

Southern and Eastern Africa Consortium
for Monitoring Educational Quality

www.sacmeq.org

SACMEQ Policy Issues Series

Has gender equality in reading and mathematics achievement improved?

Number 4, September 2010

Nobody can deny the importance of gender equality within the international goal setting as evidenced in the Education for All (EFA) goals and the Millennium Development Goals (MDG). Senior decision makers of the 15 Ministries of Education in Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) have also been concerned with gender equality issue not only in access and participation but also in learning achievement (Saito 1998).

In industrialized countries, the gender gap with domination by girls has even widened throughout years for reading. For mathematics, strong boy's domination in earlier years has been diminishing and results are becoming more mixed (OECD, 2009; Mullis et al 2008).

What were the differences in reading and mathematics achievement between Grade 6 boys and girls in southern and eastern Africa? Has the pattern in gender differences changed between 2000 and 2007?

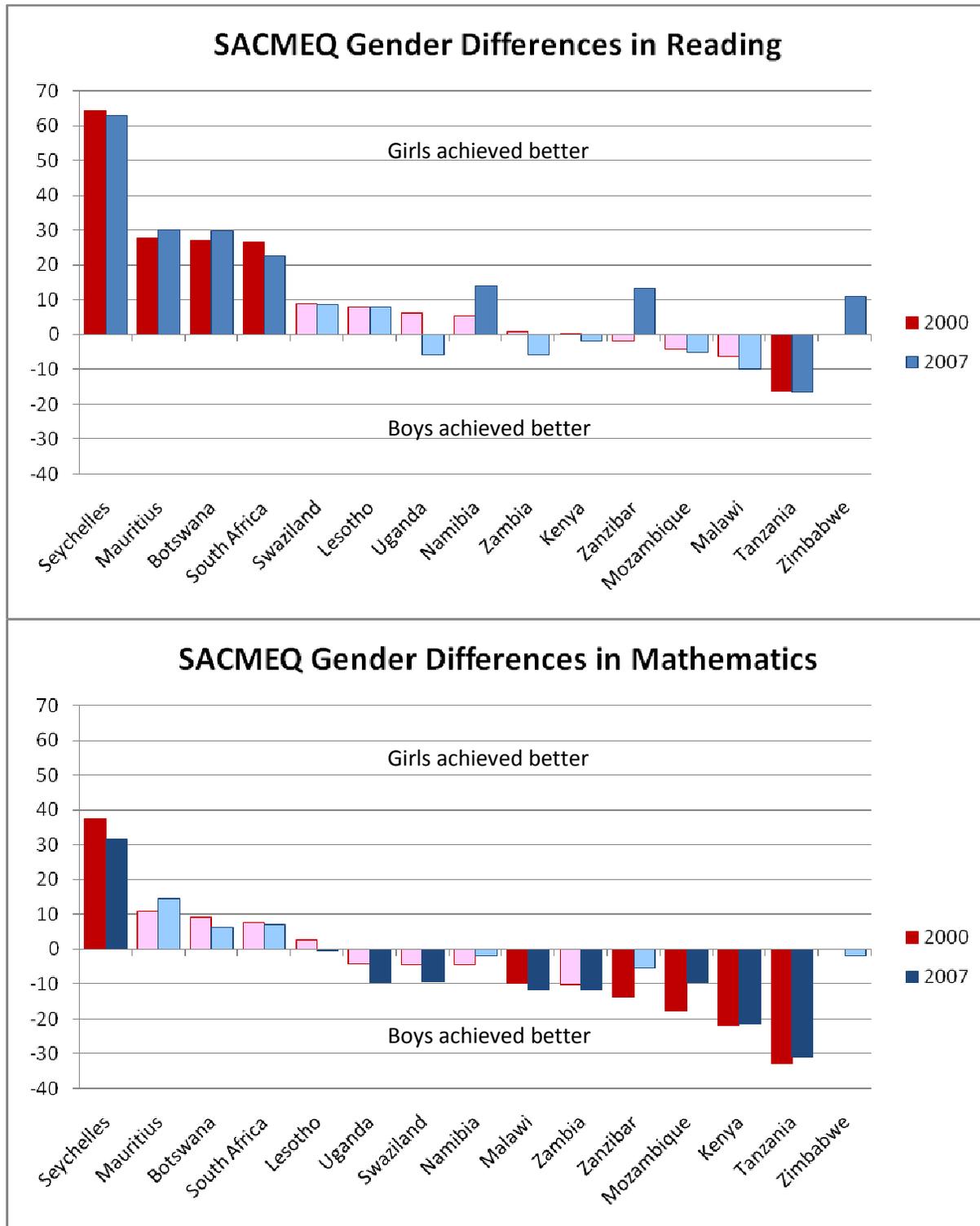
The SACMEQ reading and mathematics tests used in 2007 were sub-sets of questions used in 2000. It is worth noting that the test scores from both SACMEQ studies are directly comparable because these scores were placed on a single scale using Rasch measurement techniques with a fixed mean of 500 and a standard deviation of 100 of the year 2000.

