nationwide opportunity to look at different aspects of our children’s lives. The “new” items also enable us to explore different influences on children’s schooling and basic learning across India.¹

Until 2008, the children’s activities in ASER had focused around basic reading, comprehension and arithmetic. But what about other things that children can do? All around us, in cities and in villages, we can see children engaged in doing many kinds of activities that need cognitive ability and calculations as well. We see children in the market – both buying and selling. We see children helping parents and family members with many tasks. For instance, I recall a conversation with an eleven year old girl in a village in Sitapur district in Uttar Pradesh. In the ASER test, this girl was having difficulty correctly identifying numbers up to 100. Just to put her at ease I started chatting with her about her daily life. There were nine people in her family. I asked her some questions about them. Very quickly, she could tell me the total number of rotis made in their kitchen for each meal, the number of utensils and vessels that were used in cooking and eating, how many clothes were washed every day, how much fodder was needed to feed the buffaloes that they owned. With a smile she said, “it is easy”, she said “I don’t have to do this on paper. I can do it in my head because I do much of this work anyway”.

In our country in the elementary school age group, some children can read and some cannot; some can do numerical calculations and computations on paper and some cannot. ASER has been reporting on these basic arithmetic and reading abilities. But we know that children are capable of doing many more tasks outside the boundaries of the basic 3 Rs. The challenge is how to design assessment tasks for a large scale exercise like ASER that links what children do and know from their daily life to what they are supposed to know from textbooks and curriculum.

Much of our time in the months before ASER 2008 was finalized was taken up with designing and testing what such tasks could be, keeping in mind the constraints in terms of time, money and considerations of scale. We started off with a series of possibilities: Can children tell time? Can they read a simple school timetable?² Can they use a map? Can they identify famous people? Can they use currency? Not only are all of these daily tasks commonly done in households or schools and in the usual life of children anywhere but they are also part of the curriculum in early grades.

Time: The time task was the simplest one. Telling time is introduced by Std III or IV in almost every state arithmetic textbook. We started our tests using digital clocks as well as the traditional analog clocks. We used a variety of options – easier ones of telling time on the hour, on the half hour, fifteen minute intervals like 3:15, 3:30, 3:45 and then of course telling any time. Using these time tasks across villages in different Indian states, it became obvious that digital clocks were not common everywhere. Interestingly, at the outset we had assumed that being able to tell time on the hour or half hour or in fifteen minute intervals would be easier than being able to tell any time. However the piloting as well as the final results indicate that if a child can tell time, s/he can tell any time or not at all. Telling time was a relatively easy question to ask and straight forward question to answer. So it stayed in the final version of the ASER 2008 tool kit. Nationally, about half of all school going children can tell time correctly by Std 4 or Std 5 and about three quarters of all school going children can tell time correctly by Std 6.

School timetable: When we began to explore whether children can understand and use a timetable, we assumed that a timetable is a regular feature of any school. Like using a clock, it would simply be a matter of showing the child a timetable and systematically assessing how children can use it. Unfortunately, early in the piloting process we observed that in several states like Uttar Pradesh and Bihar, children even in Std 5 were not familiar with timetables. Most children needed explanations of what the matrix represented and then a discussion on the contents of the cells. We dropped this task as it seemed too complicated and variable for use in ASER.

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¹ For the first time ASER in 2008 collects information on household and village characteristics. These items are not covered in this note. However, the appendix to this report includes tables summarizing the household and village information that was collected.

² ASER 2005 and 2007 included school observations. ASER 2006 and 2007 looked at reading and comprehension. ASER 2006 assessed the reading levels of the women in the sampled households. ASER 2007 had the first nationwide survey of basic English reading and comprehension across India. In 2006, children were asked to calculate a arithmetic word problem. In 2007, the word problem had do with money.

Maps: In most states, maps appear in textbooks by Std III. For example, in Uttar Pradesh, Tamil Nadu, West Bengal, and Andhra Pradesh, the map of India is introduced along with the map of the state. In some cases (like Orissa, Karnataka, Gujarat), the state map with districts is introduced in Std III and then the country with state boundaries in Std IV. By Std V, children in all states have been exposed to the map of India with all the state boundaries. Furthermore, in many government primary schools around the country there is a map of the state and/or of India painted on the walls of the verandah or the classroom. Unlike other reading materials which may or may not be available in block head quarters in districts, maps of India and of the state are readily available in stationery shops anywhere. The point is that even for village children, maps are accessible and visible, in textbooks and elsewhere.

