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wise 2012

The end of the classroom

New ways of learning are supplanting the traditional classroom. They will be discussed at the 4th edition of WISE – World Innovation Summit for Education – held in Qatar on November 13-15

Founder of the Bangladesh Rural Advancement Committee (BRAC), Sir Fazle Hasan Abed was awarded the first Wise Prize for education in 2011. Abandoning traditional educational approaches, he has brought knowledge to millions of children, as in this shantytown in Dhaka.

REZA

MARYLINE BAUMARD

And the window panes return to sand/The ink returns to water/The desks return to trees (...)": pictured as a schoolboy's daydream by French poet Jacques Prévert in *Page of Writing*, in 1945, this process of physical breakdown is now becoming a reality. The disintegration of what seemed to be the very heart of the school – the classroom – is under way. Assaulted from all sides, its walls are collapsing.

The attacks take the form sometimes of technology, sometimes lack of funding, sometimes the urgent need for individual attention. In days past, the classroom was four walls and a teacher addressing a group. Knowledge confined in an enclosed space and authoritatively delivered. But the model that once seemed eternal is now being shaken to its foundations.

In the OECD countries, individualized learning has become the catch-cry. And, as emphasized in Unesco's 2012 Education for All Global Monitoring Report, there is a pressing need for it if we are to do something about the 14% of young people who go no further than lower secondary education – and very often have tuned out before they get that far. Urging pupils to stay in school has become a fixation for political authorities in Europe and America, on the right and on the left alike. In societies where the cultural gap is widening – because school is no longer the only place of learning – the average student, the one the teacher uses as a basis for his teaching, no longer exists. The good student is bored, the poorer student drops out. And many are those who fall by the wayside, abandoned by the school system with no training or diploma: the outcasts of the knowledge-driven society.

In the less developed countries, too, the classroom is already obsolete: outdated without even having existed! It has missed the bus and now, with public money in such short supply, there are no means of building those walls, putting teachers inside them and motivating young people who have to work to support their families.

In the less developed countries, too, the classroom is already obsolete: outdated without even having existed!

Here too, the old way of doing things has to stop. In 123 low and middle-income countries, 200 million young people in the 15-24 age bracket have not finished primary school and, for the first time since 2000, the number is not declining. If the education machine is not cranked up again, 47 out of every 100 children currently not receiving an education will never set foot in a school. And 47 % of 61 million is too much!

Disregarding the practice of past centuries, Africa, Latin America and many Middle-Eastern countries are bypassing schools with classrooms and leaping directly into the digital age. They are making knowledge available via smartphones and computers, those increasingly accessible forms of technology.

Let's remember that the classroom, too, was invented as a stopgap, when it proved impossible to provide each pupil with his own teacher. In the medieval Western world, school was children grouped together in enormous shared rooms and called up one by one to work with the teacher at his desk. This was before the Renaissance brought in simultaneous teaching, a solution thought up by ecclesiastics in search of greater efficiency. In the 19th century, the "lesson", which quickly became identified with the "classroom", finally took over the West's educational systems.

But with the classroom came leveling, and the invention of the "average student". To fit in, a child must be close to a set age and not stray too far from a level based on average marks over a range of subjects. The classroom imprisons children without taking account of their individuality or learning tempo.

Today, a page is being turned, with innovation upsetting what was believed to be a seminal concept. And this is a great thing if we really do want to be able to provide universal education up to mid-secondary school by 2030, as 164 countries committed themselves to doing in 2000: a goal that will change not only individual destinies, but the future of our planet as well. A dollar spent on education is ten to fifteen dollars of growth. So, the more efficient a system, the more growth it will generate. This is why the moribund classroom must quickly breathe its last. ■

"Every recession is an engine for change"

Professor Stephen Heppell holds the chair on New Media Environments at Bournemouth University (United Kingdom). He analyzes current changes to the traditional classroom.

Does the classroom have to go if there's to be a real return to learning in the 21st century?

A lot of aspects of the 20th-century classroom were matters of convenience rather than reflections of some educational ideal: a single group with a single teacher, for example, or having 20, 30, or 40 children sitting together because they happened to be born between two dates. More dynamic schools came up with other models: team teaching of big "superclasses", immersion days, three points of focus, playfulness, shoes-off, and so on. The curious thing is that these new ingredients make education more effective, more engaging, quicker, and substantially cheaper.

