

GENDER EQUITY OR NEW COMPLEXITIES IN EDUCATION?

At some point, any national conversation about how to improve education will turn to the question of gender, with most of the focus being on the challenges that girls face at school. *Tia Linda Zuze* and *Vijay Reddy* explore issues of gender and schooling more deeply.

There is a view that boys and girls have been treated differently in the past. But is this an accurate reflection of the current reality? And in our pursuit for greater opportunities for girls, have we inadvertently neglected the risk factors that boys may face?

Girls lagging behind in maths and science

With the release of the 2014 matric results, some commentators raised concerns about widening gender gaps in mathematics and science. An article published by the SABC on 6 January 2015 noted that boys had achieved better results than girls in mathematics and physical science. Although the pass rates for both male and female candidates have declined compared to previous years, girls appear to be faring worse and making slower progress in these subjects.

Girls achieved lower overall marks in mathematics and science in 2014.



It is true that the performance of girls in mathematics and science has not been encouraging. Girls achieved lower overall marks in mathematics and science in 2014. Only 49% of girls who wrote mathematics in 2014 achieved a passing grade compared to 59% of boys. In physical science, 59% of girls and 64% of boys passed the subject. However, it's important to note that the majority of learners writing each of these exams were girls; 55% in the case of mathematics and 53% in physical science. So although boys outperformed girls in mathematics and science, there was a stronger presence of girls in the class of 2014.

Debunking the biological differences myth

Increasing girls' participation in technical subjects is a step in the right direction but it is clearly not enough. South African girls are still less likely to focus on a Science, Technology, Engineering or Mathematics (STEM) field at the tertiary level when compared to South African boys. How do we ensure that girls' maths and science achievement levels are raised



and sustained? There have been many controversial claims suggesting that due to biological differences, girls could never expect to equal boys' performance in STEM subjects. These claims have been widely disproved.

Countries with greater opportunities for women... produced better results among girls in technical subjects.



In their much cited 2012 study of mathematics performance in 86 countries, Janet Mertz and Jonathan Kane showed that the status of women in society seemed to matter more when explaining gender differences between the

sexes than biological factors. Countries where there were greater opportunities for women both at school and in the workplace produced better results among girls in technical subjects. In fact, both boys and girls benefited greatly when they were brought up in societies where the rights of women were protected.

South Africa's TIMSS outcomes

To explore issues of gender and schooling more broadly, it is worth considering the results of the 2011 Trends in Mathematics and Science Study (TIMSS), which were analysed by a team of researchers at the Human Sciences Research Council (HSRC). TIMSS South Africa evaluates mathematics and science knowledge for Grade 9 learners. Internationally, girls did not always lag behind boys. In 22 of the 42 TIMSS countries surveyed, including South Africa, there was no difference in the national averages for boys and girls in Grade 9.

Boys face their own set of challenges at school.



Equally important are the experiences of boys and girls while learning. Boys face their own set of challenges at school that are all too often overlooked. Boys attending public schools who progressed through school without delays or interruptions performed significantly better than their older peers. Our TIMSS data also showed that boys had lower aspirations about their academic careers, showed less interest in mathematics, and engaged less often with an adult regarding their schoolwork than girls. Boys were also at a higher risk of being victims of bullying than girls, irrespective of the type of school they attended. Taken together, these findings raise important questions about how seriously boys take school and how safe they feel in their educational environments.

Conclusion

It is clear that gender issues should not be relegated to the backburners of the policy agenda. The cost of ignoring the challenges faced by boys and girls in pursuing maths and science careers is high. The South African economy cannot afford to be deprived of such a valuable pool of talent.

Policy makers need to take a closer look at whether gender imbalances are shifting and how to address the difficulties experienced by both boys and girls; whether it be addressing gender stereotypes in subject choice or dealing with a hostile learning environment. We need to move beyond prior research to probe new gender complexities more carefully so that schools can be better and safer places for all our children. ■

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URBAN REGENERATION AND SUSTAINABILITY: DURBAN'S CONFLICTING AGENDAS

To what extent do cities take sustainability into account in their urban regeneration strategies?

Sylvia Hannan used three mega-projects in Durban as a case study to investigate whether and how sustainability was incorporated into the city's planning and development.

In recent decades, urban regeneration has become increasingly important to cities regarding their urban development goals and aspirations. Mega-projects can be classified as an urban regeneration strategy, and these large-scale urban development projects are strategically used by cities to reposition themselves within the global competitive landscape. In the context of globalisation and neo-liberal¹ urban restructuring, mega-projects aim to enhance the image of cities, and have become increasingly prominent as tools to promote cities, as well as attract investment and tourism. Mega-projects consequently play a vital role in the development and urban regeneration of cities, such as Durban.

Within the same context, there is a need to promote sustainable cities, and sustainability has therefore emerged as a central concept in the management of cities. Sustainability represents the ideal scenario that adequately incorporates economic, social, ecological and governance aspects within the planning and development of cities.

Urban regeneration and sustainability have therefore emerged as parallel agendas within urban policy and planning. An investigation into three of Durban's mega-projects, to establish whether these agendas were mutually supportive or conflicting, revealed some important findings.

Planning and development in the city of Durban

Durban, as a South African city, has been shaped by the legacy of apartheid as well as processes of globalisation. As a result the city faces a particular set of challenges, as it must aim to compete within the global economy through urban development and regeneration strategies, while at the same

¹ Neo-liberalism refers to governance strategies promoting the free market, and is associated with the adoption of pro-growth and entrepreneurial strategies.