

**J**ust 81km from Mumbai, Vastishala Khairat-Dangarvada school is not very different from most primary schools in India. The one-room school has a single teacher. A painted black strip on the mud wall serves as a blackboard. Children, till the fourth standard, attend classes in the same dimly lit classroom with the same teacher.

One small difference makes this school special, not just in India but the world over. Each of the 20 children in this school has got a green-and-white laptop, no bigger than an oversized lunchbox. With the laptops — called XO — children learn their lessons almost by themselves, oblivious to what is going around them and even to what the teacher is saying or doing.

The teacher, Sandip Surve, doesn't mind because some of the children have indeed picked up 'XOing' skills much better than him. Says Surve, "XO has solved problems like absenteeism. Now children relish coming to school every day."

The children, however, aren't even aware that they have been participating in an ambitious global education experiment called One Laptop Per Child (OLPC). The project had its genesis at the Massachusetts Institute of Technology (MIT) in the US four decades ago. XO represents a learning theory proposed by Seymour Papert who had worked with the educational theorist, Jean Piaget. Inspired by Piaget's work, Papert developed the theory of constructionism, which proposes that children learn most effectively when they are doing things rather than when they are just sitting and listening. Later Papert's colleague Nicholas Negroponte, co-founder of MIT's Media Lab, became an ardent believer of this seemingly utopian idea. Through a series of experiments, Negroponte and his team zeroed in on the computer as the key to enlightening poor children across the world.

"XO is not just a computer but an educational tool meant for collaborative, and self-empowered learning," says Satish Jha, President &

The One Laptop Per Child scheme aims at revolutionising education among the poor. But is it feasible in India, asks *Prasun Chaudhuri*

## ENTER THE LAPTOP KIDS



The XO can even be powered manually by winding up the yellow hand crank to run an internal generator; (inset) children in Khairat school

CEO, OLPC India. According to him, XOs have been devised keeping poor kids in mind. The laptop consumes little power, has got a screen visible in sunlight, is resistant to damage and can be powered by solar energy or electricity generated by a hand crank. "The entire course content of primary schools can be fitted in it. Kids won't need any books, bags or even a school building," says Jha. To enable collaborative learning among children, XOs are equipped with a novel mesh network that makes each laptop capable of talking to its neighbours. With broadband connectivity the mesh works even better.

The laptops are sponsored by individual donors, companies, non-governmental

organisations, international funding agencies and schools.

XO's software is also unique. It is pre-loaded with various 'open source' or free software and supports most operating systems. It also has Wikipedia, and a program called Squeak E-toy — inspired by a programming language innovated by Papert for children — which helps kids visualise, simulate and create projects based on their lessons. According to its creators at OLPC, its central concept is 'play... it makes children explore instead of being force-fed information'.

How is it working in the Indian pilot study? Says Jha, "The Khairat children have already cruised ahead of those that learnt without XOs. Even a six-year old can write in Marathi and English. They can work with videos and use Wikipedia for their curriculum." Pilot studies in Nigeria, Brazil, Peru, Cambodia and even Nepal show similar results.

So far so good. But is the programme really feasible in hundreds of thousands of threadbare primary schools across the country? Notwithstanding the success of OLPC in the poorest setting, scepticism abounds. A top bureaucrat in India's education ministry famously brushed aside the project as 'pedagogically suspect' and described XO as merely a 'fancy tool'. Says Kumar Rana, a senior research associate at Pratichi Trust, a charitable trust promoted by economist Amartya Sen, which conducts research in primary education and health in India, "The concept is wonderful in theory for its potential to bridge the digital divide among people. But it doesn't seem to be feasible in practice when there is so little infrastructure in primary schools in West Bengal, Jharkhand or Orissa."

