

Bringing hands-on science to a school for street kids in India

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I came to India to do a few things I have always wanted to do, but one thing I didn't expect was that I wouldn't have much free time to read or write, despite spending a whole month here. In fact I had more time to do those things in Malaysia than I do here in India! But the other things I wanted to do are happily being fulfilled. I also didn't expect that teaching young children would be more tiring than teaching adults. The 4-5 hours of teaching which I do almost every weekday leaves me quite exhausted by the afternoon. Indian children are very inquisitive, energetic and excitable, and keeping them focused is a major undertaking in every lesson. One thing is for sure, life is never boring here!

Oh, I had to miss my original flight here due to a gross oversight on my part – I had 35 scissors packed into my hand luggage! And I had cut my time too thin to give me time to unpack and discard the scissors which were individually packed into 35 small packets with other items. These are for the hands-on science projects I was to introduce to the children at a school in Chennai, so I could not leave the science kits behind. I am thankful though that there was

another flight the same day that I could take, but at the cost of extra RM400+ in transfer fees and extra check-in luggage costs.

Below is the view from my seat upon entering Indian airspace. The dust in the atmosphere is very apparent isn't it?



And with my very first meal in India, I got food poisoning and fever! So that kept me down for 2 days, and I had to postpone the start of classes. Since then my stomach has been fine, perhaps made stronger by that short bout of food poisoning, acting as a “vaccine”?!

Little Lambs School

I go to a school called Little Lambs School 4 days per week. It was founded to help the street children of Chennai – these children were formerly just walking or spending time on the streets instead of going to school, and attend with the consent of their parents (if they have parents...). Often their parents are too poor or too unfit to care properly for their children. In the morning I take the school bus with these school children from Paper Mills Road, which is just 10mins walk from where I am staying with a local friend here. Below photos shows the children with whom I wait for the bus each morning.

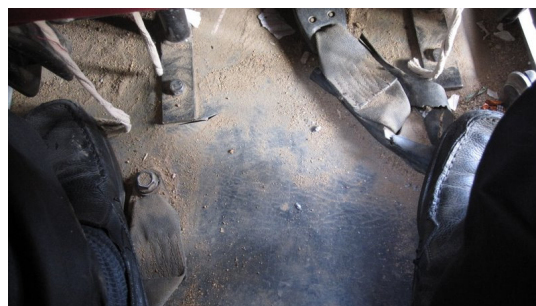


These children are staying at a shelter for children without parents or whose parents are unable to care for them. Some were found picking garbage at the city dump, and only started going to school in their early teens. These children attend “special class.” Getting these kids to sit still is the hardest thing, as they were not accustomed to do that before.

I’ve found that without exception, these kids love having their picture taken - to them it is a treat, especially when I give them laser-printed copies of their pictures. Perhaps they don’t have many photos of their own. This photo was taken at our bus stop, by their special request:



There is much dust in Chennai. Here’s what the floor of the school bus looks like:



Interestingly, within just a few days of travelling the streets of Chennai, I no longer notice the blaring of the horns or the chaos of the traffic. Even the stagnant waters and open drains don’t seem so unhygienic. The bus ride just becomes an OK, regular thing. Even in the bus the kids want me to take their picture:



Maria, the founder and Principal of Little Lambs School, shared with me that after 17 years here, she too has stopped noticing the traffic, and has completely adapted to life in India to the point that she gets indigestion whenever she returns to Sweden on holiday and eats Swedish food which is heavy and rich in meat! And her son Joseph (in below photo) who has been to Little Lambs since he was 4 days old (yes, 4 DAYS) and grew up “Indian” complains that life in Sweden is “not happening enough,” it is way too quiet. Maria also shared that Indian children don’t seem to have any food allergies. And she has

about 200 Indian children at Little Lambs on whom to base that opinion. “They can eat anything” she tells me. Even Joseph who plays in the dirt with the Indian children since he was a baby is also tough and is seldom ill. Whereas children in clean, advanced Sweden are weaker, and providing food for them is a headache, having to cater to many individual allergies and food prohibitions. Gives us much food for thought, doesn’t it?



