**Pakistan TIMSS and the long road ahead**

[**Maryam Akmal and Lee Crawfurd**](https://nation.com.pk/Columnist/maryam-akmal-and-lee-crawfurd)

December 15, 2020

Pakistan’s grade 4 students are amongst the weakest in science and maths in the world. That is the result from the new Trends in International Mathematics and Science Study (TIMSS) published last week. This is the first time that Pakistan has participated in an international standardised assessment, and Pakistan is the first in South Asia to participate in TIMSS. This deserves credit—the first step in fixing a problem is understanding it. But the rest of the news is grim.

Pakistan ranks second to last in maths and science. TIMSS covers 58 mostly high-income countries. Just two other countries besides Pakistan fall in the lower-middle income bracket—Philippines and Morocco. Philippines ranks last in grade 4 mathematics and Morocco 50 out of 58.

The simplest way to interpret the results is to look at the benchmarks. Only 27 percent of Pakistani children meet the low international benchmark in maths. The low benchmark means that students have “some basic mathematical knowledge.” They can add, subtract, multiply, and divide. Only 8 percent of Pakistani children meet the intermediate benchmark, and just 1 percent meet the high benchmark. For reference, in Iran 68 percent of children meet the low international benchmark for maths. In science, just 21 percent of Pakistani children are able to meet the low international benchmark, which is a very basic and limited understanding of scientific concepts and knowledge of scientific facts.

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On average girls score better than boys in both science and maths, and by a bigger margin than in most other countries. However, Pakistan also had fewer girls participating than any other country. Just 45 percent of students were girls, a smaller share than in Saudi Arabia, Kuwait, or Oman.

Criticisms of rote learning in Pakistan are nothing new. But they do show up in the TIMSS results yet again. Students in Pakistan performed best on the part of the maths test focused on simple number operations such as addition and subtraction. They performed worse on the more applied questions, including measurement (such as using a ruler to measure length), geometry, and on interpreting data (using a graph to answer a question).

Weak learning outcomes in part reflects weak schools. But they also reflect poverty at home. More than one in three students in Pakistan report arriving at school hungry every day or almost every day—more than in most other countries. Evidence suggests that school feeding programmes can help facilitate learning and also help keep children in school. One in four report being absent from school once per week. Furthermore, very few children in Pakistan attend pre-school—just 37 percent, compared to almost 90 percent of children in the other TIMSS countries.

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Perversely, the only positive findings are the satisfaction of Pakistanis with their schools. Three quarters of parents said they were “very satisfied” with their children’s school, and three-quarters of students said they feel a high sense of school belonging. This is despite bullying in school being rife. Over half the students report being bullied at least monthly, more than all but three other countries. Pakistan is in the top 10 countries for the share of teachers who are “very satisfied” with their job at 79 percent.

How representative is the data? TIMSS is a nationally representative survey, but it doesn’t include children who are not in school—which is a substantial proportion in Pakistan as 44 percent of school aged children are not in school. Hence these results are not representative of the entire school age population. We also don’t have detailed information about representativeness yet and what cities were sampled. China has been criticised for only entering its wealthiest provinces for international assessments. But even if it were the case that Pakistan used its best cities for this assessment, the fact that only 27 percent of Pakistani kids meet the low international benchmark and only 1 percent meet the high benchmark on TIMSS maths is all the more alarming. One reassuring sign of the reliability of these results is that they produce similar estimates to the World Bank’s Harmonised Learning Outcome measure. This measure estimated an average score on the TIMSS scale for Pakistan of 338 points, close to the actual TIMSS score of 328.

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How can Pakistan improve? All of the questions on the TIMSS test are material that is covered in the current Pakistani curriculum, so nothing necessarily needs to change there. What does need to change is the messy business of classroom teaching—how to ensure that all children are able to access the curriculum. This means giving them a strong foundation to build on in early grades. Pakistan has been called home to “the most frenetic education reforms in the world” by the Economist magazine, with an array of public-private partnerships and high-stakes tests—mostly to little effect. However, the most promising approaches to improve learning lean more on providing teachers with the help and support they need to deliver effective teaching to classes of widely varying ability—through structured lesson plans, grouping children by ability level, all informed by the modern neuroscience of learning.

India participated in its first international standardised assessment (PISA) in 2009-10. The country scored poorly and promptly dropped out of the next round (which are every 3 years), only planning to rejoin in 2021.

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Pakistan can do better than this. Failing a test is nothing to be ashamed of—only failing to learn from that failure is. Pakistan needs to face up to these results, take them seriously, and use them as a spur to make schools better for all its children