



US\$5 BILLION OPPORTUNITY

Wired schools, virtual classrooms, 3-D learning, online tutorials: the scope in India is enormous, and EdTech companies can make a killing.

By Suman K. Jhaa

Many schools in India are getting smart classrooms.



Anay and Tanmay Sharma are siblings pursuing education from upscale institutions.

Preparing for his Class X board examinations next year, Anay's classroom in a tony South Delhi school is smart — the classroom is fitted with audiovisual equipment; the smart board is connected with the serv-

er (where anything that a teacher writes is stored for future reference); and additional reference material comes from a software vendor.

Tamnay's classroom in a top-notch management school in Ahmedabad is just as modern. The classroom comes equipped

with a rotational three-board system (so teachers can seamlessly shift to the next board after finishing on the first, without having to wipe off the content); multimedia content is projected through smartphones; and antiquated loudspeakers have been replaced with highly effective cordless

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speakers. A virtual screen on which every student (and the teacher) can post content is a recent addition to the classroom.

The Indian classroom is evolving. Indeed, the smart classroom is paving the way for virtual classrooms wherein students can actively participate in the class proceedings from remote locations, or their hostel rooms.

Says Aript Goel, who runs Suncity World School in Gurgaon: “Our classrooms come fitted with the state-of-the-art infrastructure. They are wired to the local-area network. We spend 40 percent of the IT budget on upgrading our classrooms.”

Adds Sanjay Yadav, who’s the principal of G D Goenka Public school in the capital: “Our classrooms are smart-fitted with latest gadgets including computers. We have interactive blackboards. To supplement our teachers’ efforts, we have tied up with ExtraMarks, after experimenting with Educomp.”

New options

State-of-the-art infrastructure, wired schools, virtual classrooms, 3-D learning, after-class online tutorial groups, and e-learning combine together to present today’s students options that were not available to the earlier generation.

True, it’s the private schools that are leading the way, but some states are also doing their bit. In Gujarat, for instance, thanks to the state government, every block has one school with smart classrooms.

The national picture, however, may leave



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— ASHISH DHAWAN
Chairman, Centre for Square
Foundation

a lot to be desired.

Says T.S.R. Subramanian, who headed the committee on the new education policy and traveled across the country to assess schools: “Wherever the committee saw school in rural areas, there was hardly any technology back-up of any sort.”

According to a nation-wide Annual Status of Education Report 2014, the share of government schools with computers in 2010 was 15.8 percent. The figure improved marginally in 2014, to 19.6 percent schools with computers.

But are things changing, especially in urban areas?

According to a recent survey undertaken by the Centre For Square Foundation that covered early adopters of instructional technology for teaching and learning, over 80 percent of all teachers surveyed said they use computers in their schools. They also reported high use of mobile phones, with 68 percent having access to them. Smart board availability in government schools was 12 percent, but increased to 74 percent in high-end (high-fee) schools.

According to leading investor and veteran



“We have technology that ensures that every student is involved”

— ARUN PEREIRA
Executive director, Indian School of Business

watcher of this space, Gopal Jain: “Less than five percent of government schools have one or more smart classes in their premises.”

He further adds: “Less than 10 percent of private schools have one or more smart classes in the school. And, less than one percent of private schools have 100 percent of their classrooms as smart classes.”

Subramanian says that Digital India will be a reality in the next three to four years, and will cover over 250,000 gram sabhas, “which provides an unparalleled new opportunity to introduce technology in schools.”

Mohandas Pai, who has invested in EdTech start-ups, does some quick math and says: “There are 250,000,000 children in schools up to class 12. One smart classroom can teach 100 children (four classes a day, 25 children in a class). So, we need 2,500,000 classrooms. If we consider

US\$1,500 as the basic investment to make a classroom smart, we would need US\$3.75 billion to make all our school classrooms smart.” This doesn’t factor in the need for expansion of schools.

The impact of technology

The expenditure by the center and states on school this year has been US\$90 billion.

Concurring with the gist, Centre for Square Foundation’s Ashish Dhawan and Namita Dalmia say that in an ideal world, “the school system should spend 5–0 percent of the budget on EdTech.”

Presently, the government (center and states) spends about one percent of the overall school education budget on information and communications technology (ICT).

“Technology has had positive results in K-12 schools where teacher quality is a problem,” says Indian School of Business’s



professor Deepa Mani.

So there's a huge potential for participation and partnership by the private sector.

Say Dhawan and Dalmia: "There are two distinct opportunities — a) selling to schools and, b) selling directly to parents and students. The business-to-consumer model could be quite promising with the growth of the internet as has been demonstrated by Byju's and MeritNation."