So why are we still organizing schools and students into "classes" and school buildings into classrooms?

To be unkind, the myth that this industrial learning model is the only way to do education is a form of cultural imperialism. Expensive schools and expensive universities lock two thirds of the world out of learning-for-all ; but technology has unlocked the door, and suddenly the latecomers to learning-for-all are finding that they can leapfrog expensive traditional models and do it better.

Has the time come for some other kind of organization? In a hurry? And why now?

It's been the same for every recession I've lived through. In the depths of recession people think, "We can't do it like this again, there must be a better way", and they turn to learning to lead with these "better ways". Every recession has been an engine for educational change. Like now.

Are there new architectural approaches on the way?

A rule of three for third millennium spaces is: no more than three walls, no fewer than three points of focus, always able to accommodate at least three teachers and three classes. Curiously, other buildings can offer this more effectively than old schools – for example, sometimes it can be easy to convert empty retail space into learning space.

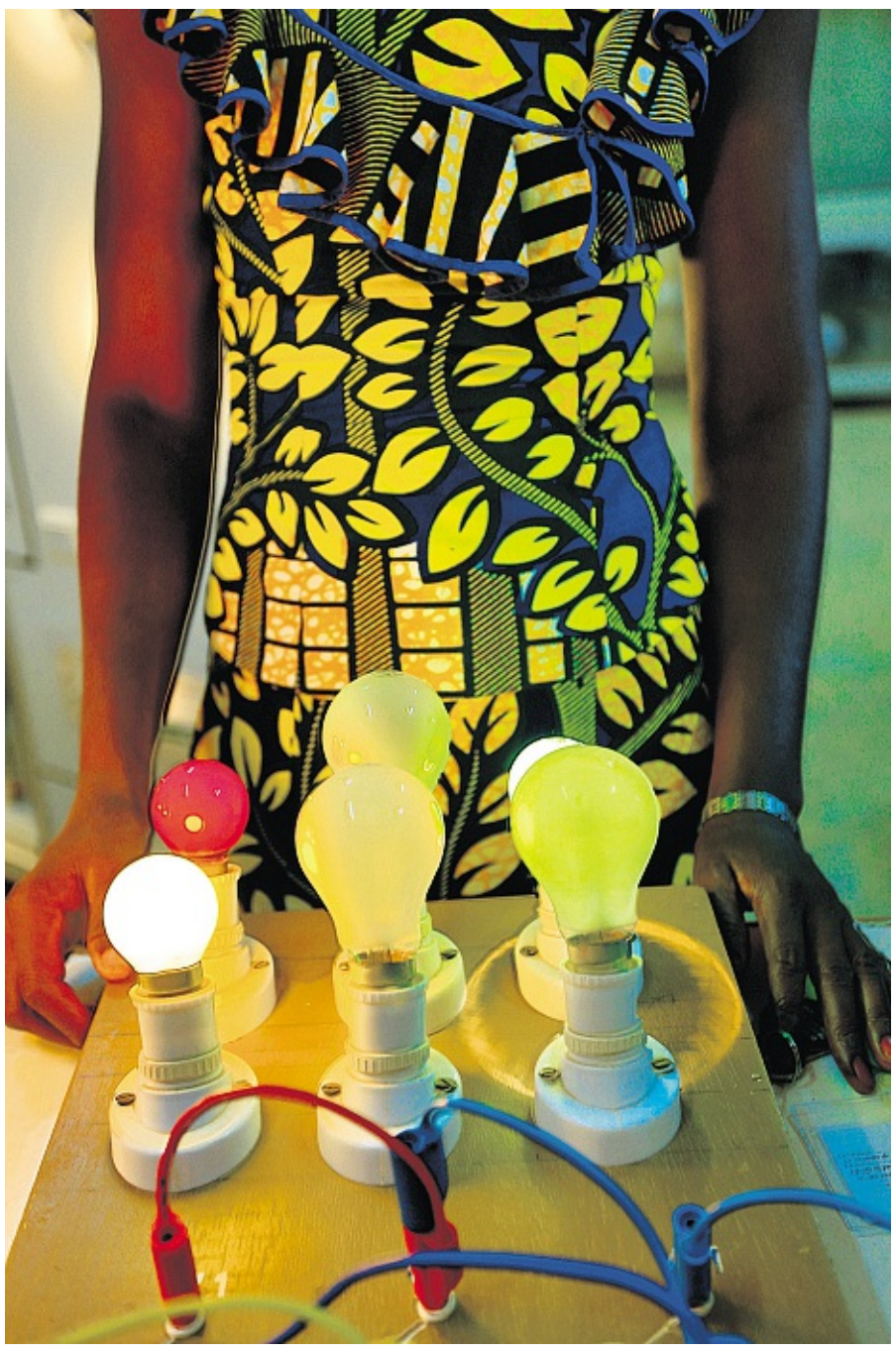
Is this true for all teaching levels, from primary to university?

