29 November 2016

Media statement by the Human Sciences Research Council (HSRC) on the release of the TIMSS 2015 grade 9 study

“South Africa has shown the highest mathematics and science score improvement from TIMSS 2003 to 2015” says Dr Vijay Reddy, Principal Investigator of TIMSS 2015 grade 5 study and Executive Director at the Human Sciences Research Council.

The Human Sciences Research Council released the results of South African participation in the Trends in International Mathematics and Science Study 2015, in the report TIMSS 2015: Highlights of Mathematics and Science Achievement of Grade 9 South African Learners authored by Vijay Reddy, Mariette Visser, Lolita Winnaar, Fabian Arends, Andrea Juan and Cas Prinsloo. TIMSS is project of the International Association for the Evaluation of Educational Achievement (IEA) headquartered in Amsterdam. The IEA, with the International Study Centre which is based at Boston College, released the international results of the study today.

The study was first conducted in South Africa in 1995, and every four years thereafter – 1999, 2003, 2007, 2011 and 2015. Thirty-six countries participated at the grade 8 or 9 level in TIMSS 2015. The 2015 study provides an opportunity for South Africa to, firstly, estimate its achievement in relation to other countries and, secondly to monitor changes in educational achievement from 2003.

The top five ranked countries were from East Asia – Singapore, Republic of Korea, Chinese Taipei Hong Kong SAR and Japan. The five lowest performing countries were Botswana, Jordan, Morocco, South Africa and Saudi Arabia - countries from Africa and the Middle East.

While South Africa continued to perform at the lower end of the rank order, its score improved from TIMSS 2011 to TIMSS 2015 by 20 points for mathematics and 26 points for Science. This means that from 2003 to 2015 South Africa improved by 87 points for mathematics and 90 points for science. Of the 25 countries who participated in both TIMSS 2003 and 2015, South Africa showed the biggest improvement and this improvement is equivalent to increasing the average performance by just over two grade levels.

Over the 20 year period, the South African mathematics and science achievement improved from a ‘very low’ level in 1995, 1999 and 2003 to a ‘low’ level in 2011 and 2015. This shows that educational change is possible, but the pace of change, especially in no-fee schools, must be accelerated if we are to have the requisite skills and capacities to meet the societal and economic needs of the future.

Gauteng, Western Cape and Mpumulanga are the three highest provincial performers. The three lowest performing provinces are Limpopo, North West and Eastern Cape. All provinces, except the Western Cape, increased their achievement scores from 2003 to 2015.
The Western Cape scores decreased by 23 points for mathematics and 33 points for science from 2003 to 2015.

One of the ‘good news’ stories from the study is the decrease in the differences between the highest and lowest performing provinces. In 2003, the difference between the highest and lowest performing provinces was 170 points for mathematics and 205 points for science. In 2015, the difference decreased to 62 points for mathematics and 77 points for science. This improvement by the lower performing provinces points to a move towards more equitable achievement across the provinces.

South African achievement continues to remain highly unequal: Approximately 80% of learners attending independent schools, 60% of learners at public fee-paying (Quintile 4 & 5) and 20% of learners at public no-fee schools (Quintile 1, 2 and 3) achieved mathematics scores above the minimum level of competency. An acceleration of pro-poor strategies is required to improve the home and school conditions for learners in no-fee schools.

It is encouraging to note that 1% of South African mathematics and 1% of science learners achieved mathematics and science scores at the Advanced level of achievement – globally 5% of learners achieve at this level and none of the other five lowest performing countries achieved at the Advanced level.

Education and learning outcomes is influenced by home and school conditions and environments. Some of these conditions changed during the 2003 to 2015 period. In 2015, 41% of learners came from household with an adult having an education above grade 12 – an increase from 24% in 2003. In 2015 one third of learners frequently spoke the language of the test at home – a change from the 25% in 2003. School violence continued to be a concern and 17% of learners reported being bullied at least once a week. This is double the international average of 8% in 2015. Resources are important for teaching and learning: 82% of mathematics learners and 69% of science learners reported having their own textbooks. Our analysis reveals that the more good conditions at home and school, the higher achievement scores.

The TIMSS Grade 9 highlights report appears on the TIMSS-SA website (www.timss-sa.org.za)

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