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How maths can be great fun

By Soutik Biswas
BBC News, Madras

Like many of his friends, 12-year-old Indian student SK Ramnandan used to find mathematics "rather mechanical and unattractive" and a bit of a chore.



SK Ramnandan is happy that maths is no longer 'boring'

This was before HeyMath happened to him.

HeyMath is an India-based online maths tutoring company which uses innovative, interactive lessons, peppered with animation, graphics and quizzes for students and teachers alike.

Today, Ramnandan, a student of Padma Seshadri School in the southern Indian city of Madras (Chennai), is a champion number cruncher and in love with maths.

"The lessons are practical and logical. I don't lose concentration. I remember concepts more clearly," he says.

“ The visual impact is quite amazing... maths just springs to life ”

Student Sumedha Biswas

Ramnandan's peer in Singapore, Deborah Chan, also says HeyMath lessons have helped her in a more rounded understanding of maths.

"The step-by-step working shown in the lessons has helped me in the understanding of the various topics," says the student of the city's Methodist Girls School.

Ramnandan and Chan are not the only students who say learning maths has become fun thanks to HeyMath's interactive lessons.

'Dull and boring'

Today, the company sends out its lessons to more than 60 schools all over the world. The company charges each student about \$100 a year for its lessons. In India, it offers schools its lessons at 600 rupees (\$13) a year.

HeyMath, which is fast becoming the maths back office and tuitions provider of the world, has earned praise from far and wide.



The company has received some 2,500 inquiries from public schools in the US. The department of education in Massachusetts has included HeyMath as an approved learning resource.

"HeyMath's mission is to be the math Google - to establish a web-based platform that enables every student and teacher to learn from the 'best teacher in the world' for every math concept and to be also able to benchmark themselves against their peers globally," says Thomas L Friedman, best-selling author of The World Is Flat.



“ If you cannot connect to maths by grade five or six, chances are aversion to the subject will only grow ”

Harsh Rajan, HeyMath

At its quiet and functional office in central Madras, 35 employees, including maths teachers, programmers and animation and graphic designers work on the content and lessons.

Six years ago, two young Indians - Harsh Rajan and Nirmala Sankaran - quit their jobs managing cash and derivatives with Credit Suisse and Citibank in London to return home and start up the company.

They had found that many students were getting put off by conventional ways of learning maths.

"We were seeing a lot of children tuning out of maths in Britain. They were finding it dull and boring. On the other hand, maths and science are drilled into your DNA in India," says Mr Rajan.

"So we thought - why don't they make the lessons interesting enough for children? The fact is that if you cannot connect with maths by grade five or six, the aversion to the subject begins and keeps hardening."

In partnership with the Millennium Mathematics Project at Cambridge University, the two began devising lessons for students and teachers alike.

"On the one hand, children are getting put off by maths. On the other, there is a massive shortage of good maths teachers. So we tried to address both with HeyMath," says Mr Rajan.

The effort was to retain traditional knowledge and pedagogy in teaching and save teachers time with tailor-made lessons.

For students, the challenge was to make maths relevant to real life experiences and teach the subject differently using multi-media and interactivity.



Durga Chandrasekhar says teachers swap ideas

One school asked HeyMath if they could find a "nice way" to introduce algebra to students.

So the company came up with a 30-minute game which children play on the computer, asking questions.

Vexing

At Chennai's Padma Seshadri School, HeyMath taught students vexing geometry problems like why, say, vertically opposite angles are equal through a real life, contextual experience taken from a local railway station.

The same was done to make quadratic equations simpler by taking an online trip to a McDonald's and showing that the famous golden arches have quadratic curves.

Maths teacher Durga Chandrashekhar says teaching the subject has become easier with HeyMath.

"We used the blackboard a lot in our teaching. But HeyMath lessons often come in 3-D animation, so it's easier to teach and fun to learn. Students also begin questioning a lot," she says.




Sumedha Biswas, a student, who takes HeyMath lessons at home, says she used to hate learning maths.

Sumedha Biswas says the animation is 'awesome'

"HeyMath improved my practice. The visual impact is quite amazing. It helps mostly in geometry. When you see things happening in front of you on a screen, you understand them better. Maths just springs to life".

With seven million internet subscribers and nearly 50 million web users, India still has a long way to go to equip its schools and the majority of its students with useful online tools like HeyMath.

But students around the world are already beginning to see how maths can be fun.

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