It's not just the smart classroom that has contributed to the smart learning of the Indian student. According to a NSS survey, one out of every four students takes private tuitions, with the number becoming three out of four in metropolitan areas.

According to an ASSOCHAM study, the Indian private education market was US\$11 billion in 2014 and offline tuitions captured 95 percent of the market, growing at a rate of 35 percent a year.

It's in this space that players such as Eduwizards, Vedantu, and Urban Class have made a splash.

"The new and emerging tutoring trend in India is app-based by-the-minute live online tutoring, available 24/7," says Eduwizards's Ashish Sirahi.

EdTech companies

The canvas for smart and modern classrooms has been wider in higher education in India, with greater participation from the private sector.

Real growth in this sector will come when EdTech companies and other public institutions provide e-learning in regional languages. A recent NASSCOM report says that of the almost 800 million smartphones and internet users by 2020, 70 percent would be in rural India and a majority would be using regional languages.

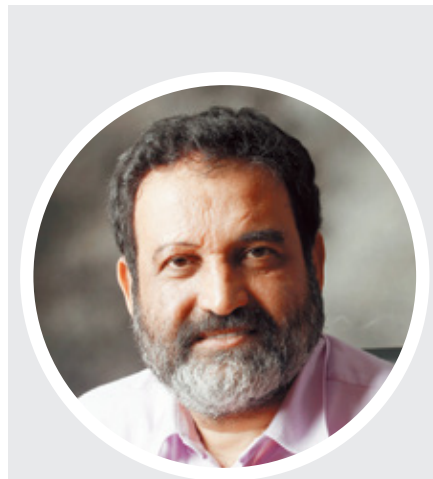
Players like Unacademy, offering free quality video tutorials, are trying to replicate the popular Khan Academy model of free video tutorials here. While massive open online courses (MOOC) and small private

online courses (SPOC) do offer an option, it's interesting to see how attempts have been made to reinvent the classroom in higher education space.

Says Bennett University chancellor Vineet Jain: "Technology is revolutionizing the manner in which education is being structured and delivered."

Says Arun Pereira, executive director, Centre for Learning and Management Practice, Indian School of Business, Hyderabad, "We have technology (smartphones, tablets, or laptops) which ensures that every student is involved every time a teacher asks a question. Student responses can be displayed on the classroom screen in real time."

He adds: "Today, we have technology that



"We would need US\$3.75 billion to make all our school classrooms smart"

— MOHANDAS PAI
Chairman, Manipal Global Education

"Technology enables the possibility of running sessions even when the participants are physically not present."

provides teachers with specific knowledge of students who have completed a homework reading or watched a video assignment, before they arrive in class. This technology enables the teacher to embed questions inside a homework reading (or inside a video assignment)."

Says IIM-Bangalore's professor P. D. Jose, chairperson, MOOCs Initiatives: "Our classrooms are state of the art with live-video conferencing facilities. This means that we can 'virtually' bring in management experts or business leaders from across the world into our classroom. Our faculty can also record their live sessions and make it available to students through the learning management system (LMS) used in the campus. In terms of hardware we use white boards, digital boards, and are now experimenting with light boards also."

Adds IIM-Bangalore dean administration G. Shainesh: "Technology enables the possibility of running sessions even when the participants are physically not present."

Around 30–40 percent of the institute's IT budget is spent on classrooms.

Shiv Nadar University vice-chancellor Rupamanjari Ghosh says, "Our in-house LMS (blackboard) integrates webinars, discussion forums, quizzes, wikis, quick polls, and open-book exams on a single interface."

Nirma University's Anup Singh says that the university also uses blogs for teacher-student interactions, besides using social media tools like Twitter for educational needs.



IIT-Delhi's M. Balakrishnan says that flipped learning and flipped classrooms are the latest rage in IITs and several campuses across the country. Pioneer in this field Jon Bergmann says he is not surprised that flipped learning (a new teaching approach) is getting popular in India, because "it's the future of learning."

Window of opportunity

IIM-Ahmedabad's Anil Gupta says that US\$15–22,000 may have to be spent for a smart classroom in a university or institution.

If, however, one were to go by AICTE chairman Anil Sahasrabudhe's estimates — US\$7,500 to make a smart classroom — a sum of US\$1.8 billion would be needed to make at least five smart classrooms in the existing 35,000 colleges and 12,000 stand-alone institutes. Considering that public expenditure on higher education in the



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country is a paltry 0.6 percent of gross domestic product, the private sector has a big role to play.

Tanmay is lucky that he's getting world-class education in an Indian classroom. Anay doesn't consider that as his good fortune — he considers it as his fundamental right.

As a new generation of Indians takes to education in wired classrooms, smart learning is set to gain currency. Clearly there's a huge window of opportunity for the private sector to expand, educate, and make money.