The gender differences have been calculated by subtracting the boys' scores from the girls' scores. That is, the positive scores indicate that girls performed better, and the negative scores indicate that boys performed better.

In the Figure below, gender differences in the reading and mathematics achievement for 15 SACMEQ countries have been presented for the years 2000 and 2007. Countries are ranked by the size of the gender differences in 2000 for each subject. Statistical significance at the 95 percent confidence level (shown by darker shades) is present if the size of the gender difference is larger than twice the size of the sampling error.

There are two striking features associated with the graphs. The first is that the set of countries in which girls performed significantly better than boys for reading in 2000 (Seychelles, Mauritius, Botswana, and South Africa) were the same set of countries where girls performed better than boys in 2007. Similarly, the set of countries where boys performed significantly better than girls for mathematics in 2000 (Tanzania, Kenya, Malawi, and Mozambique) were also countries where boys performed better than girls in 2007.

Trends of gender differences in reading and mathematics for SACMEQ II (2000) and SACMEQ III (2007)



The second feature is that – not only were the directions in gender differences consistent for countries across 2000 and 2007 – the magnitudes of these differences were also consistent regardless of changes in overall achievement across time. These two features suggested that there was a remarkable stability in reading and mathematics gender differences within SACMEQ countries across the period 2000 to 2007.

Further analyses at more disaggregated levels showed that only in more advantaged settings (urban schools and high socio-economic groups) was there a reasonable improvement in the gender equality in learning achievement between 2000 and 2007.

While gender equality in Grade 6 participation has improved in some SACMEQ countries, gender disparity in achievement is an area which shows a very slow progress. The above results have particular significance for those international organizations and donors that have expended enormous resources and efforts on a wide spectrum of educational programmes that have aimed to reduce gender differences in education.

These results seem to suggest that there is a need to move the focus of the gender-related interventions beyond “access” and “participation” and concentrate more on

“achievement”, especially in less advantaged settings. Moreover, reasons for absence and/or presence of gender disparity in achievement need to be further examined together with traditional context which may influence pupil attitudes towards subjects, school practices, and family support. Ministries of Education in SACMEQ countries are facing many challenges in this area.

References

- Mullis, I. V. S., Martin, M. O., & Foy, P. (2008). *TIMSS 2007 International Mathematics Report Findings from IEA’s Trends in International Mathematics and Science Study at the Fourth and Eighth Grades*. Chestnut Hill: TIMSS & PIRLS International Study Centre.
- OECD. (2009). *Equally prepared for life? How 15-year-old boys and girls perform in school. Programme for International Student Assessment (PISA)*. Paris : OECD.
- Saito, M. (1998). Gender vs. socio-economic status and school location differences in Grade 6 Reading Literacy in five African countries. *Studies in educational evaluation*, 24(3), pp. 249-261.

Author contact

Mioko Saito
International Institute for Educational Planning
UNESCO
Paris, France
Email : m.saito@iiep.unesco.org

For more information visit
www.sacmeq.org