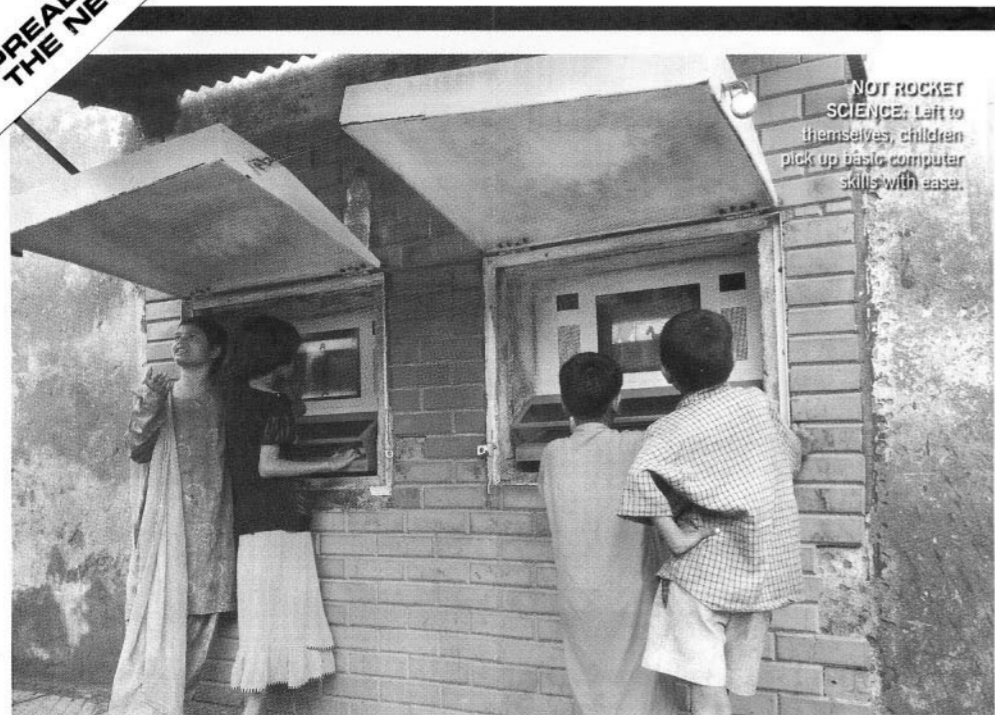




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SPREADING
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NOT ROCKET SCIENCE: Left to themselves, children pick up basic computer skills with ease.

KULDEEP CHAUDHARI

One Click At A Time

NIIT's hole-in-the-wall initiative is helping bridge the digital divide between rich and poor kids.

ALLAN LASRADO

IN 1999, SUGATA MITRA, NIIT's Chief Scientist at the time, shook the world with a simple experiment. He drilled a hole in his office in Kalkaji, New Delhi, and stuck a computer into it. The office was next to a slum and he wanted to observe what would happen. In no time, he found scores of curious children flocking to the PC. Over the next few days, he saw that, left to themselves, the children were perfectly capable of picking up basic computer skills. The results were the same when he repeated the experiment elsewhere,

including several rural locations.

Since then, the groundbreaking research has won many awards and received saturation coverage in the media. Mitra has moved on from NIIT but the company has continued the good work through a separate business unit called Hole in the Wall Education (HiWEL), a fully owned subsidiary of NIIT. The progress has been slow but it has been steady.

The original hole in the wall is no longer in existence, nor is the slum. But a government school nearby has installed two PCs on its compound wall. There, the

HIWEL

STARTED
2001

REVENUE
₹3 crore

EMPLOYEES
Under 50

SOCIAL IMPACT

Imparts basic computing skills to children from underprivileged backgrounds.



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sight is the same as at other hole-in-the-wall sites in India and abroad. Children mill around the "learning stations" and take turns using them. "I like the games most," says Raju, one of the children. So do the others. The content, which includes game-based learning and videos, has been developed by HiWEL, NIIT, TCS, National Geographic and others. "We have three verticals," explains Sanjay Gupta, Head, HiWEL. They are schools (mostly government schools), CSR (initiatives of companies/ foundations/ NGOs) and foreign projects (Ministry of External Affairs). On the school front, HiWEL has deployed learning stations under various development initiatives, particularly Sarva Shiksha Abhiyan. Under CSR, organisations such as ACC, ICICI Group and Hindalco have sponsored them in rural areas. As for the MEA, it has roped in HiWEL to deploy learning stations in Africa (eight countries), Cambodia and Bhutan. In all, a little over 50 have been deployed so far. More will follow, with Bhutan alone set to have 131 by the end of this fiscal year.