The university sector has been the slowest to respond. It amazes me that so many of our faculties of education worldwide will teach about "new pedagogy", but do so using traditional lectures, seminars and essays. Personally, I think that any university offering education degrees should at the very least run the very best school in the neighborhood – a lab school if you like – demonstrating just how well current theory and practice work. If they can't demonstrate it, they should not be allowed anywhere near trainee teachers.

Does this mean change within the teaching profession? How would you define the profession of tomorrow?

Tomorrow's teachers are more professional, more reflective, more engaging, more aware of complex data, more playful, more collaborative, more collegial, more respected, and also much more wanted by industry as companies set out to become learning organizations and try to recruit them. Fortunately, tomorrow's teachers will also include the children, as they become much more active in education, helping their peers, supporting mixed-age teaching, providing backup for others. ■

Interview by M. B.



Photographer Reza has been commissioned to work on the 2012 "WISE Book" (published by Bloosmbury). He has travelled the world in search of innovative educational projects.

An electrical engineering project developped by the Solar Engineering and Energy Saving Lab, at the international institute 2iE, in Ouagadougou, Burkina Faso.

In Morocco, the Al Jisr School-Business Partnerships Organization is developping a new pedagogy of motivation. Teachers and students are celebrating success.

Students taking a break at La Bastilla Technical Agricultural school, Jinotega, Nicaragua.

A student testing vegetable oils in the 2iE's Biomass Energy and biofuels Lab.

REZA

With the "flipped classroom", schooling keeps its feet on the ground

Pupils watch recorded lessons at home, then do their homework with the teacher at school. Behind the "flipped classroom" lies a whole new teaching strategy

Maryline Baumard

Behind it lies a discovery. In 2004, science teachers Jonathan Bergmann and Aaron Sams started working at Woodland Park High School, in Colorado, where they very quickly found themselves distraught by the absentee rate in their classes. *"In these rural areas, students spent an inordinate amount of time traveling to and from school; they missed our classes and struggled to stay caught up."* Annoying for both teachers.

One day, Sams stumbled on software that could record a PowerPoint slide show, complete with voice-over and annotations, and turn the result into a video file. *"When we did this, YouTube was just getting started and we said to ourselves, there's the solution to our absenteeism problem."* When they launched the new method, though, the two teachers were not aware of the small revolution they were leading. The fact that students watch the recorded lesson first, and get an introduction to the theory, frees the class up for interchange, with a teacher present to lend a hand. As time went by, their classes changed because real teacher-pupil interaction sprang up. But there was pupil-pupil interaction as well, as a small, authentic learning community took shape.

Jonathan Bergmann explains: *"From teachers, we've turned into learning coaches. We don't lecture a crowd of students anymore; instead, we take a close interest in each student's individual needs."* In the flipped classroom, the teacher helps directly with knowledge acquisition, but that's not all: the students' frame of mind changes, and instead of just coming to class to take notes and mess around, they are looking for explanations of what they did not assimilate working on their own.

In the spring of 2007, the flipped classroom became standard practice at Woodland Park High School. And little by little, the two apostles are converting colleagues elsewhere. Another advantage of the method is that it brings in the Internet without the teachers having to become technicians – the Net side of things happens outside of the classroom.

