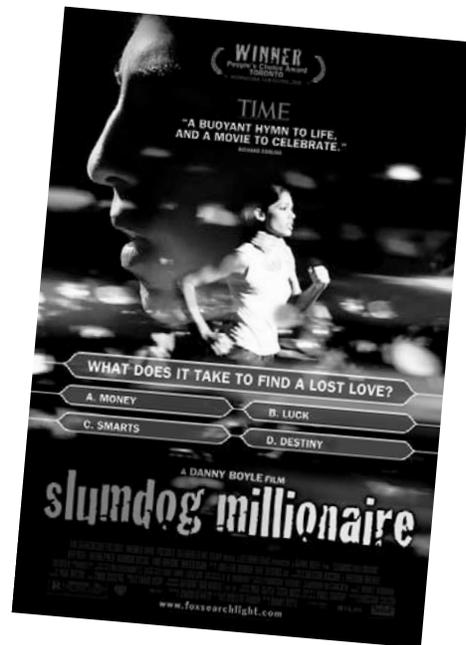


Inspired By the Slum

By Sarat Pratapchandran

An innovative learning technique that originated in a slum in India's capital, New Delhi, sets the stage for the book Q&A that is now the Oscar winning movie, Slumdog Millionaire. In an interview, Dr. Sugata Mitra, the creator of this new educational pedagogy termed Minimally Invasive Education (MIE), explains how it can help bridge the digital divide and provide rich learning opportunities for children everywhere.



Imagine being young, curious, dirt poor, and barefoot living in Kalkaji, the dirtiest slum in India's capital, New Delhi. Rewind to 1999 when young learners from this slum played with a computer set up on a hole on a brick wall to create an innovative experiment called the "Hole in the Wall" experiment.

Dr. Sugata Mitra, chief scientist at global IT learning solutions provider, NIIT, and originator of this experiment says he was amazed by the way unsupervised children began to use the computer, browse, play games and create pictures within a few days!



Sugata Mitra

Children began learning in groups with minimal intervention from a teacher and their curiosity and the thirst for knowledge led to the creation of a new pedagogy for education called Minimally Invasive Education (MIE). The

slum, the children and their experiments with technology later inspired Indian career diplomat, Vikas Swarup to write the book Q&A, that is now the Oscar winning movie *Slumdog Millionaire*.

Minimally Invasive Education

Deriving its name from minimally invasive surgery, Mitra defines MIE as "the acquisition of basic computing skills by any set of children that can be achieved through incidental learning, provided the learners are given access to a suitable computing facility with entertaining and motivating content and some minimal (human) guidance."

According to Mitra, in MIE, groups of children can learn to use computers and the Internet on their own, irrespective of who or where they are. This method of acquiring computer literacy does not need expensive schools nor teachers and is particularly useful to children in war-torn areas or in places hit by natural disasters.

MIE takes place through a Hole in the Wall learning station, a stand-alone unit that has an Internet-connected computer and can be installed at any location.

"There's an innate ability in everyone to do something extraordinary, provided they are given an opportunity. How else do you explain children with no education at all being able to learn to use the Internet? This shows knowledge is not just the preserve of the elite."

— Vikas Swarup, author of Q&A, quoted in the *Indian Express*.



“Friendly adults can accelerate the education process by ensuring the children’s safety and encouraging them, but not teaching them and this is MIE,” he said.

The role of the teacher here is to create a playful environment for learners and provide them minimal guidance. The computer intervenes in their tasks and the learning process continues. The original “Hole in the Wall” kiosk experiment in 1999 has now transitioned into learning stations installed across 30 rural villages in India and in Cambodia.

According to Mitra, results from studies about acquisition of computer literacy among children using the Hole in the Wall kiosks have shown that such group self-instruction is as effective as traditional classroom instruction. The premise here is to offer computer-aided learning through unrestricted access in an open, friendly and playful setting.

The key features of this type of learning include the following:

- 1) **Create a Playground Setting** – The Hole in the Wall learning station is located at a place with unrestricted access allowing children to engage in learning at any time they choose. In traditional villages, this helps young girls get an equal opportunity in accessing knowledge. An unsupervised setting provides greater freedom and gives children the opportunity to explore in an open environment.
- 2) **Collaborative Learning** – The learning station allows for

shared learning among children.

- 3) **Optimum Utilization of Learning Station** – Children can have access when they like and it is not timed according to usage, as in computer institutes.
- 4) **Integrates with the School Environment** – Hole in the Wall kiosks can reinforce structured learning in a school setting through greater peer to peer interaction.

The Role of the Teacher

So, what is the role of the teacher in this type of education? According to Mitra, “the teacher is no longer required as a repository of knowledge, because the Internet is a more convenient (and cheaper!) repository.”

“The teacher is required to raise the right questions – not provide the right answers,” he said.

The exposure to technology in groups plays a key role in MIE. “Open, highly visible access to the Internet by children in heterogeneous groups is essential. Such groups, when confronted with interesting or challenging questions or tasks, will find ways to do them. The teachers merely need to encourage them to do so.”

Concepts utilizing technology are being sought as more attractive in a global education marketplace that suffers from a crisis in good teaching. Most likely, concepts like this could spell bad times for disengaged teachers.

“Disengaged teachers can demotivate students and make

them believe that education has no value. Such teachers can be easily replaced by machines,” Mitra said.

As education often takes a beating from politicians, the media and the populace in the U.S., Mitra feels techniques like MIE could aid in providing better learning environments.

For planners, he cautions that they should consider creating open spaces for children with adequate technological hook-ups and allow them the opportunity for shared learning.

A single Hole in the Wall learning station could benefit around 300 children. According to Mitra, studies show that village children have fared better in utilizing technology through the Hole in the Wall learning station than children from cities who received more structured learning.

Currently, Mitra is trying an innovative experiment teaching children in Hyderabad, India from his offices at the University of New Castle in London, using Skype. The efficacy of this method is currently being measured.

Reacting to the great publicity that *Slumdog Millionaire* has generated for the Hole in the Wall project, Mitra said: “I am surprised and happy. Although, becoming a millionaire may not be the kind of aspiration I would like children to have.” ■

Sarat Pratapchandran is Director of Resource Development at the Council of Educational Facility Planners International (CEFPI). With two decades of international communications experience, his articles have appeared in leading print and online media worldwide. He has a master’s degree in mass communication from the Walter Cronkite School of Journalism & Mass Communication, Arizona State University and a master’s degree in Communications from Kerala University, India.