

Science education is a key ingredient for growth

THEMBA NKOSI

AS SA fights to retain its economic footing, calls are rising for the country to raise its performance in the “STEM” subjects (science, technology, engineering, and mathematics) — the key ingredients for innovation, and the scientific and technical building blocks of any economy.

This focus is not unique to SA — many advanced countries, struggling with sluggish economies, have renewed the vigour with which they are promoting these skills and encouraging the youth to follow these subject streams. Last year, Stanford University professor Eric Hanushek released a study that found that raising US test scores to the levels of top countries would add two-thirds of a percentage point to the annual growth rate of gross domestic product. “The evidence on quality of education in maths and science is starting to get people’s attention,” he said.

SA’s skills shortages are widely acknowledged as a key factor hindering the achievement of its targeted economic growth. The reasons for this skills shortage are numerous, complex and often disputed. But what is no longer in dispute is that an increased focus on the STEM subjects is to SA’s advantage.

Much has been made of the educational assessment contained in the latest World Economic Forum Global Information Technology Report 2014, which placed SA last out of 148 countries in terms of maths and science education.

As the government and several educational analysts have pointed out, this report focused on the network readiness of countries and was not a report on countries’ education systems. What was lost in the outcry was that, from a network readiness perspective, SA has maintained its position at 70 out of the 148 countries surveyed.

That said, the report highlights that while the Brics economies have been fairly robust, “to support sustained and stable growth in the long term, emerging markets must increase their levels of productivity....” Looking specifically at the sub-Saharan African region, the report points to the many positives achieved, although the region as a whole is encouraged to improve its innovation systems to build on the progress made so far. And looking at SA, the report says “weaknesses in the innovation system, notably in terms of skills development (97th), also affect the country’s economic potential (49th), despite its fairly robust political and regulatory environment”.

What can be done about this? It is imperative for the corporate sector to step up and work with governments to accelerate the process of creating a skilled nation — to become partners in learning. As the world’s leading integrated steel and mining company, ArcelorMittal is keenly aware of the importance of expanding the STEM talent pool. Not only is this important to our business, our partners, our customers, and the communities in which employees live, but it is crucial to the global standing of the South African economy. That is why we have invested significantly in tools and resources to enable effective teaching of STEM subjects — specifically maths and science.

ArcelorMittal SA requires many engineers to run its operations, so we have started “growing our own timber”. Our core business relies heavily on being able to access skilled people in the scientific, engineering and technological fields — so improving maths and science performance at schools in the communities in which we operate is a logical solution, and one that works towards alleviating the national skills crisis. Since 2009, in partnership with the departments of education and science and technology, we have invested R40m in three science centres in Sebokeng, Saldanha and Newcastle. The result? We have in our employ 32 qualified engineers who have benefited from the centres’ programmes — people who might not otherwise have had this opportunity. And, in time, that number will rise.

Increasingly, in SA and abroad, big business is realising that partnerships in learning are to the benefit of economies and societies as a whole. That is how it should be. As big business, it behoves us to step up to the challenge. Empowering SA’s people to push boundaries, think creatively and pioneer by developing ideas and turning them into successful outcomes will help SA’s companies and the economy reach what they seek to achieve — the forefront of competitiveness. Innovation is a mind-set that helps generate new ideas and it needs to be at the core of how we function as a country. Initiatives that grow SA’s skills base should become commonplace — not the exception.

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