

REVIEW

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Singapore's racing US to the top

BY THOMAS L. FRIEDMAN

SINGAPORE is a country that takes the Internet seriously. Last week, its Ministry of Defence granted a deferment of the country's compulsory national service to a Singaporean teenager so he could compete in the finals of the World Cyber Games — the Olympics of online war games.

As a tiny city-state of four million, Singapore is obsessed with nurturing every gram of talent of every single citizen. That is why, although its fourth and eighth graders (Primary 4 and Secondary 2 students) already score at the top of Trends in International Mathematics and Science Study (TIMSS) tests, Singapore has introduced more innovations into schools. Its Government understands that in a flattening world, where more and more jobs can go anywhere, it's not enough to just stay ahead of its neighbours. It has to stay ahead of everyone — including the United States.

Message to America: They are not racing us to the bottom. They are racing us to the top.

As Ms Low-Sim Ay Nar, principal of Xinmin Secondary School, explained to me, Singapore has rote learning down cold. No one is going to out-

drill her students. What it is now focusing on is how to develop more of America's strength: getting Singaporean students and teachers to be more innovative and creative.

"Numerical skills are very important," she told me, but "I am now also encouraging my students to be creative — and empowering my teachers. We have been loosening up and allowing people to grow their own ideas".

She added: "We have shifted the emphasis from content alone to making use of the content" on the principle that "knowledge can be created in the classroom and doesn't just have to come from the teacher".

To that end, some Singapore schools have adopted a maths teaching programme called HeyMath, which was started four years ago in Chennai, India, by two young Indian bankers, Ms Nirmala Sankaran and Mr Harsh Rajan, in partnership with the Millennium Mathematics Project at Cambridge University.

With a team of Indian, British and Chinese maths and education specialists, the HeyMath group basically said to itself: if you were a parent anywhere in the world and you noticed that Singapore students, or Indian students or Chinese students, were doing really well in maths, wouldn't you



SCORED FOR COUNTRY: Mustaqim Munajat was in Primary 4 when he and 6,700 pupils from schools here sat for the TIMSS global study in October 2002. They were ranked No 1 in maths and science.

like to see the best textbooks, teaching and assessment tools, or lesson plans they were using to teach fractions to fourth graders or quadratic equations to 10th graders?

And wouldn't it be nice if one company then put all these best practices together with animation tools, and delivered them through the Net so any teacher in the world could adopt or adapt them to his classroom? That's HeyMath.

"No matter what kind of school their children go to, parents all over the world are worried that their children might be missing something," Ms Sankaran said. "There is no perfect system. What we have tried to do is create a platform for the continuous sharing of the best practices for teaching maths concepts. So a teacher might say, 'I have a problem teaching congruence to 14-year-olds. What is

the method they use in India or Shanghai?'"

Singapore maths textbooks are very good. My daughter's school already uses them in Maryland. But they are static and not illustrated.

"Our lessons contain animated visuals that remove the abstraction underlying the concept, provide interactivity for students to understand concepts in a 'hands-on' manner and make connections to real-life contexts so that learning becomes relevant," Ms Sankaran said.

HeyMath's mission is to be the maths Google — to establish a Web-based platform that enables every student and teacher to learn from the "best teacher in the world" for every maths concept, and to be able to benchmark themselves against their peers globally.

The HeyMath platform also includes an online repository of

questions, indexed by concept and grade, so teachers can save time in devising homework and tests. As the material is accompanied by animated lessons that students can do on their own online, it provides for a lot of self-learning. Indeed, HeyMath (www.heyath.net), which has been adopted by 35 of Singapore's 165 schools, also provides an online tutor, based in India, to answer questions from students.

Why am I writing about this? Because maths and science are the keys to innovation and power in today's world, and American parents had better understand that the people who are eating their children's lunch in maths are not resting on their laurels.

The writer, a columnist with the New York Times, was in Singapore last week to deliver a lecture at the Lee Kuan Yew School of Public Policy.