The promise of technology

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The Pratham movement that was founded in the mid '90s has completed 30 years. Almost since birth it was a group of campaigners for "every child in school and learning well". Access to education through easy reach to schools, regular attendance in classrooms, and achievement in examinations were the three 'A's to focus on to start with.

We understood that it was not enough to have a school near the home although it was a necessary condition. Being 'school ready' was essential as we understood it. ICDS centres, or Anganwadis, were universalised by the mid-nineties. Although their functions included some early childhood education components, these were quite weak. Gradually, successive governments have been improving their functioning but the recent National Education Policy of 2020 has made a big change in the policy and practice of Anganwadi centres. It is also important to note that the proportion of schooled mothers has been growing significantly. These mothers are an important demand driver for education. Improvement in local Anganwadi centres is not just supply based but there is a strong demand side to it. The national policy and the mass scale push from civil society for stronger early years education have led to meeting the demands of the people, especially the increasingly schooled mothers.

It was said in the early nineties that classrooms are crowded. This was largely the urban view of the situation. As schools and classrooms in rural India grew in numbers in the 2000s and as children started moving to private schools, the picture changed. Yet, in many states, only about half the children on the roster could be found in the classroom. Universal mid-day meals did not ensure full attendance although it was seen as a measure for universal enrollment. Universal promotion of children to the upper classes was also seen as a measure to prevent dropping out.

It was acknowledged that the quality of education was poor and numerous suggestions were put forth to improve it. Improving the curriculum-textbooks and teacher training were prominent among them. Minimum levels of learning made their appearance in the late nineties.

In the early 2000s, Pratham identified the problem of children not achieving foundational literacy and numeracy even after five years of schooling. A solution labeled Learning to Read (L2R) which was later named Combined Activities for Maximized Learning (CAMaL) or Teaching at the Right Level (TARL) was innovated. Alongside came a simple and quick method of assessment, and ASER was born. Simultaneously, a method called Activity Based Learning (ABL) was promoted by some governments.

The nineties and early 2000s were full of education activities on mass scale. But as ASER results indicated, while enrollment and infrastructure indicators were showing a rush into schools, learning indicators showed no change. At the same time, computers, mobile phones, and digital technology were making waves. The atmosphere was full of possibilities and promises with digital solutions and businesses. However, it was only when the COVID-19 pandemic struck that the digital revolution really hit the ground in rural India. This is reflected very well in ASER.

In 2018, nearly 90% of rural households had simple mobile phones and 36% had smartphones. In 2022, the households with smartphones had risen to over 74%, and this year it has grown to 84%. While the percentage of children who have access to a smartphone at home is nearing saturation, the proportion of children aged 14-16 who own a smartphone has risen from 19% to about 31% within a year. It is not clear from the ASER data if mothers of young children have their own phones. This ownership of smartphones is important when it comes to use in supporting young children's learning and their own learning.

The main use of smartphones during the pandemic period was that of a carrier of texts, worksheets, and videos, which substituted for textbooks. Virtual training sessions had become common too. As the pandemic faded away, the digital skills learned during the period sustained, although some of the practices became less important and a new excitement began to build around artificial intelligence.

The best promise of the digital revolution was, to me, in the open and continuing education domain for the underprivileged. The need and the possibilities in India are tremendous. For example, at this time, over 40% mothers of school children are not schooled or have completed less than Std V. Nearly another 40% are schooled between Std VI and X, and the remaining have completed Std X. Educating mothers so that they can help children is an investment India should make to accelerate and strengthen the education of children.

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Over the past thirty years since Pratham was born, we have lived through the computer, the internet, and mobile revolutions, and we are now looking at artificial intelligence. With every new wave of technology, there is new hope and talk of revolutionising education. By the time the technology becomes affordable, something new and exciting for the privileged shows up on the horizon, but technology has not delivered on its promise where the education of the underprivileged is concerned. One of the biggest constraints is availability of devices.

But, as ASER data now shows, availability of individually owned smartphones is going to be less and less of a constraint. Most rural households already have a smartphone. Getting a second phone may be easier for many families in times to come.

Hardware, without a doubt, is becoming easily available. Language used to be a major impediment. It is not so anymore. Writing or dictating in local languages is now possible. Translation from one language to another is easy. All the tools needed for learning are accessible, if you know what to access, where, and how. But what if there was one place in a village — let's call it school — where questions of what, where, and how were answered by an intelligent device?

The idea of 'every child in school and learning well', one feels, is within reach. Access to schools is complete. But school attendance is still a problem. In a village or a community, some children go to private school, some to government school, others to private classes and some do not go to school at all. This is somewhat of a chaotic situation at the level of the village and also at the larger community level, which reflects in the quality of learning in schools.

During the pandemic, in many villages of Maharashtra, a learning program was broadcast from the temple-top. It should be possible to work out a curriculum and broadcast schedule in villages so that group learning can be organised. Organising new schools like this should be possible, although initially there may not be many takers.

Every civilisation has created its own schooling system over the last five thousand years. Teachers and methods in one system did not fit another, curriculum in one did not find a place in another. That was because the civilisations were separated by time, space, culture, and technology. The age of empires and colonialism started integrating civilisations. Although separated by national boundaries, countries today are integrated by science and technology. Education too is an integrating factor. But so is profit. Every technological innovation barring those promoted by philanthropists as public goods has to look for a for-profit market. Where profits cannot be made, innovations find limited use.

The prediction that hardware and devices would become inexpensive has come true but the need for higher order and bigger hardware is growing with the innovations of artificial intelligence. Will philanthropic investments be enough to help universalise the innovations that could revolutionise education? As a country we need to come up with a road map that allows the promise of technology to be harnessed for the benefit of those who need it most.