Others contend that the economics of providing a laptop to every child is daunting. Stephen Dukker, CEO of Ncomputing, the low cost computer company, wrote in technology magazine *ZD Net*, "Given the economic realities in the developing world, \$200 (Rs 10,000) computers cannot generate the profit essential for the creation of a robust IT ecosystem, which is essential to ensure successful deployment, ongoing operation and maintenance." Incidentally, Dukker is now in discussions with the Indian government to introduce his small desktops in primary schools.

Such scepticism is just the tip of the iceberg of hurdles that the OLPC project faces. Because the XO costs just around Rs 9,500 — the next version (XO2), set for launch next month, is going to cost even less (Rs 4,000) — it has irked big computer companies. These companies, which have been selling exorbitantly priced laptops loaded with extravagant tools (also called 'bloatware'), are in a mad rush to launch cheap machines which are described as learning tools.

Jha ripostes that Dukker is talking about the economics of running a bus when OLPC is akin to a bicycle as an appropriate means of transport in villages, empowering everyone. He also says that the pilot project has shown that XO works even in situations with minimal infrastructure.

As the debate rages, two things are clear. First, OLPC has made laptops somewhat affordable for the masses. Second, the XO pilot project could have far-reaching significance for primary education in India.

**BITS & BYTES / SURIT DOSS**

## Sync your tech tools

**Y**ou have to send an important e-mail from office only to find that the e-mail address is in your home PC. It is not even in your smart mobile phone or on your Yahoo or Gmail account.

Most people have different sets of contacts on their cell phone, on their company e-mail, and a totally different set on the home PC or the webmail they use. This leads to a lot of confusion and waste of time.

The solution to this is synchronisation, one of the most under-utilised functions of any mobile phone or computer. That means keeping files, phone numbers and e-mail addresses on separate devices like your mobile

with Mac. Setting up MobileMe to sync with your PC is simple. Ensure you have the latest version of iTunes and then install the MobileMe Control Panel. Download this from [http://support.apple.com/downloads/MobileMe\\_Control\\_Panel\\_1\\_2\\_for\\_Windows\\_&locale=en\\_AP](http://support.apple.com/downloads/MobileMe_Control_Panel_1_2_for_Windows_&locale=en_AP). Sign in with your MobileMe member name and password and all your settings are right there.

### Carrier backup

All cellphone users should keep a backup of their contacts, at least on the computer. Some do it with the software that comes with the phone, while others don't do it at all. That is stupid. You don't want to lose your contacts if your phone is lost. Isn't it a nightmare if you have to key in 600 plus contacts on a new phone?

There are other paid options to keep a backup. All mobile phone carriers, Airtel, Vodafone or Cellone, have a phone backup service. Charges may vary. Cellone's backup service costs around Rs 30 a month. To enrol for the Cellone backup you'll have to send an SMS *SUB* to 56989. For Airtel and Vodafone call the customer service and enquire about their backup options.

### Free service

For those of you who may not want to pay for a synchronisation service, I was on the lookout for a free one. I stumbled upon Social, a web service that keeps your address books on all your PCs, the webmail services that you use and the contacts on your cellphone in one place.

Setting up an account is easy. Sign up as a new user. You'll be sent a confirmation e-mail to verify your address. You can log in after the verification.

Next, follow these steps. Make sure GPRS is enabled on your mobile phone. There is an option Add Phone. Choose the phone model and your country. You'll get stuck here. India is not on the list. Don't get hassled. Just find Synchronisation in the settings of your phone and fill it up manually. Most phones have this setting. If you cannot find it look for SyncML. Create a new account and call it Social. Then do the following:

1. Server: sync.social.com
2. Username: your Social username
3. Password: your Social password
4. Port: 80
5. Set to include contacts synchronisation

Other fields don't matter, but make sure your phone's Internet connection is working properly.

Next add Gmail followed by Outlook and if you own a Mac add that too. Now all your contacts are in one place. Any change anywhere will be reflected throughout your other devices — for free.



Screenshots of Social and (top) MobileMe

phone and PCs up to date with each other. This also serves as a backup if any of your devices fails.