Given this context, the experience of using maps with children in the preparatory phase of ASER 2008 was disappointing. We tried variations of maps – all variations were of maps of India with state boundaries. We tried asking children to point to their own state, to neighbouring states on blank maps. We tried the same thing with maps where some state names were included. In each case, a vast majority of children were unable to do any of the naming tasks. In fact, the testing of maps also indicated that the surveyors themselves were struggling with being able to identify the major states and name them correctly.

There is a big lesson from the experience of using maps in the preparatory phase of ASER 2008. We need to work much harder across the country to enable children to be able to do different kinds of visual representation. Deciphering maps and visual representations of known geographies like their home, school and neighbourhood. Perhaps understanding maps of local areas and then of districts, states and countries will come later.³

Famous people: Who are people, past or present, whose face every Indian child should be able to recognize by the time he or she is 10? We needed pan-Indian famous people because in ASER we ask children across the country to do the same tasks. We started off the famous people exercise with black and white pictures of the founding fathers of the country. But beyond Gandhiji and Nehru, others like Ambedkar, Tilak, Sardar Patel, Maulana Azad, Netaji were not recognized. More recent famous people included Indira Gandhi, Rajiv Gandhi, Manmohan Singh, erstwhile President Kalam, current president Pratibha Patil, Atal Bihari Vaipayee, Sonia Gandhi etc. Here too, beyond Indira Gandhi, the percentage of children being able to recognize people was low. People who are well known but not in politics include cricketers and film stars. Although name recognition of Sachin Tendulkar or Dhoni was high, distinguishing them in pictures was much harder for rural primary school children. The same was true for movie stars.

Who do our children meet in textbooks? This was another fascinating exercise. For example, if we compare textbook content across states, we see, for instance, that West Bengal in Std III and IV introduces Subhas Chandra Bose, Swami Vivekananda, Sri Ramakrishna and Jagdish Chandra Bose to its children. In Bihar, the list of famous people starts with Rani of Jhansi, Begum Hazrat Mahal, Tilak and Gokhale, Madame Cama, Sardar Patel, Rajagopalachari, Maulana Azad, Dr, Rajendra Prasad, Khan Abdul Gaffar Khan and so on. In Karnataka, the focus is on social reformers and on regional leaders.

The famous people task was dropped as we could not come up with a set of comparable options, of contemporary or past Indians across the country. Again, as in the case of maps, the exercise made us all think hard. Is it important for children in primary grades to have a common set of people that they know about? If so, we will need to work hard to figure how who these people should be, on what basis should they be chosen and what should children know about them.

Currency tasks: Children handle money from an early age. In previous years, as part of the arithmetic test, we had asked children several word problems involving transactions like “your mother gave you Rs. 50 to go buy vegetables. You spent Rs. 35, how much was left?” or “I gave you Rs. 50. You bought notebooks and pencils worth Rs. 28. How much was left? Children could derive answers to these questions in whatever way they liked – they could write, count, use objects etc. Across the country, among school going children, almost half could answer these questions correctly by age 10. This was very similar to their ability level of doing a numerical two digit subtraction problem with borrowing.

But what if we gave children actual money and observed what they can do? In 2008, there were two different money related tasks. The tasks were designed so that even children in early grades could participate.

The first task involved comparisons of ten rupee notes and five rupee coins. The aim was to see if children could compare across different combinations of these notes and coins and say whether the amount was greater or smaller (or equal). In

the second task, children were given some currency notes (combination of hundred rupee notes, fifty rupee notes, ten rupee notes) and asked the total amount that was given to them. The All India findings indicate that a quarter of children in Std I could do both these tasks correctly; this figure is close to 50% in Std II. It is worth remembering that in an average Std II class in rural India, almost half of all children cannot as yet correctly recognize numbers up to 100, and only 16 percent of children can solve a numerical two digit subtraction problem with borrowing.

The basic design of ASER is simple: only a few tasks are done with all sampled children but they are done on a massive scale – with almost half a million children across India. The architecture of ASER therefore presents both a huge opportunity as well as a challenge. The simplicity is essential given the scale and the speed of ASER. ASER is also intended to be a common man’s tool for understanding what children know and should know. The domain of children’s learning and student achievement is a vast one. Internationally, this field is an industry in itself. In our country as well, between the existing and on-going NCERT national studies of student achievement and the forthcoming national survey by Education Initiatives, we can look forward to in-depth understandings not only of what children know but also of how to help them better. But in the meanwhile, as citizens of India, as funders of Sarva Shiksha Abhiyan, and most importantly as parents of children, we need to experiment with tools and methods that we can use easily, that help us know our own children better, and that enable us to help them develop their potential.