Going with the flow, Greg Green, principal of Clintondale High School, near Detroit, Michigan, flipped all his own classes in 2010. On the school website, he points out that *"testing of 140 students after one term showed a 33% drop in the failure rate in English, 31% in mathematics, 22% in science, and 19% in humanities. We very quickly flipped the whole school, because in addition to the results, we were also able to introduce information and communications technology and compensate for teacher and student absences."*

For Bergmann and Sams, though, the real change lies in the fact that *"this develops a culture of learning among the students. You don't come to class to copy out a lesson you can find somewhere else, but to get better at handling new knowledge"*.

Gradually, the flipped classroom is moving in. And gradually too, we are seeing that it is not a miracle solution. In the Norwegian educational magazine *Bedre Skole*, teacher Elisabeth Engum, a great believer in the method, reminds us that a student who does not do his homework at home will not want to listen in class either. In class, he will not benefit from teacher availability because he has to begin by watching the lesson. In his classes at Chimacum Middle School in Washington, Alfonso Gonzalez makes his course available to those who want to watch it in advance, but also allows the others to watch it in class.

Is this kind of encouragement going to create a virtuous circle? If the trend in his school is the same as on the Internet, there are real grounds for hope. In 2007, 15% of Internet users had already watched an educational video – a TED lecture or a Khan Academy course – and three years later, the percentage had doubled. ■

For Bergmann and Sams, the real change lies in the fact that "this develops a culture of learning among the students"

Everyone a teacher, everyone a student

Two years ago and just back from a Las Vegas poker tournament where he had been counseled by top professionals, Michael Karnjanaprakorn was suddenly deluged with messages from friends wanting tips on how to win at the world's most renowned card game.

Astonished and unsure of how to react, the young New Yorker realized that most of us have a skill, a specialty, that could be of interest to lots of other people. All that is lacking is a place to get the message across. And so Skillshare was born.

On this Internet site, anyone can offer a course on the subject of their choice – laying down times, location and rates – or find a course on something they are interested in. This means you can turn your living room into a classroom for people who have paid around $20 each –15% of which goes to Skillshare – and share your passion for, say, flower arrangement with them.

The choice is now enormous, with classes in knitting, computer programming, photography, etc. – and even "How to live rent-free in New York", which has already drawn over 500 pupils.

Rogue educators

"One of the main problems with conventional studying," says Michael Karnjanaprakorn, who sees cities as the best campuses and every address as a learning space, *"is that the learning element has been lost (...). When you're studying, someone tells you what to do, but what you're really into is learning."* In two years, the startup has raised over 3.6 million dollars for development and has already begun to spread, notably to San Francisco.

These rogue educators now have an equivalent in Paris, where Cup of Teach, working from the same principle as Skillshare, was launched last summer.

According to Marc-Arthur Gauthey, one of the founders, the organization now includes 450 teachers and 5,000 students, and has already provided some 3,000 hours of classes, lasting on average two hours and costing 30 euros. *"What's working best right now,"* says Marc-Arthur, *"is classes that meet a need rather than just an inclination. Especially in the business and technology fields."*

To cite one example, Adrien Chaltiel is a trained lawyer who has so far run four classes for a group of ten people at La Mutinerie, a coworking space in Paris where he hired a room.

Subjects include how to draw up a shareholders' agreement, terms and conditions for running an Internet site, and – most recently – taxation for entrepreneurs, so that companies can *"stay in France without being fleeced."* *"Demand isn't running high enough yet,"* he says, *"but I'd be happy to give a class every week. In addition to being enjoyable, it could bring in a little extra money."* ■

Sébastien Dumoulin

Universities all over the world are just a click away

Stanford and MIT opened the way, University of the People and Lausanne Polytechnic followed. More and more major establishments are now offering free courses on the Internet

Sébastien Dumoulin

Could the next Einstein be in South Sudan? In Haiti? In Bangladesh?" There was a touch of mischief in the opening speech Shai Reshef delivered to an audience of hundreds at the TEDx conference in Kansas City, Missouri, on August 28th. Shai Reshef has answers to his questions, too. He is president of the online, completely free University of the People, founded in 2009, where already more than 1,500 students from 132 countries have studied management and computer science, with the best of them taking out scholarships to New York University.