I have a Mac at home, a PC at work, and an iPhone. I keep them all in sync with Apple's MobileMe. My e-mails, contacts, bookmarks and calendar stay the same wherever I check them, no matter what device I use. Any change I make on any of the devices is reflected on all of them, thanks to this concept of "cloud computing" where data are stored on the Internet.

For this luxury I pay Rs 4,500 a year. There is a 60-day trial period. I suggest that you give it a try. You get your own e-mail address with 10 GB of storage for mails. Then you get another 10 GB on iDisk. Here you can set up your own website, share pictures and documents with your friends and also give them permission to upload pictures to your gallery or edit your documents.

MobileMe ([www.me.com](http://www.me.com)) works with Windows PCs as well as

## JOBLESS AND LETHARGIC

**Q.** My parents did not want me to study engineering, as I am an only child and a girl. Their old fashioned idea was that I should get a bachelors degree and get married. I finished my BE and was recruited on campus. Unfortunately, the company has been postponing my joining. Now I feel I may never get the job. I feel lethargic, am putting on weight and sleep all day.

**A.** Perhaps a feeling of being out of control and uncertainty about your professional future has caused this change in your personality. It is unsettling and depressing. Try to establish a routine even though at present you do not need to. Get up in the morning, jog for 40 minutes, do some ground exercises and keep an eye on your diet. Join a course that will enhance your skills. If you are still worried, check your haemoglobin and thyroid functions to see if your symptoms are due to some correctable extrinsic cause like anaemia or thyroid malfunction.

### Irregular periods

**Q.** I have irregular periods which appear embarrassingly unscheduled. I am now 23 years old and my parents are looking for a "suitable alliance". They are convinced that "everything will be alright after marriage" but I am not. Will pregnancy be a problem?

**A.** Your body won't change and start behaving differently just because you are

married. It is better to investigate the reasons for your irregular periods before you proceed with an "alliance". The doctor will probably do an ultrasound scan of your uterus and ovaries and suggest blood tests to check your hormone levels. The cause of the irregularity can usually be treated. It is better to know and be aware rather than proceed blindly with the surmise that "everything will be alright after marriage".

### No sex

**Q.** I was recently diagnosed as being diabetic and hypertensive. Now I am facing erectile problem and the problem of premature ejaculation. Can these be cured?

**A.** This problem can occur in people with diabetes and hypertension. It is due to a neuropathy or nerve dysfunction. It can get aggravated if the diabetes is uncontrolled and also by some medications prescribed for hypertension. You need to control your blood sugar well and inform your physician about this problem so that suitable alterations can be made in the medication.

### Small head

**Q.** My child has a very small head and is also not developing normally. The doctor said this is "microcephaly". She is three years old and has stiff limbs. She speaks only



a few words and has seizures. Will this recur in the next pregnancy?

**A.** Microcephaly can be present at birth or it may develop in the first few years of life. It occurs due to interference with the growth of the brain during the early months of development in the uterus. It can be genetic, or occur because the mother unfortunately develops an infection with cytomegalovirus, rubella (German measles) or varicella (chicken pox) virus.

If there are other affected family members, or if you are married to a close relative, the likelihood of recurrence is greater. Immunisations against varicella

and rubella are available. Folic acid supplements (5 mg a day) started even before pregnancy occurs and continued for the first five months of conception also helps normal brain development.

### Thumping headache

**Q.** I develop a severe headache on one side of the head whenever I have a cold and then I cannot concentrate.

**A.** Your nose may be blocked because of the discharge caused by the cold. Try putting saline nose drops into each nostril with the head tilted back and then take steam inhalations. Avoid vaporising mosquito repellents (available as mats coils and liquids) or room fresheners which aggravate the problem. If the headache still persists try taking paracetamol and an over the counter antihistamine like non-sedating levocetirizine.

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Send in your computer-related problems to [askdoss@abpmail.com](mailto:askdoss@abpmail.com). The solutions will appear soon.