JUST AS SMART

Mitra's experiment proved without a doubt that children benefited from exploratory and collaborative learning. This "minimally invasive education", as it is called, gives children unrestricted and unsupervised access to a computer. Curiosity pushes the kids to explore, discover and share their learning with each other. "The environment is a learning environment," explains Dr Ritu Dargwal, a psychologist who works with HiWEL. "They will do whatever it takes to find out."

Dr Dargwal cites an experiment that HiWEL carried out in Kalikuppam village, Tamil Nadu. A group of 10 to 14 year olds who knew only Tamil was asked to find out about biotechnology, initially with a hole-in-the-wall PC and later with a facilitator who knew nothing about the subject.

"We then compared their outcomes with those of children from a top private school in Delhi," she recalls. It turned out that when the children relied only on the learning station, they achieved test scores of around 30%—statistically significant, considering they had zero prior knowl-

edge. When they had the assistance of the mediator, who had barely covered five chapters, their scores jumped to nearly 57%. The Delhi school students scored 70%. They had expert help, knew English, had internet access and their teachers had covered the entire syllabus. Also, they were 11th graders.

HiWEL is now looking to get the children to generate content as well. This led to an initiative called Content Co-Creation by Children in 2010. A pilot project was tried out with the school near HiWEL's Kalkaji office "At first, we thought nothing would come of it," says Meera S Dutta, Senior Project Manager in an NIIT research division. "But the kids proved adept at creating and using email IDs, Google gadgets and so on."

Minimally invasive education gives children unrestricted access to a computer and pushes them to share their learning with each other.

Next, the children were asked to document something important about the local culture. "They decided to cover the Budh Bazaar—weekly bazaar—in the area," she says. Armed with a camera and a set of questions, they interviewed traders.

Later, they sat down and captured it all on a computer, complete with photos. They even used Google's language tool to translate what they had written into English. While not perfect, the language is easily comprehensible to any English reader.

INNOVATIVE SOLUTIONS

In the early days, a few of the learning stations were damaged due to heavy usage. "This sparked off a series of innovations by our team," explains Gupta. After some trial and error the company came

up with a durable solution. It protected the PCs with steel and polymer panels that could withstand vandalism as well as extreme climatic conditions. The keyboard is housed in a panel that not only deters theft but also discourages adults from using it. The touch-button mouse is a hardy piece of work with six buttons for left and right clicks as well as up/down/sideways movement.

It didn't end there. A simple switch initiates the start-up and shutdown processes, eliminating the need for a PC-literate caretaker. During power outages an automated power system shuts the machine and turns it on when needed. In addition, HiWEL has also developed a software that automatically shuts inactive windows and ensures the machine doesn't hang. Also, remote monitoring software enables the Kalkaji office to monitor usage at every learning station across the world.

NIIT still bankrolls all of HiWEL's costs. The subsidiary's annual turnover is in the region of ₹3 crore, with expenditure exceeding that by around 10%. "We hope to break even this year," says Gupta. The costs are largely incurred on monitoring and evaluation, research and development, and the salaries of the small team. Every learning station is paid for by the school, corporation or concerned government that sponsors it. Vendors who supply the PCs maintain them.

The price of a learning station is around ₹1.6 lakh (plus taxes). Going forward, the biggest challenge before HiWEL will be to bring down this steep price. "Our top priority will be to innovate and drive costs down," says Gupta, explaining the company's plans.

It's been a long, hard road, one that's taken the HiWEL team to remote parts of the India and the world. "Everywhere we go, whether it is in militancy-ridden areas of Kashmir or Naxal-infested Dantewada, we are welcomed," says Nitin Sharma, a project manager at HiWEL.

As Suhotra Banerjee, Head, Relations, puts it: "We are helping to bridge the digital divide between the children of haves and have-nots. That is a reward in itself."

Email us at business@outlookindia.com or SMS OLB-feedback at 575758 ■