"How many Einstein, Marie Curie and Stephen Hawking are waiting to be discovered in other developing countries? (...) *The only way to find out is by giving everyone the chance to be the next Einstein. If you educate one person, you can change a life; but if you educate many, you can change the world."* Shai Reshef's goal could not be clearer: by making advanced studies available to everybody, we can revolutionize the centuries-old institution that is the university and open the door to a better world, where the best education will no longer be the prerogative of the very rich.

And he may well be right, given that University of the People is only one of many current projects based on the same principle: since 2011, Stanford, Harvard, Berkeley, Princeton and other prestigious American universities have been making the running with a selection of their courses on the Internet.

The online university, of course, is not exactly a new idea. In the early 2000s, filmed lectures were becoming more and more widely available via ventures like France's Canal-U, the digital video library for advanced education; but what stopped them really taking off was the lack of interactivity.

Things changed in the fall of 2011, when Sebastian Thrun, professor of computer science at Stanford, launched the first "massive open online course" (MOOC), a free interactive study program on artificial intelligence that came complete with grades. Its success was staggering: 160,000 sign-ups from 190 countries, with translations into 44 languages provided by volunteers. The 23,000 who saw the course through to the end came out with a final grade and a certificate of completion. And none of the 248 graduates with the highest score was a Stanford student.

Knocked out by the experience, last January, Thrun set up Udacity, a private platform comprising 14 MOOCs and currently claiming 220,000 active users. At the same time, two Stanford academics were launching Coursera, an initiative whose 33 partner universities include Princeton, Edinburgh and Melbourne. Then, May 2012 saw the arrival of a third major actor in the form of the 60 million dollar initiative edX, kick-started by Massachusetts Institute of Technology (MIT) and Harvard, with Berkeley and the University of Texas soon joining in, and others to come. Johannes Heinlein, edX's director of strategic partnerships and collaborations, says: *"Since we opened, 140 universities around the world, including a number in Europe, have expressed interest in working with us."*

For the moment, EPFL (Lausanne Federal Polytechnic) is the only European institution offering a MOOC, via the Coursera platform. Devoted to Scala, a programming language designed as a "better Java", the course is taught in person by Scala's designer Martin Odersky. *"An extraordinary initial success,"* comments Professor Pierre Dillenbourg, in charge of the Lausanne program: *"45,000 enrollees, when the EPFL campus itself only has 8,000 students."*

In the fall of 2011, 160,000 people from 190 countries enrolled in Stanford University's first "massive open online course" on artificial intelligence

Two other MOOCs are in preparation and should be on offer for the next academic year. Pierre Dillenbourg says: *"It's an enormous task. We have to produce the videos and, especially, be sure that the questions to be dealt with are clearly phrased. If 40,000 people send in requests for explanations, we're dead."*

Dillenbourg's enthusiasm, however, is tempered by the knowledge that *"the big issue for MOOCs remains certification"*. How do you avoid cheating? And will universities be ready to award degrees to online students, at the risk of total devaluation of on-campus programs? The University of Colorado is already allowing students to follow Udacity courses and have their credits validated via an $89 examination in one of the country's 450 Pearson test centers. At present, edX is wondering whether to keep its certificates free or ask for a small fee.

Like the press and the film and music industries before it, the university is now seeing its standard model seriously challenged by the Internet. The president of MIT made no secret of the fact at the edX launch a few months ago, when he told his audience, *"Tighten your seatbelts!"*. ■

Showcase your skills with digital badges

Giving someone a badge to confirm the acquisition of a skill is an idea as old as the boy scouts. Ever since the days of Baden Powell, happy little campers have been sewing new badges onto their shirts as they carry off assignments in subjects ranging from cooking on a wood fire to accountancy for the pack.

And now, in the age of the Internet, this slightly old-world practice is back in force with "digital badges", launched two years ago by the Mozilla Foundation, well known for its browser Firefox. The idea was to give everyone a chance to have their skills validated by the issuing of various digital badges – certificates that include information on the issuing organization, the skills concerned, with links authenticating the attribution.

A more complete story

The concept caught on and, last September, Mozilla launched its Open Badges infrastructure: all would-be issuers can register their badges, while internauts can create digital backpacks for storing their awards.