Joseph

Here’s the school caterer. It costs only 10 Rupees (RM0.70) to feed each child lunch. I also eat the same lunch every day – it’s delicious!



At this time, there are other volunteers too at Little Lambs, as you can see in above and below photos. Like myself, they also take the bus to school, as does Maria herself. Some are from Canada, some from the UK. Almost all are fresh

out of college. I am the only Asian volunteer during this period.



Matt

Adam

The girls, properly advised, are often dressed in Indian attire. The guys are more casual. This is Rachel from Canada, who is here for 3 months:



Rachel

The oldest volunteer is Jane from Canada, in below photo. She’s semi-retired, and has been a career social worker in Canada. A lifetime of social work has given her a warm, caring personality. She’s here for a few weeks to assist Little Lambs to start up a women’s tailoring work for mothers of some of the children, so that they can make a living.



Below is Jabaraj, one of the boys I became friendly with. He is in Std 4, and very bright, able to link things he had learnt in earlier lessons by his own teacher to some of the concepts he learnt through the hands-on science projects I introduced. Children make the best photograph subjects don't they, with their open and honest expressions:

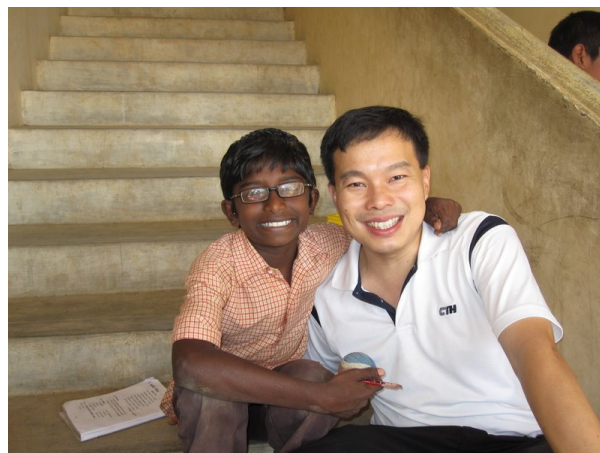
Each morning Maria leads assembly:



One special morning, they had a puppet show by the children, guided by the UK volunteers and some teachers, as seen here:



The children were very expressive and clear in their play-acting in English, and without much practice too – I was impressed.



Below is at Jabaraj's humble home, where he lives with his mother and grandmother. His father died just a year plus into the marriage, by drinking a very old bottle of alcohol that he had found with his colleagues (!). His mother makes just 2000 Rupees a month (about RM140) doing some tailoring.



Here's me entertaining another photo request in school, this one Bollywood style:



The Magical World of Magnets and Batteries

Of course, I have to show photos of myself doing actual work! Here below I am guiding the children to notice the behaviour of a suspended

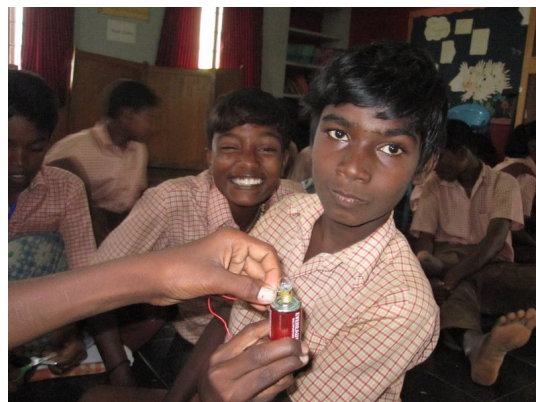
magnetized nail, that it can be used as a compass. The method of learning I am introducing is a *hands-on discovery* approach through an interesting game or 'challenge.'



