

Education



Animated classes make maths easy

Based in Chennai, HeyMath! was founded in 2000 by Nirmala Sankaran and Harsh Rajan. Its mission is to create a flat world mathematics curriculum by seeking out proven best practices from teachers and parents around the world.

Privately funded, its lessons are developed with advice from the University of Cambridge. Its editors blend this collective wisdom into bite-sized animated and interactive explanations that provide concept clarification visually and help remove the fear of the subject.

In 2009, Naledi Pandor, the minister of education at the time, commissioned a nine-member team from KwaZulu-Natal, Limpopo, Western Cape and North West to visit the HeyMath! centre in India.

The team observed how the organisation was making a difference in classrooms there and it learned about the pedagogy, ideation and content development pro-

cesses behind the programme. This, in turn, enabled them to evaluate and assess it against other initiatives and advise on the best course of action for the department in South Africa.

The HeyMath! model is purposefully designed to be as simplistic as possible to implement. The organisation provides laptops with pre-loaded teaching resources and data projectors. It then builds teacher capacity through regular professional development workshops and conducts demo sessions (that do not require an internet connection) in class for teachers.

The implementation phase in classrooms shows improved student motivation that positively impacts on their results.

Since 2009, the HeyMath! programme has already reached more than 700 schools across KwaZulu-Natal, Northern Cape, Limpopo and Free State.

Its mission in South Africa is to help transform maths education

to enable world-class standards through the innovative use of information and communication technologies and the adoption of best practices in teaching from high performing school systems across the world.

HeyMath! has identified five key areas to accomplish this in South Africa.

First, it wants to build teacher capacity by deepening knowledge of

the content matter.

Second, the programme wants to uniformly improve the quality of instruction at schools across the country.

Third, it wants to see the institutionalisation of the continuous sharing of best practices within South Africa and the rest of the world.

In the fourth instance, it wants to motivate students and instil a positive attitude when it comes to math education.

Finally, it aims to stretch the performance of students with higher abilities for the subject. There is a strong correlation between improving maths marks and the matric pass rate.

For example, maths pass rates in the Free State have consistently improved every year since the programme was rolled out there in 2010; the Free State matric pass rate increased from 71% in 2010 to 81% in 2012.

One success story is the Northbury Park School in Umgungundlovu district near Pietermaritzburg.

The KwaZulu-Natal department of

education selected the school to be part of a three-year HeyMath! project that launched in 2009.

The HeyMath! content was completely aligned to the curriculum and mapped to the provincial school work schedule. This made life easier for educators when it came to lesson planning.

HeyMath! ran three intensive development sessions for teachers at the school.

The hands-on training was focused on familiarising the teachers with the effective use of the programme while also focusing on preparation for the matric maths exam.

After implementing the programme, the teachers reported that they received an immediate positive response from the learners. It helped them gain a deeper conceptual understanding of maths.

Since the programme was implemented in 2009, it has resulted in an increase in the mathematics pass rate from 54% in 2010 to 86% in 2012.

HeyMath!

- Founded in India in 2000 and privately funded
- Launched in South Africa in 2010
- Implemented in over 700 South African schools across four provinces
- Increased pass rate by 10 percentage points in two years in the Free State
- Identifies five key areas of math development

Indian population

Distribution of population by education:

(Source: CMIE, MOSPI)
 School up to standard four: 6%
 School up to standard nine: 34%
 Senior/higher secondary: 23%
 College (but not graduate): 4%
 Graduate: 10%
 Postgraduate: 2%

Illiterate: 19%
 Literate (but not formal): 2%

Distribution of population by occupation:

Skilled worker: 10%
 Businessman: 1%
 Petty trader: 12%
 Executive: 8%

Student: 18%
 Retired: 2%
 Not working: 36%
 Unskilled worker: 13%

Education

India has one of the largest school-age populations in the world. It has a well-established education system

with more than 1.6 million schools enrolling in excess of 240-million students. For higher education, India has more than 500 universities, as well as more than 30 000 colleges and 7 000 technical institutions.

Labour force

Labour force was approximately

487.6-million in 2011. Approximately 4.2-million people are added to India's talent pool a year, with 4-million graduates and 0.26-million post-graduates. Indian Institute of Technology (IIT) and Indian Institute of Management (IIM) are a group of premier institutions in India.