The badges can provide validation for skills acquired in or out of school and give their earners the chance to spotlight abilities institutional education rarely takes into consideration: the capacity to work as part of a team, for example. Most importantly, the badges can accompany earners throughout their lives, allowing them to offer a more complete story about themselves to a university or a job agency.

Mozilla Foundation executive director Mark Surman says: *"We believe digital badges have the power to unlock the full educational potential of the Web."* He is not alone in this: last March, the MacArthur Foundation's Badges for Lifelong Learning Competition rewarded thirty projects with grants of $25,000 to $175,000. Among the winning badging systems were proposals from Disney-Pixar and NASA. ■

S. Du.

The "smart class" is on the phone

In Chile and South Africa, pupils study English and math on their cell phones. An economical alternative

Julia Zimmerlich

Doing your homework or learning English on your cell phone? This is already a reality for 1.2 million secondary school students in Chile. In 2006, the government and Fundacion Chile jointly launched an online education portal to help secondary teachers and their students prepare the PSU (Prueba de Seleccion Universitaria), the university entrance exam. Via their cell phones or a computer, students can hook into a program tailor-made to suit their level.

Ana Maria Raad, director at the EducarChile program, a 2012 Wise Prize finalist, says: *"Chile's geographical oddities have made it a highly centralized country. In terms of access to education, this means marked inequality between students in the provinces, often from disadvantaged backgrounds, and those in the big cities. By bypassing the geographical obstacles, EducarChile aims to provide them with the same tools and the same chance of going to university."* The results so far are encouraging: 62 % of those using the program live in the provinces, and in 2011, twenty of them were among the top scorers in the national exam.

The idea of using cell phones as a teaching tool has been getting attention in international research centers for ten years now. *"The cell phone is the most widespread technological tool around, including in the poorest countries"*, comments David Atchoarena, director of Unesco's division for planning and development of education systems. *"As costs fall, the cell phone penetration rate rises exponentially. This is a great opportunity for mobile learning."*

At the end of 2011, there were 6 billion cell phones in the world, with 80% of new accounts being opened in the developing countries and the advent of tablets likely to boost the trend. Thailand recently announced that all pupils starting primary and secondary school – 1.7 million children – will be provided with a tablet. Meanwhile, India is embarking on production of low-cost tablets aimed at its students. The smartclass is just around the corner.

In practical terms, however, learning on a cell phone is not enough on its own. David Atchoarena continues: *"We're not thinking about replacing schools and teachers. The idea is to make the learning environment more efficient."* One interesting example is South Africa's Yoza Cellphone Stories application, aimed at giving teenagers more of a chance to read outside school hours. 51% of South African homes do not have a single book, but here we see novels and even Shakespeare being adapted to the cell phone format.

And more is happening in South Africa. In 2009, the government, in partnership with phonemaker Nokia, launched MoMaths, a cell phone application for secondary students. With access to over 10,000 mostly question/answer exercises, students do their homework on the phone and take part in online competitions. 2010 saw a 14% improvement in users' results, and by late 2011, the program was reaching 25,000 students, with backup from 500 teachers and 172 schools. On the strength of this success, the project is to be extended to three other African countries.

Mobile learning requires to adapt content to different publics and cultures

One of the major issues in the expansion of mobile learning is adapting content to different publics and cultures. Matthew Kam, in charge of Millee (Mobile and Immersive Learning for Literacy in Emerging Economies) at Carnegie Mellon University, is currently working on this. As part of the project that made him a WISE finalist in 2009, he carried out research in the rural North of Uttar Pradesh, in India. In these farming areas, 43% of children do not attend school regularly, as they are often called on to work in the fields or at home. The cell phone offers them the opportunity to study where and when they wish.

The team that designed Millee took traditional village games as the inspiration for their English literacy through games program. Matthew Kam explains: *"The games give them basic vocabulary, grammar and spelling skills, so they can communicate. If they want to go further, they have to have a teacher, but for schools with very limited means, this is already a big step forward."*

There are research projects going on everywhere, but more far-reaching initiatives remain the exception. David Atchoera says: *"We're still a long way from really understanding what direct benefits can be got from the new technologies. Their impact is heavily dependent on the circumstances of their use and the quality of the input from teachers."*

According to Paul Kim, chief technology officer at Stanford University School of Education, *"what limits the development of innovative projects is more the perception of the new technologies in general"*. His own research group is working on the pocketschool concept: aiming at improving the interconnection between the traditional classroom and the new technologies, the Stanford team has notably come up with the Smile (Stanford Mobile Inquiry-based Learning Environment) platform, a kind of open-source box that encourages students to ask questions via their cell phone or tablet.