Teamwork of three pairs of hands is needed to make this bulb light up:



The kids in "special class" – some are in their mid-teens already, but only just started going to school:



Two close pals in class:



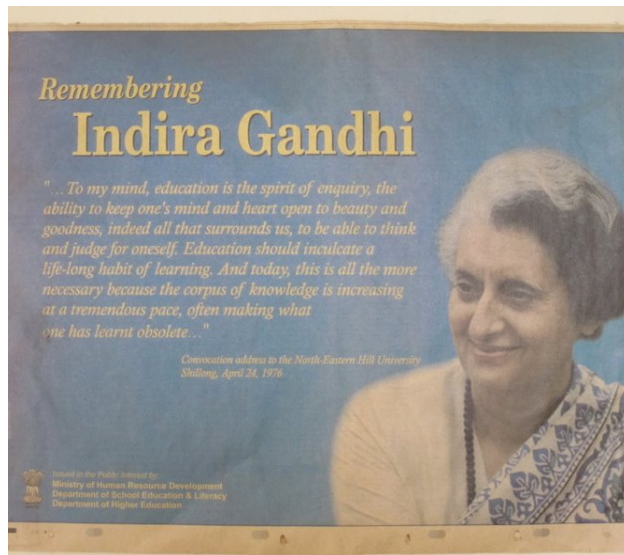
These lessons are another “start-up” joint effort by my old friend and business partner Choo Wai Heng and myself, with him doing the hard work of trying out the ‘challenges’ and preparing the hardware kits, and me doing the fun part of venturing to exotic India and playing with the children here.

The good news is that *The Magical World of Magnets and Batteries* series of lessons I have been giving here are very well received by both students and teachers alike. I have children from the “special class” coming up to me at the end of the lesson, hugging me and congratulating me, saying “very cool” and “very interest” in their broken English, and their teacher telling me that “this is what they need,” because usually it is very difficult to get them to pay attention to the lesson. The teachers hope the programme stretches longer. The Principal thinks it is a wonderful programme. One of the boys who is already doing his own hands-on experiments from broken toys at home said he wants to be an engineer like myself when he grows up. In the school playground I have different children coming up to me and commenting that I am a “good scientist,” which is about the best feedback I have ever received for teaching a class!

The hands-on nature of these lessons keeps the attention and focus of the children, and enables them to *truly* understand. And the children want to know what is the next lesson going to be about – they keep wanting to see my future slides. It has been able to stir up their interest, because they look forward to the next game/challenge, as each lesson is based around this kind of hands-on activity. The philosophy of this ‘challenge’ activity is to bring to the lesson three important motivating elements: *competition, play* and *wonder*, with wonder being the most powerful motivator for learning.

The spur for this hands-on challenge approach came from our puzzlement at the poor grasp of basic concepts and poor laboratory skills of engineering graduates in Malaysia these days. And some of these graduates have very high grades. So Choo and I developed this approach from our own experience – when were both children ourselves (we didn’t know each other then), we used to do our own experiments at home and loved to take apart broken toys and scavenge for motors, magnets, light bulbs etc. We even built our own home-made motors from scratch. I remember spending two whole weeks troubleshooting my motor before I finally got it to work. We now realise how much that taught us in appreciating and *getting a feel* of scientific phenomena which formal, blackboard-approach schooling did not impart to us. As this course was being developed, I did much online research, and discovered that hands-on science is a growing education trend globally! I learnt much from European-wide projects such as *Pollen* and *Fibonacci*, and their IBSE (Inquiry-Based Science Education) method. Our approach in its current form is a blend of our ‘challenge’ approach and IBSE. We owe much to the European experts.

Pasted on Little Lambs School office wall is this inspiring newspaper cut-out. In just a few sentences, Indira Gandhi sums up succinctly what education is:



My three-week teaching experiment at this school has shown that *our challenge+IBSE approach motivates former street children to learn*. As I end my time there, the teachers are asking when I can return.

To be able to give them a good answer, the next steps needed are:

1. To create new lesson series, broadening to other science and technology topics.
2. To find a way to fund the work and scale up the effort.

Lovely Indian food

Finally, one of the best things for me over here is the fabulous Indian food! I love Indian food, so eating here is a treat for me. This is Iddly made by my friend's wife:



There is very good local ice-cream too – this is *Arun* ice-cream which is a true Chennai start-up. It's absolutely delicious!



-Chin Soon