For example, they can use their phone to photograph an image in a book, or a drawing, or a bug in the schoolyard, and hitch it to a question relating to the lesson of the day. The questions are collated by the Smile management system and redistributed to students for answers and evaluation.

Paul Kim concludes: *"It's going to take time before we see real changes in classrooms, but kids who are growing up with ICT will find it perfectly natural to use it for making educational tools."* ■

Madhav Chavan brings literacy to rural India

The winner of the second Wise Prize – a "Nobel" for education – has taught tens of millions of Indian children to read, without creating a single school or recruiting a single qualified teacher. Portrait

Julien Bouissou

From Mumbai, India

Madhav Chavan was 35 when a chance remark suddenly revealed his vocation to him. In 1989, the young chemistry professor at the University of Mumbai, known for his commitment to the trade union movement, was rebuked during a conversation with Anil Bordia, secretary of State for education: *"It's all very well talking about social revolution and social justice, and printing posters and pamphlets, but you don't give a damn that the people you're talking to can't even read and write."*

The realization that in a country like India social revolution hinged as much on literacy as on Marx and big public meetings came as a revelation. *"I told all my activist friends, nothing's possible if people can't read and write, and I began giving classes for adults in the shantytowns near where I was living."* A few years later, Chavan set up Pratham, an NGO that has since taught tens of millions of Indian children to read, without ever creating a single school or recruiting a single teacher.

"We should stop worshipping school and education and teachers"

Madhav Chavan
Pratham's founder

His office, in a small house in a residential part of Mumbai, is a modest affair given the size of his organization, with its 80,000-some volunteers. But Chavan himself is rarely there more than a few days at a stretch, preferring to spend his time traveling through India in quest of fresh ideas: *"As for the best leaders,"*Pratham's founder remarks, amusedly quoting Chinese philosopher Lao Tzu, *"the people do not notice their existence. When the best leader's work is done, the people say, 'We did it ourselves!'"*

Madhav Chavan was born into politics. The family apartment was home to the leninist "red flag party" created by his father, but he very soon learnt to mistrust dogma and ready-made ideas. Composing revolutionary anthems, for example, never stopped him from enjoying ultra-reactionary Bollywood songs; and he found himself regularly demonstrating against American imperialism outside the United States consulate in Mumbai, before setting off to study chemistry in the enemy camp: *"I said to myself, Marx thought up his revolutionary program in London, in the heart of the capitalist system, so why not go study chemistry in the United States."*

Reading Lenin helped him reshape his university thesis, and he went on to apply the same method to rethinking the education issue and the scourge of illiteracy: you're better off reformulating the concepts involved than wasting your time trying to solve a badly stated problem. This led him to the discovery that the literacy problem in India had less to do with school attendance rates than with teaching quality. In India, almost 97% of children attend school, but only half of those aged 10 can read or write a basic sentence. And since many parents are illiterate themselves, they never realize that their children are learning nothing at school.

So wherever they go, Pratham volunteers begin with tests of children's educational level. After that, it's the simplest thing in the world for the NGO's founder: *"All you have to do is set up school support centers – you recruit and train volunteers in each community and find a place to give classes."*

Madhav Chavan's long years working for the socialist cause have taught him a lot about mobilizing communities, and it is even easier to get parents involved in education for their children than in socialism. Pratham's trained volunteers give their classes under trees, in the street, and on village squares: *"We should stop worshipping school and education and teachers. When your child is learning nothing at school, you have the choice between protesting against the government or doing something about it yourself. We just lend a hand with that."*

Pratham belongs to the communities that set up their own literacy programs: as Sampurna Murti, a friend of Madhav Chavan since childhood says, *"He's not out to control the different organizations. He's always wanting to take things further and get involved in new projects."* The support centers never replace the schools. They complement them. Some children are lucky enough to have parents who help them with their homework in the evening; amongst the most underprivileged, this is the part played by Pratham. Another advantage of this model is that it can easily, quickly and cheaply be replicated by the use of volunteer teachers.

According to Esther Duflo, professor of poverty alleviation and development economics at Massachusetts Institute of Technology and associate director of the Poverty Action Lab, *"Madhav Chavan has revolutionized the approach to education. His great strength lies in breaking new ideas down into a series of concrete stages that really increase the chances of success"*.

Chavan believes in a neat balance between order and chaos as a source of impetus for his organization: *"Out of chaos come ideas, and out of order the meticulous application of those ideas."* It is this balance that has made Pratham an outreach body whose impact has now spread to Africa and elsewhere. Its founder is accomplishing the literacy revolution little by little; he is convinced that this can take it much further than any great leap forward. ■

Madhav Chavan with children at Pratham education center, in Mumbai. ASHESH SHAH

The challenge: a thousand million readers

In 2009, the Indian Parliament passed legislation making school mandatory for children in the 6-14 age bracket.

Although primary school attendance is hovering around 97%, the proportion of 10-year-olds capable of reading a basic text declined from 53.7% in 2010 to 48.2% in 2011, according to a study by the Pratham-facilitated body ASER (meaning "impact" in Hindi).

India now has to face the challenge of raising its teaching standards. Primary education is indeed a major issue for the country: with the largest number of children in the world, India needs to take full advantage of its youthful demographics.

The number of Indians aged between 20 and 49 is going to increase by 130 million in the fifteen years to come; and, according to International Monetary Fund calculations, education of this addition to the population could boost national growth by 2% over the next two decades. ■

J. Bo.

The WISE Prize. No Nobel Prize for education? The Qatar Foundation has created the $500,000 WISE Prize to reward *"an individual – or a team of up to six individuals – for an outstanding, world-class contribution to any level or area of education, in any part of the world."*

More than 500,000 children in 4,000 centers

In the Anand Parbat neighborhood in North Delhi, volunteer teachers have set up chairs and desks beside a dusty road where the gusts from passing delivery tricycles and trucks sometimes send multiplication tables flying off through the air. The volunteers are there to spend the day testing local pupils' levels in math, English and Hindi. The English test involves reading a few sentences, as parents watch anxiously; and, according to the results, the pupil in question will leave with a home tuition kit costing 25 cents or an enrolment at the Pratham education center.

Aged between 6 and 14, enrollees will spend at least three hours per day at the center after school: *"We help them understand what they learn from books,"* explains the woman director, *"with special emphasis on proper assimilation."* The Pratham education center is tucked away in a first-floor apartment in a small house: the kitchen is a textbook storeroom, while the living room is for English lessons and the bedroom for math.

In India, public education is an assembly-line affair, with over-large classes whose pupils often simply lose interest. As a result, parents are turning to private schools costing a few dollars a month. Teacher absenteeism is less flagrant in these schools, but teaching methods are extremely haphazard. *"I'd be willing to die to ensure an education for my son,"* says a desperately thin woman from behind her veil, *"but where do you find a good school?"* She is at the stand manned by Pratham volunteers.

Student volunteers

Pratham's approach, though, is to help communities organize their own educational backup by training local people. Currently, some 10,000 such volunteers are giving classes to more than 500,000 children in 4,000 centers in India. There is no shortage of volunteers: *"I spent years learning nothing at school,"* says young MBA student Kapil Khandelwal. *"I had to learn everything for myself. Now that I've got what I was aiming at, I want to help others. I might be less educated than the teachers, but at least I hand on the little I know as best I can."* Every year sees thirty applicants for the six posts available at the Anand Parbat center; the successful ones receive a few days training and around $38 a month for their work.

Pratham is also out to improve teaching via the new technologies. The Internet is already part of its center in the Civil Lines neighborhood. Working with a wireless keyboard, the woman teacher has a big screen for showing her pupils the videos she has downloaded and the learning modules for each subject. Nasreen Shah, director of the center, says: *"The children are more attentive and understand much better with the help of diagrams and videos."*

Even though attendance at the center costs only $2 a month, the volunteers have a hard time convincing parents to send their children along. Some of these children face a walk of an hour each way, and some disappear after only a few months, when the parents move to other neighborhoods or cities in search of work. ■

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